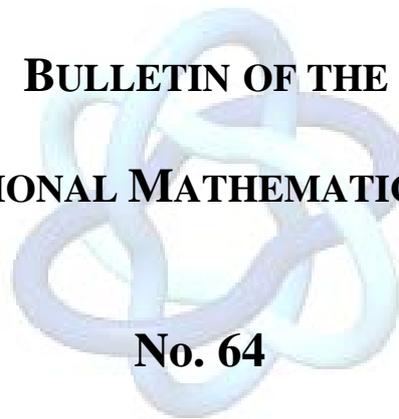


IMU

**BULLETIN OF THE
INTERNATIONAL MATHEMATICAL UNION**



No. 64

July 2014

APPENDIX I: SELECTED DOCUMENTS

Secretariat:

*International Mathematical Union
Secretariat
Markgrafenstr. 32
D-10117 Berlin, Germany*

<http://www.mathunion.org>

Appendix I: Selected Documents

Contents

1. GA Committees 2014	3
2. Resolutions proposals.....	6
3. Evaluation of Individuals	8
4. Guidelines for Joint Commissions	14
5. GA Guidelines.....	16
6. ICM Bidding Guidelines.....	24
7. Guidelines for Handling Conflicts of Interest	29
8. Archiving Guidelines	31
9. IMU Membership Guidelines	35

1. GA Committees 2014

IMU 17th General Assembly

It is a tradition to set up, at the beginning of any meeting of the GA, several committees supporting the GA in various ways. The following proposal aims presenting a reasonable balance between countries, groups (I to V) and gender.

General Assembly Committees and their Duties

Credentials Committee (in charge of nomination: C. Praeger)

Chair: Colva Roney-Dougal (UK)
Alicia Dickenstein (Argentina)
Fidel Nemenzo (Philippines)

- *Review the list of delegates that have registered at the General Assembly and verify each delegation is correctly constituted and present the list to the President of IMU*
- *Ensure that voting procedures are understood*

Tellers Committee (in charge of nomination: Y. Long)

Chair: Paolo Piccione (Brazil)
Camilla Hollanti (Finland)
Jong Hae Keum (Korea)
Winston Sweatman (New Zealand)
Nasser Sweilam (Egypt)
Betül Tanbay (Turkey)

- *Distribute ballots*
- *Collect ballots*
- *Verify ballots and discard invalid ballots*
- *Count the votes*
- *Report the outcome to the President of IMU*

Finance and Dues Committee (in charge of nomination: M. de León)

Chair: Nalini Joshi (Australia)
Piermarco Cannarsa (Italy)
Jungkai Chen (Taiwan)
Vincente H. Cortes (Chile)
Abubakir Dzhuraev (Kyrgyzstan)
Simone Gutt (Belgium)

Ex officio: Alexander Mielke, Martin Grötschel, Sylwia Markwardt

- *Review the proposed 2015-2018 budget*
- *Make recommendations to the General Assembly concerning dues unit increase*
- *Make recommendation to the General Assembly concerning action to be taken regarding dues in arrears*

Resolutions Committee (in charge of nomination: C. Rousseau)

Chair: Günter Ziegler (Germany)
Alejandro Adem (Canada)
Georgia Benkart (USA)
Rajenda Bhatia (India)
Etienne Desquith (Ivory Coast)
Liqun Zhang (China)

- *Accept resolutions put forth by delegations prior to the close of the first day's sessions of the General Assembly (August 10)*
- *Review and edit resolutions received from the delegations*
- *Formulate resolutions*
- *Present the resolutions to the General Assembly with recommendations*

Election Committee (in charge of nomination: R. Piene)

Chair: Ragni Piene (Norway)
John Ball (United Kingdom)
Ingrid Daubechies (USA)
Masaki Kashiwara (Japan)
László Lovász (Hungary)
M S Raghunathan (India)

- *Settle all issues coming up during the election process in particular*
 - *to oversee the form of the ballot papers*
 - *and to clarify all matters coming up when suggestions from the floor are made.*

IMU Nominating Committee (just for information)

Committee members:

- Ragni Piene, Norway (chair)
- Ingrid Daubechies, USA
- Michel Jambu, France
- Masaki Kashiwara, Japan
- Gaven Martin, New Zealand
- M S Raghunathan, India
- Joan Solà-Morales Rubió, Spain

The Nominating Committee has put together slates for IMU Commissions and Committees to be elected at the Gyeongju General Assembly. These are based on proposals from the Adhering Organizations. The exact duties of the Nominating Committee can be found at <http://www.mathunion.org/organization/ec/procedures-for-election/>.

Election Committee (From the “Procedures for the Election...”)

On the first day of the GA meeting, an Election Committee is formed which consists of all members of the Nominating Committee and all Past IMU Presidents present at the GA and, if necessary, further GA delegates elected to reach a membership of at least five. The election shall be from names either proposed by the President or proposed and seconded from the floor by show of hands, unless the meeting decides otherwise. The Election Committee is chaired by the Chair of the Nominating Committee, or if unavailable, by the IMU President. The Election Committee is responsible for handling the election process and deciding on all issues related to it that may arise. The Chair of the Election Committee presents the EC, CDC, and ICHM slates to the General Assembly.

The reason for introducing the Election Committee is that it is not unconceivable that, for instance, a candidate for an IMU office becomes unavailable at very short notice or that controversies about certain formalities in the election process arise. The Election Committee is set up in order to make decisions in all these cases.

FAQ:

Q: What is a slate?

A: A *slate* is a list of candidates to be considered for election. At an IMU GA, it is a tradition that for certain positions, such as the IMU President or IMU Secretary, only one person is suggested for election. In other cases a slate may contain more persons than positions available, e.g., the IMU Statutes require that, for the six Members-at-Large of the IMU EC, at least eight persons have to be proposed for election.

2. Resolutions proposals

(A) Diversity in excellence in IMU activity

Dear Professor Groetschel

On behalf of the UK Adhering Organisation, please can you see below an item of business that we would like to propose for the IMU-GA agenda.

As an agenda item we would like to propose a discussion of diversity in excellence in IMU activity. We also propose the below resolution:

The General Assembly welcomes the considerable efforts of the IMU at every level in achieving the 4 yearly ICM. It acknowledges the challenges that exist in achieving diversity in excellence represented in IMU activity, particularly with regard to subject-area, geographical and gender distribution. The General Assembly:

- 1) notes the efforts made by the IMU Executive Committee in this area and is mindful of the high quality of individuals involved in IMU activity**
- 2) encourages the Executive Committee to ensure that future ICM sectional themes accurately reflect the balance and breadth of current mathematical research excellence worldwide, and that the resulting programmes are appropriately diverse in terms of geographical spread and gender balance.**
- 3) asks that the Executive Committee provides a full report to the 2018 IMU General Assembly on progress in achieving diversity in excellence represented in IMU activity, and provides annual updates on progress in a specific section of the IMU Annual Report.**

I hope that this is in order.

Sincerely

Duncan Turton

Education and Research Officer
The London Mathematical Society
De Morgan House
57-58 Russell Square

London

WC1B 4HS

t: +44 (0) 20 7927 0801 (direct)

t: +44 (0) 20 7637 3686 (switchboard)

e: duncan.turton@lms.ac.uk

w: www.lms.ac.uk

The LMS is a Registered Charity no: 252660

(B) Joint commissions resolutions

The two resolutions for Item 7.3 are currently drafted as:

Proposed first Resolution:

- The General Assembly endorses the “Guidelines for Joint Commissions of the International Mathematical Union” [Attachment for Item 7.3]

Proposed second Resolution:

- The General Assembly permits the IMU Executive Committee to develop Terms of Reference for the International Commission on the History of Mathematics

(C) Resolution on IMU reserves

Resolution on IMU reserves:

The IMU runs a quadrennial budget with the majority of its expenses in the fourth year of its four year administrative term. To secure financial stability of its operations and the ability to meet its payment obligations in the fourth year of a term, the General Assembly requires that the surplus reported in every income and expenditure statement be allocated to the reserves and that the reserves be accumulated up to a total amount of four times the annual membership fees.

(D) IMU awards announcement and ad-hoc awards committee

First proposed resolution:

"The names of all those who are to receive IMU medals and prizes at an upcoming ICM should be announced at a press conference at a place to be agreed upon by the IMU Executive Committee and the ICM Organizing committee approximately 12 weeks before the ICM ceremony at which they will be presented." (Potential announcement date: May 14, the birthday of J.C. Fields).

Second resolution:

"The 2015-18 EC should establish, in 2015, an ad-hoc committee that will consider possible adjustments of the rules governing the IMU prizes and medals. This committee, nominated by the EC and consisting of past chairs of IMU award committees (Fields, Gauss, Nevalinna, etc.), could in particular formulate recommendations about the possibility of single awards being shared by several collaborators, and about changing or relaxing the currently specified age limits. The committee should report on its work, including recommendations it wishes to make, to the EC prior to the 2016 EC meeting. Recommendations approved by the EC will be sent to the AOs in 2016, for their consideration, in preparation for voting by the AOs."

3. Evaluation of Individuals

Recommendation on the evaluation of individual researchers in the mathematical sciences

endorsed by the IMU General Assembly on August 11, 2014

I. Introduction

The question of how to evaluate and rank the work of academics or scientists has been a recurrent theme since the early days of universities. This issue is closely entwined with questions about the role of scientists in society and the role of education, so that it is difficult to discuss it without considering the wider contexts as well. A number of the aspects of an evaluation process are not specific to mathematics or mathematicians: Each scientific discipline faces similar issues. Hence, interdisciplinary working groups have been producing documents/guidelines on these questions for many years. The present document deliberately does not focus on the rather timeless and important issues that have been often and thoroughly discussed (rules about conflict of interests etc.), nor what is common to all sciences. Rather its goal is to address the following two specific questions:

- * What aspects of evaluation are specific to mathematics? A reason for focusing on this issue is that mathematics often needs to be treated somewhat differently from those sciences where teamwork and funding play significantly different roles. Mathematicians have often found it difficult to make this point on interdisciplinary panels, with unfortunate outcomes from their scientific standpoint. The present document aims to help with discussions involving colleagues from other disciplines.
- * What is new, i.e., what are the important side-effects of recent developments (internet, internationalization, the growing scientific community, economic constraints, generalization of audit rules) on the way in which mathematicians are evaluated, and which have had strong negative effects that need to be corrected or counterbalanced.

When stressing the specificities of mathematics, one should not forget that a large and important part of the mathematical community is, for obvious and good reasons, working a little differently from the more academically inclined mathematician. In such cases, the “standard” (but specific) evaluation criteria that we will discuss (mostly based on a detailed study of research papers) in the next section of the present document have to be adapted again. For instance, for applied mathematicians involved in projects with confidentiality clauses and/or industrial applications and/or software development, for mathematicians involved in interdisciplinary work or in mathematical education, one needs a different perspective. This document is therefore divided into two parts: The first part, which deals with “generic” academic mathematicians, and a second part commenting on aspects of evaluation in several other important cases.

An important preliminary statement: The evaluation of the performance of an academic is used for many purposes (hiring, promotion, grants etc.) and in most cases the assessment of research activity is only one of many parameters. Many other aspects are essential for a well-functioning academic environment, and are important factors to take into account when such decisions are made. **The present document is commenting only on the part of the evaluation dealing with the research activity; in the appendix, we give some examples of other criteria that can be taken into account in the academic evaluation of individuals.**

II. The case of the “generic” academic mathematician.

Generalities, specificities of mathematics, dangers of semi-automatized evaluations:

Assessment criteria are not universal and uniformity of evaluation criteria is not necessarily a goal. For example:

- * University systems in different countries are different, and the variety of individuals with different academic backgrounds is part of the richness for our international community.
- * The evaluation of the work of mathematicians when choosing the recipient of an international prize is not the same as when deciding whom to hire for a junior faculty position.
- * National communities may seek to take special measures, for example where they perceive potential weaknesses (possibly, a lack of innovation and originality in some areas or a lack of rigour and clarity in others) that they wish to correct, and therefore take them into account when making decisions.

It is standard nowadays for an evaluation committee to examine:

- * an individual’s publication list (including the names of journals; co-authors; the number of published pages);
- * a research statement in which the individual describes the research in a more general context;
- * one or several evaluation letters written by specialists, who are supposed to have read the individual’s papers.

These specialists may, or may not, belong to the committee, and their contribution is essential. Indeed, a proper evaluation of the significance of research papers requires a close examination by an expert who is actually able to understand them. The use of semi-automatized quantitative evaluations based on journal factors can easily lead to mistakes. At first glance these methods look objective, scientific, and not subject to manipulation or controversy. However this is not so, and they can have some very negative side-effects:

- * High-level research is driven by originality, invention and risks (one starts an ambitious project without any guarantee of success). All these aspects would be penalized by a standardized evaluation based on bibliometric data alone.

- * Bibliometric evaluation leads to an increase in the number of published papers, because it favours publication of series of papers where results are improved step by step. For the sake of mathematics research in general, it is more important that papers are well-written and in final form. One highly innovative paper is usually more important in the long run for our community than ten technical but routine papers, regardless of the journal in which they are published. In fact, prepublication servers should make it possible nowadays to post prepublications that are not submitted to publications, but will be incorporated in a longer/cleaner/more definite paper that will be published later.
- * Impact factors: It is not uninteresting to look at the data that measures how much a given paper has been cited by other papers (such data is made available by the mathematical community itself, for instance by the AMS in MathSciNet), but a lot of care is needed when handling it. First, some fields of mathematics tend to publish many more papers than others, so that one cannot compare such data for a person working in one field (say, category theory) with someone working in another (e.g., biostatistics). Second, it is very easy to artificially create a blow-up of bibliometric data (for instance by cross-referencing etc.) and to manipulate impact factors.

It is therefore important to encourage mathematicians who serve on panels to explain to scientists of other disciplines that bibliometric evaluation is particularly inappropriate for mathematicians. We hope that the present document can help in making this point. It is worth stressing that mathematicians are not advocating that other sciences should change their specific evaluation criteria; IMU does not claim that it knows the best way to evaluate chemists or economists. The conclusion of this paragraph is the following somewhat obvious statement, which is the core of the present document:

Nothing (and in particular no semi-automatized pseudo-scientific evaluation that involves numbers or data) can replace evaluation by an individual who actually understands what he/she is evaluating. Furthermore, tools such as impact factors are clearly not helpful or relevant in the context of mathematical research.

It might look tempting to produce alternative bibliometric tools (keeping in mind that most impact factors are produced by commercial companies for whom it is a business), but this is not something that IMU wishes to be involved with, given the intrinsic negative side-effects of such tools.

The “audit” philosophy and science, explosion of evaluation activities.

The role of “evaluation” has become more and more important in recent decades. The concept of “auditing”, probably first developed in a business context (accounting and then management), has now permeated many parts of Western societies. It is based on the belief that uniform, comparable, objective, evaluations of almost anything, people, organizations, companies, products etc., are possible. In particular, many funding bodies are now so convinced of the importance and universality of the evaluation of scientific activities that they tend to insist on using their evaluation rules, often based on semi-automatized “objective” criteria such as Key Performance Indicators (KPI), even though most experts agree on the fact that these methods are not well-adapted to science in general, and to mathematics in particular.

Another negative side effect of this “generalized audit philosophy” is the proliferation of evaluation activities, which arise because each layer of decision-making wishes to perform its own evaluation. While it is clear that some level of evaluation activity is useful, and that every active mathematician could in principle devote some of his/her time to evaluation of others’ work (this starts with the most important and essential part, which is the refereeing of research papers submitted for publication), it is also essential that they keep as much time as possible free for their own research. The proliferation of evaluation activities is a real danger. Moreover it induces a change in the perspective of scientists themselves, i.e., in the way they do and present their own research. The primary goal of research is not to get a good grading at an evaluation, but to simply make progress in understanding things. Shifting these goals would have again very negative consequences.

Smaller scientific communities.

How can all scientific communities get access to a sound and sensible evaluation procedure, and in particular to appropriate evaluators? Smaller countries, or those with very heterogeneous research activities, can find it very difficult to obtain reliable and objective information about the level and quality of their research output. The alternative often seems to be a choice between two poor options: rely on the local community (with the obvious danger of self-evaluation and conflict of interests -- clearly to be prohibited), or a semi-automatized bibliometric system as discussed above, which cannot be viewed as a positive long-term way of dealing with this issue. Another solution is certainly desirable.

There may be a case for *creating a supra-national structure* to help in such evaluation activities and it is reasonable to ask whether it is IMU's role to implement such an idea. Arguments in favor include the question “who else?”. The main argument against it is that IMU's main goal should be to bring mathematicians together, and not to be a source of tensions that such evaluation activities inevitably create. The dangers that could arise if the IMU gets directly involved in such activities seem to outweigh the benefits.

III. Additional specific comments

Multi-disciplinary and industrial mathematics.

As stated above, the assessment of mathematicians should be based on careful evaluation of their scientific work and not on semi-automatic KPI of any kind. In this paragraph, we draw the attention to special issues arising in the evaluation of mathematicians who are strongly involved in multidisciplinary projects, either in academia or in industry.

Attention is restricted here to mathematicians who have developed novel mathematics *and* used it to solve an applied problem, motivated by challenges from other sciences and industrial (or other) applications. This workflow, modelling-research-development-application, that is of major importance is of a somewhat different nature than the one discussed above. We stress again that work that only involves direct applications of already existing mathematical tools or techniques is not discussed in the present paragraph (this latter type of work can be assessed by the criteria relevant to the applications area only).

Because of the extreme diversity of publication cultures in multidisciplinary projects and in industry, it is even more crucial to base an assessment of this type of research activity on expert evaluation, which can be a very demanding but necessary one. Given the importance of such activities, both in terms of applications as well as for mathematics itself, it is of particular importance to perform this difficult task well.

While the previous general remarks about the evaluation of the mathematical novelty remain true, additional criteria should be used to recognise some additional and specific challenges:

- * The benefit of the mathematical perspective to the community of the “problem owner” is very important. Therefore it is allowable that some lack of complete mathematical details or theoretical importance (not to be confused with lack in rigour or novelty) is compensated for by relevance to the “partner” community, in which other indicators can be significant. For example, in publications in other sciences, the first nominated author has a strong meaning, while the alphabetical order is the tradition in mathematics papers. So to conclude this paragraph: Assessment in such activities can include criteria used in other sciences, but **in addition, not as a substitute**, to the relevance on mathematics itself.
- * Additional issues arise for mathematicians working in industry or in industrial projects. Here special restrictions may prohibit full publication of the scientific work, either by intellectual property restrictions or (more often) by a lack of time to develop full detailed proofs. Panels or evaluators have of course to take this also into account.
- * A related issue is the fact that the “end-product” of such research and development activity is not necessarily a research paper: It can be for instance a software, the development and implementation of which is a very fundamental and time-consuming aspect that can be also of mathematical nature. This example illustrates the variety of possible important contributions that should be taken into account when performing an evaluation.

Mathematics Education.

What follows are some brief comments on the evaluation of researchers in mathematics education. This is a community that is organised very differently from one country to another. For instance, its members are sometimes part of the formal academic/university community, sometimes affiliated to teacher's associations, and sometimes part of the Ministry of Education. Moreover it is a field with a great diversity in aims, foci, methodologies and programmes, ranging from the epistemological analysis of parts of mathematical knowledge to be taught (usually in an academic context), to the design and analysis of a short term classroom experiment (typically involving teachers), to the design and analysis of teacher education programmes, or to large research studies carried out in collaboration with schools. Sensitivities to different categories of students (from low achievers to gifted), or different social and cultural backgrounds, are also factors and require inputs from cognitive and social sciences. All these disciplines are necessary for achieving the ultimate aim, which is to improve the quality of mathematics teaching and learning at all levels.

This area therefore involves some mathematics, but has very significant inputs from all the above-mentioned fields. Hence, evaluating contributions on this topic requires a blend of criteria that are suited to each of these fields.

Appendix: A non-exhaustive list of aspects that can or should be used in evaluation:

All these familiar aspects of academic life are essential and our community needs them to be performed properly. They can also contribute in indirect, but significant ways to high-level research. Note that this is quite a long list, and that no individual is supposed to tick all boxes

(writing computer software does for instance only concern a fraction of the mathematical community, not all researchers have teaching duties, etc.).

- * Research articles in international journals;
- * Research monographs, textbooks, classroom notes;
- * Applications, production of software, programming code;
- * Special programs organized, especially in institutions where such activities are selected through competitive evaluation of proposals;
- * Conferences and seminars organized, especially in institutions where such activities are selected through competitive evaluation of proposals;
- * Courses taught, new courses created, teaching awards;
- * Refereeing;
- * Academic awards;
- * Supervision of students: PhDs, masters, undergraduates, future teachers;
- * Elected membership in learned societies and other academic institutions;
- * Advisory activities, including editorial work for international journals;
- * Outreach activities: popularization articles, public lectures, lectures or competitions in schools, role in teachers associations, etc.
- * Administrative duties;
- * Efficiency and reliability.

This document was prepared by a committee set up by the Executive Committee of the International Mathematical Union, composed of the following mathematicians:

- * *Mariolina Bartolini Bussi (nominated by the International Commission on Mathematical Instruction (ICMI))*
- * *Carlos Cabrelli (nominated by the Commission for Developing Countries (CDC))*
- * *Andreas Schuppert (nominated by the International Council for Industrial and Applied Mathematics (ICIAM))*

and chaired by

- * *Wendelin Werner (IMU Executive Committee).*

4. Guidelines for Joint Commissions

GUIDELINES FOR JOINT COMMISSIONS OF THE International Mathematical Union (IMU) *endorsed by the IMU General Assembly on August 11, 2014*

These are guidelines for the conduct of joint commissions of the IMU to facilitate their work. In the following a “Parent Union” refers to (each) Union associated with a Joint Commission.

- 1) *Governance of a Joint Commission of the IMU.* The structure of the *Board/Committee* of a Joint Commission of the IMU and its *Terms of Reference* will be determined by mutual agreement of all Parent Unions.
- 2) *Terms of office of Board/Committee members of Joint Commissions of the IMU.* An elected representative may hold an office for a maximum of two terms (8 years). In particular at the beginning of the term of a new Board/Committee of a Joint Commission, its membership must be communicated to the contact person (briefly Secretary from now on) of each Parent Union. The four year term of the Board/Committee begins on a date agreed by the Parent Unions, possibly at a meeting of the General Assembly of one of the Parent Unions. With the permission of the Parent Unions less stringent term limits can be determined for an elected representative who acts as the Joint Commission’s treasurer or who is responsible for the website of the Joint Commission and its hosting.
- 3) *Activity reports of a Joint Commission of the IMU.* A Joint Commission of the IMU will submit a (common) annual activity report to the Secretary of each of its Parent Unions. A Joint Commission should also submit to the Secretary of IMU, in time for a meeting of the IMU General Assembly, a cumulative report covering the full period since the previous IMU General Assembly. (Other parent unions may also require such a cumulative report.) Submission of activity reports is necessary even if the Joint Commission has not requested/received a grant from the Parent Union. The Board/Committee members elected by and representing the IMU should report, in writing to the IMU Secretary, their agreement or otherwise with each activity report submitted to the IMU.
- 4) *Annual financial report of a Joint Commission of the IMU.* A Joint Commission of the IMU will submit an annual financial report to the Secretary of each of its Parent Unions. Submission of the financial report is necessary even if the Joint Commission has not requested/received a grant from the Parent Union. It will document clearly all expenditures and all grants received. All paperwork (bills, invoices, receipts, etc.) related to the financial management of the Joint Commission must be available in case of a possible financial review.

- 5) *Website of a Joint Commission of the IMU.* A Joint Commission should have a website reporting its most important activities (symposia, workshops, congresses, etc.) and a bibliography of publications emanating directly from the Joint Commission (edited works, special publications, proceedings, etc.). The website should be regularly updated (at least twice a year), and there should be a link to the IMU web site (and vice versa).

- 6) *Participation of a Joint Commission of the IMU in the International Congress of Mathematicians (ICM).* A Joint Commission is expected to participate in the congresses of each of its Parent Unions. In particular, an IMU representative on the Board/Committee of a Joint Commission should be involved in the relevant panel of the ICM Program Committee to organise and promote an ICM activity relevant to the Joint Commission.

If these guidelines are not adhered to without a satisfactory reason then the IMU may withdraw from the joint commission agreement.

The IMU General Assembly explicitly permits the IMU Executive Committee (EC) to adjust and update this document if it appears necessary for clarification of particular items and advancement of the work done within the Joint Commission and in cooperation with other Unions. The EC is expected to report all changes made to the IMU General Assembly.

5. GA Guidelines



Guidelines for Meetings of the General Assembly of the International Mathematical Union (IMU)

endorsed by the IMU Executive Committee on September 15, 2012

About the General Assembly

The General Assembly (GA) is the main body of the International Mathematical Union. It admits IMU members, elects the IMU officers and the members of the IMU Executive Committee, establishes commissions and the budget, and decides about the IMU statutes, the rules of conduct and many other issues. The GA consists of Delegates appointed by the Adhering Organizations, together with the members of the Executive Committee, and of the Representatives of Associate and Affiliate Members. Guests and observers may be invited additionally. Only Delegates have voting rights. The IMU Statutes contain a detailed description of the rights and duties of the GA.

The GA normally meets once in four years, usually at a place and date close to an International Congress of Mathematicians (ICM). An indication of the place and time of the GA meeting is supposed to be part of the bid for an ICM.

This document provides some guidelines for the organization of a meeting of the GA.

GA organization

For a GA meeting arranged in close association with an ICM, the ICM organizers are supposed to also care for the organization of the GA meeting. Ideally, a mathematician based in the vicinity of the location of the GA meeting should be appointed as chair of the GA organization. He/she is the local contact person and in charge of coordinating the GA meeting with the ICM organizers and the IMU secretary. The number of persons involved in the organization of the GA and the structure of the local GA organization team are up to the ICM organizers.

GA Web server and site

A GA Web server and a GA Web site must be set up. Competent staff has to run the GA server and make the documents needed available on the GA Web site. Mirroring is advisable to compensate any breakdown of the server. The GA Web server should be integrated into the ICM Web server and has to be maintained until a copy thereof is moved to the IMU archive. The GA organizers have to make sure (e.g., by obtaining corresponding copyrights) that IMU has the right that all material dedicated to the IMU archive can be made available on the IMU Web site without time limit.

GA participants

Admitted to the IMU GA meeting are:

Category	app. No.	Description	Voting rights
Delegate	160	is nominated by a full member AO of IMU	YES
Representative	15	– represents an associate member AO of IMU – represents an affiliate member of IMU	NO* NO* <small>*apart from voting rights, same rights as delegates</small>
IMU EC	11	all members of the executive committee	NO
IMU representative	5	a person serving some IMU function, invited by the IMU president, e.g., PC chair, commission president	NO
Observer	8	is invited by the IMU president in order to serve a certain function	NO
IMU staff	2	persons working for the IMU and supporting the GA by secretarial assistance	NO
GA organizer	5	members of the GA organization team appointed by the ICM organizers	NO
GA local staff	n	persons who help organize and support the GA at the location where the GA takes place.	NO

The persons belonging to one of the categories listed above are jointly called *GA participants*. In addition, there may be accompanying persons for whom some service should be provided.

The name tag (large letters please) for each GA participant has to contain the following information:

FIRST LINE (NAME LINE): Name of the person (the name provided by the person via the formal registration process, no titles).

SECOND LINE (COUNTRY LINE): Name of the country (the official name of the country if the person represents a member country as a delegate or an associate member country as a representative, in all other cases the name of the country a person has provided in his/her registration form).

THIRD LINE (FUNCTION LINE): One of the following functions applies: DELEGATE, REPRESENTATIVE, IMU EC MEMBER, IMU REPRESENTATIVE, OBSERVER, IMU STAFF, GA ORGANIZER, GA STAFF, ACCOMPANYING PERSON.

Timetable

ICM	– 1 year	IMU secretariat to forward invitations to the GA meeting through circular letter to all AOs
IMU GA	– 3 months	IMU secretary to forward the GA agenda to the AOs

IMU GA	– 2 months	IMU secretary to forward the GA slates to the AOs
IMU GA	– 1 month	IMU secretary to forward some practical advice to the AOs
ICM OC	– 5 days	IMU EC arrival at the place of the GA
ICM OC	– 4 days	IMU EC meeting at the place of the GA
ICM OC	– 4 days	GA participants arrival, registration
ICM OC	– 3 days	IMU GA meeting (2 full days)
ICM OC	– 1 day	Transfer from GA site to ICM site

The distribution of information material about the GA meeting venue, transport to and from the GA location, hotels, etc. (see below), needs to be jointly planned with the IMU secretariat and should be provided in due course.

Registration

GA participation is determined as follows:

- The AOs of full members have to nominate their delegates to the IMU secretary/secretariat according to the IMU Statutes 19.
- The AOs of associate and affiliate members have to nominate their representatives to the IMU secretary/secretariat according to the IMU Statutes 19.
- The IMU president in consultation with the EC decides on the invitation of IMU representatives and observers.
- The chair of the GA organization appoints the GA organizers and the members of the GA staff.

All GA participants and the accompanying persons have to register. The IMU secretariat defines who is delegate, representative, EC member, IMU representative, observer and IMU staff and provides this information to the GA organizers. The IMU secretariat and the GA organizers have to cooperate in this respect since, usually, some confusion occurs.

The possibility of electronic registration of GA participants prior to the GA meeting via e-mail and the GA Web server should be provided; details are to be coordinated between the IMU secretariat and the GA local organization. At the registration process meal and child care requirements should be asked for.

There are, in general, some countries with difficult visa relations to the GA host country. It is advisable to get in contact at an early stage with the foreign ministry of the host country and with embassies in countries with complicated diplomatic relations to make sure that all GA participants (and ICM participants) from these countries can enter the host country. Suitable invitation letters to GA participants may have to be sent.

In addition, each GA participant has to register on site in the evening before or in the morning of the GA meeting (possibly in the conference hotel or another appropriate place) to check the identity, approve changes and, thus, verify the actual GA participation. The GA participants will receive name tags/local GA material, including GA documentation printouts if requested

by participants in advance. The registration list has to be handed over to the credentials committee.

Typical GA schedule

- Day before day 1 of GA, IMU EC meeting starting at 09:00
- On-site registration evening before and in the morning of day 1
- GA, day 1, 09:00 – 17:00/18:00
Group photo, 2 coffee/tea breaks, 1 lunch break, GA committee meetings in the evening by individual appointment
- GA, day 2, 08:30 – 09:30 GA committee meetings by individual appointment, 09:30 – 16:30/17:00
2 coffee/tea breaks, 1 lunch break
- One social activity in the evening of day 1 or day 2 should be planned.

Expense arrangements

The expense arrangements need discussion between the IMU secretariat and the GA organization. Typically, the GA costs are born by the GA host country with some support by the IMU, see item 3.1 of the IMU budget. Among the items to be discussed are:

- Who pays for the local costs of the IMU EC, IMU staff, IMU representatives, observers?
- Is there financial support for participants from countries without resources, if requested?
- Who pays for local social activities?

Other issues at the venue:

- Provision/use of WLAN in the GA premises should be free of charge for all GA participants.
- Coffee/tea breaks: Provision free of charge of hot/cold drinks and possibly cookies/snacks.
- Lunch breaks: Provision free of charge of hot/cold drinks and refreshments/meals.

Location

The president of the ICM organization committee and the chair of the GA organization team decide in cooperation with the IMU secretary on the location (hotel, congress center, university, ...) of the GA meeting and the hotels to be offered to the GA participants. Budgetary constraints should be considered.

Room requirements

- 1 meeting room for the IMU EC meeting (on the day before the GA) accommodating about 15 persons.

WLAN should be provided.

- 1 GA conference room for about 200 persons.

- At least 3 meeting rooms for the 6 GA committees accommodating up to 10 persons.
The 6 GA committees meet at least once during the 2 days GA meeting.
2 rooms preferably equipped with a projector thus enabling checking of, e.g., delegates' registration, ballot sheets, finances, resolutions, simultaneously on a laptop and a screen, if requested. WLAN appreciated.
- 1 separate room for handling financial disbursements in case the GA organizing committee intends to grant financial support for GA participants (this is solely a business of the local GA organization).

The GA conference room

Seating plan: Order of countries according to the alphabetical order of the country names. Country nameplate to be arranged in front of each delegate/representative to make visible the country/Adhering Organization represented.

Presidium table accommodating the members of the EC (11 persons) and, at least, 2 supporting people (writing the minutes, overseeing the elections).

Ample space is favored. It is customary that, in breaks or discussion time, small groups form to debate issues and reach consensus. This requires the possibility to move within the conference room without obstruction by tightly packed seating.

Technical equipment

The GA conference room

A sufficient number of microphones on the presidium table enabling each EC member to speak over the loudspeakers without standing up.

A speaker's desk with a microphone and a laptop for presentations.

A number of floor microphones (fixed and/or moved by GA staff) for clearly audible contributions of the GA participants.

Screen and data projector (for presentations) reproducing sufficiently large pictures/letters, screen to be viewed from all seats in the room.

Wireless LAN should be available for all conference participants (Internet access is important since the extensive GA documents are not distributed as printouts but are made electronically available via a password protected mail server).

Sufficient number of electrical outlets for the laptops of the GA participants.

Ideally, provision of audio (and video) taping of the whole GA in order to facilitate exact minutes of the meeting.

Other

Provide printing and photocopying capacities (for ballot sheets and other materials, as need may be) close to the GA conference room. Ballot boxes, one for each teller.

PC/laptop in reserve for secretarial work.

Responsibilities

Organizational matters

- Slates of the GA to be made up by the IMU Nominating/Election Committee.
- Organizing the GA schedule is the duty of the IMU secretary together with the chair of the GA organization team.
- Agenda of the GA meeting to be drawn up by the IMU secretary.
- Presiding over the GA meeting is the duty of the IMU president.
- Ballots that are required for secret voting to be designed by the IMU secretariat, which is done most likely at the GA venue itself when the various committees (especially the election committee) have finalized their slates (shortly before the election of the forthcoming IMU representatives).

Committees

The IMU EC has to care for the appointment of five committees that have to be active at the GA meeting. The EC should make sure that candidates for the committees are available. To this end, the complete list of participants should be available rather soon in order to enable a preselection of candidates. The committee appointment is a privilege of the GA and is one of the first activities of the meeting.

- Credentials Committee (1 chair + 2 members)
Review the list of delegates that have registered at the GA and verify that each delegation is correctly constituted and present the list to the president of IMU; Ensure that voting procedures are understood.
- Tellers Committee (1 chair + 5 members)
Distribute ballots; Collect ballots; Verify ballots and discard invalid ballots; Count the votes; Report the outcome to the president of IMU.
- Finance and Dues Committee (1 chair + 5 members)
Review the proposed budget; Make recommendations to the GA concerning dues; Make recommendations to the GA concerning action to be taken regarding dues in arrears.
- Resolutions Committee (1 chair + 5 members)
Accept resolutions put forth by delegations prior to the close of the first day's sessions of the GA; Review and edit resolutions received from the delegations; Formulate resolutions; Present the resolutions to the GA with recommendations.
- Election Committee (1 chair + 4 members)
Settle all issues coming up during the election process, in particular, to oversee the form of the ballot papers and to clarify all matters coming up when suggestions from the floor are made.
- IMU Nominating Committee (appointed about two years in advance of the GA meeting)
Has put together slates for IMU commissions and committees to be elected at the GA. The slates are based on proposals from the AOs.

Local GA secretariat

It is expected that the GA organization team provides a (small) GA secretariat where the on-site registration is managed and where GA participants can ask for support, advice, and help of any kind (e.g., with flight, hotel booking, phone calls). The secretariat should be staffed with experienced local people with good English language skills. Due to other responsibilities the IMU staff will not be able to support the GA secretariat.

GA and ICM

- The GA organization team has to provide information about the timing of the GA meeting, the recommended hotels, the venue of the GA meeting, the city in which the meeting takes place, arrival and departure possibilities, local transport as well as the details of the transfer from the GA to the ICM venue well in advance so that travel arrangements can be made in due course.
- One day to be scheduled for the transfer from the GA venue to the ICM venue.
- It may be necessary to organize a special transfer for some GA participants, such as the IMU president and secretary, who may need to be at the ICM venue soon after the GA meeting ends.
- The GA participants are supposed to pay themselves for their travel to the GA meeting and, when they also participate in the subsequent ICM (most of them do so), for their travel home. Normally, the organizing committees have arranged and paid for the transfer from the GA venue to the ICM venue depending on the local conditions (1998 and 2006 transfers by bus, 2002 and 2010 transfers by plane).

Media coverage

It is important for the ICM media communication team to cover the GA meeting as well. This can be done by putting together a press dossier with information about the GA, ICM and the IMU and information about mathematics in the host country. Press releases should be issued announcing the celebration of the GA and its importance. A final GA press release can report the most important resolutions adopted at the GA meeting. Press material should be available in the local language and English (language check by native speaker is advisable).

Obtain photographs and, if possible, videos to issue with the releases. These should be subsequently included in the IMU records.

Conduct interviews with outstanding personalities at the GA, whether from the IMU, delegates or local organizers.

In all cases, attention should be paid to international and local significance to meet the right target groups.

Local politicians

It has been the case that local authorities have significantly sponsored or even fully financed a GA meeting. These contributions need to be appropriately acknowledged, for instance, by a short appearance of a local politician at the GA meeting (e.g., opening), but most importantly by press activities that meet the interest of all parties involved.

Final statements

The organizers of a GA are requested to share important conclusions with the IMU secretariat in order to profit from their experience with respect to the next GA.

6. ICM Bidding Guidelines



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

1. Introduction

The ICMs are the largest 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 invited speakers at an ICM are carefully selected by an outstanding 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 IMU are the highest distinctions in the mathematical world, and they are presented in the opening ceremony of an ICM: Fields Medals (two to four medals are given since 1936), the Rolf Nevanlinna Prize (since 1986), the Carl Friedrich Gauss Prize (since 2006), and the Chern Medal Award (since 2010). At the closing ceremony of the ICM, the Leelavati Prize, sponsored by Infosys, for excellence in mathematical outreach is awarded (since 2010).

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 properties, 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 (EC) of IMU think that the present bid is not only feasible, but also better than other potential bids.

Of course, there is no unique measure of 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.

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

Inviting bodies

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 country and that all major

parties concerned with mathematical research stand behind the bid. Also of importance is the actual involvement of the local mathematical community of the particular city/region where the ICM is supposed to take place, so as to create a nice ambiance around and during the meeting.

Scientific infrastructure

The bid document should present the scientific infrastructure in the bidding country that will be supporting the Congress. This is to demonstrate the presence of a sufficiently large group of mathematicians in the country to provide national backup of the scientific program. In particular, the bid document should clarify whether there is a substantial core of mathematical researchers in the country with experience in international meetings and provide convincing reasons why the ICM should be hosted in this country; up-to-date details about universities, research centers and the state of the mathematical research in the country are welcome. 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 provided? Therefore, the bid should show the capacity to attract over 300 volunteers from the region where the ICM takes place.

Venues

The bid should indicate possible venues (concentration on one is preferred) within the country (city and institutions in 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' ready room
- Internet corner/availability of WiFi
- Registration space
- Exhibition space
- Poster area
- Space for informal discussions of small groups of participants
- Catering areas for coffee breaks/light lunches.

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, city/country accessibility, climate, and cultural and recreational attractions.

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 the participants in the host country. IMU expects that no

mathematician willing to participate in an ICM be denied access to the host country to attend the Congress.

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 two main social events during the Congress:

- Opening Ceremony for approx. 4,000-4,500 participants
- Social dinner/banquet for approx. 3,000 participants.

Outreach activities (public lectures, exhibitions)

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

Satellite conferences

The organization of satellite conferences (before or after an ICM) on special mathematical topics in various places of the host country and neighboring countries became an ICM tradition. This ensures the involvement of a large regional mathematical community.

Proceedings

The bid should describe the arrangements for the proceedings (paper, electronic, or both). IMU asks that a paper version be produced for the libraries.

General Assembly

Arrangements for the General Assembly (GA) meeting that lasts two days and should be held in a city different from the ICM venue 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.

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 in the bidding country 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 country to country. However, according to the reports of the latest ICMS, a potential host country may consider a budget of about 2 million US dollars, of which about 0.5 or 0.6 million US dollars might be raised through registration fees (such fees should be in the range of 300-400 US dollars). Again, these numbers may go up or down according to local costs and facilities as well as in-kind contributions. In considering the budget, printing costs of the proceedings and other material (posters, announcements, summary of invited lectures, ...) as well as mailing deserve special attention.

The host country should be prepared to lodge freely about 120 young research

mathematicians from developing countries, selected by IMU; they get their trips paid by IMU through its Special Development Fund. 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. Registration fees are waived for invited speakers and the above young research mathematicians from developing countries. On the other hand, it is to be noted that there is an IMU subvention to the ICM as well as some provision in IMU's budget to defray costs of the General Assembly meeting that takes place just before the Congress.

3. Selection procedure

All countries interested in making a bid to host an ICM are strongly encouraged to do so.

Requests for further information about the preparation of a bid should be addressed at any time to the IMU Secretary.

Countries considering submitting a bid to host an ICM 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 by November 30, Year -6 before the ICM.
- The IMU EC nominates a Site Selection Committee consisting of the members of the IMU Executive Committee and the President of the Local Organizing Committee of the previous ICM.
- The Site Selection Committee appoints a Site Visiting Committee (SVC) that visits all sites.
- Site recommendations are made before the IMU EC meeting in Year -5 of the ICM. The SVC can give feedback to bidders if found useful so that the bidders have the chance to improve their bid.
- The SSC, after all bidding institutions have reacted to the feedback remarks/questions, finalizes its recommendations. The IMU Secretary communicates these recommendations to the IMU Adhering Organizations.
- The final decision is taken by the General Assembly to be held in Year -4.

The General Assembly is free to consider bids placed after November 30, Year -6, but the IMU EC considers most advisable that the IMU Adhering Organizations comply with the above procedure.

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/OG Guidelines (www.mathunion.org/activities/icm). Similarly, the GA Guidelines (www.mathunion.org/organization/general-assembly/) describe details of the organization of a meeting of the General Assembly.

4. Tables

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

August 15, year Y	ICM Opening Ceremony
August 12-13, Y	Meeting of the IMU General Assembly
November 30, Y-6	Deadline for bids for ICM Y
January-April, Y-5	Site visits of SVC

May, Y-5	IMU EC preselects ICM Y site
August 13, Y-4	IMU GA decides on ICM Y site

4.2. Table II: Format (roughly) of past ICMs

(Day = Day of the ICM Opening Ceremony)

Day -1	Rehearsal of the Opening Ceremony with the prizes winners
Day 1	Opening Ceremony (IMU prizes), up to 4,000-4,500 persons capacity auditorium
Day 5	Free
Day 9	Closing Ceremony
Expected participants	4,000 persons
Budget	– ~ 2,000,000 US dollars – Subvention from IMU: ~ 90,000 US dollars
Plenary speakers (60 min lectures)	~ 20 persons
Invited speakers (45 min lectures)	– ~ 160 persons, between 3 and 14 invited lectures in each session – up to 7 invited lectures in parallel – rooms for invited lectures for at least 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
Satellites conferences	– 32 conferences at ICM 2010 – 64 conferences at ICM 2006
Proceedings, paper copy for the libraries	– one volume with the plenary lectures: around 800 pages – two or three volumes with the invited lectures: around 3000 pages altogether – one (optional in paper copy form) volume with the Communications: 400-500 pages
General Assembly	– Expected participants: 200 persons – Budget: ~ 180,000 US dollars – Contribution from IMU: ~ 18,000 US dollars

7. Guidelines for Handling Conflicts of Interest

July 9, 2014

International Mathematical Union (IMU) Guidelines for handling conflicts of interest in prize selection committees¹

Preamble

Because the activities of the IMU are many and complex, involving large numbers of individuals, potential conflicts of interest inevitably arise in innocent and unexpected ways. The IMU must be vigilant, and be seen to be vigilant, by having in place effective and transparent measures to minimize the risk of damage to its reputation through misunderstanding. This is especially important in the context of its prize selection committees, the activities of which must always be beyond reproach.

At its 78th meeting in April 2009, the IMU Executive Committee (EC) issued guidelines on the management of conflicts of interest in its prize selection committees. Revised by the EC in 2014, the guidelines below were endorsed by the IMU General Assembly on August 11, 2014.

To ensure that IMU prize selection committees, both individually and collectively, know about and abide by the spirit of these guidelines it is requested that:

- committee members declare that they have read and accept the conflict of interest guidelines below before agreeing to serve
- committee chairs contact the IMU President for advice when there is concern or doubt about how to deal with a particular set of circumstances. If the President is conflicted, then the Secretary or one of the Vice-Presidents should be consulted.

The Guidelines

Because the IMU EC understands that there is no precise and exhaustive definition of conflict of interest it has not attempted to draft strict rules and is counting instead on the common sense and integrity of individuals. It therefore asks all those invited to join prize committees to review their circumstances and report if necessary any relationships, whether scientific or personal, with prize nominees that could reasonably be viewed with suspicion. When there is doubt the default position should be to disclose.

Since prize committees are active for several years, conflicts of interest may arise after a period of time. The EC therefore recommends that committee chairs

¹ IMU documents sometimes refer to these committees as *prize committees* or *juries*.

periodically invite, at the start of all formal discussions, everyone involved to review conflicts of interest and declare changes that may have occurred.

When committee members disagree on the importance of a potential conflict of interest, the committee chair should ask the IMU President to resolve the problem. The IMU EC has given the President authority to make final decisions, for instance, to remove a person from a committee or to replace a committee member by someone else.

Here is a non-exhaustive list of major conflicts of interest:

- A committee member is nominated for an IMU prize.
- There is a close personal relation with a nominee, for example, close relative, spouse, ex-spouse, partner, etc. (A more distant relationship should be disclosed to the committee chair and if necessary discussed with the committee.)
- A committee member is a major co-author of a nominee.
- A committee member is a recent (within five years), current, or future departmental colleague of a candidate.

No individuals in similar circumstances should be asked to write evaluation letters for nominees.

When there is a perceived conflict of interest the committee member involved should, after reporting the circumstances, take no further part in discussions, leaving the room if necessary until the matter is resolved by the rest of the committee.

For prizes such as Fields Medals and Nevalinna Prizes where eligibility is limited by age, individuals who are invited to join prize committees normally should not be eligible for the prizes. The current rules state that a Fields or Nevanlinna committee member shall withdraw from the committee if a former PhD student is shortlisted, see <http://www.mathunion.org/general/prizes/fields/details/>. A committee member who has a former or current PhD student on the candidates list may remain on the committee during initial stages of the selection process leading to the shortlist. However at the discretion of the chair, he or she may be asked to leave the room during consideration of the candidate and in any case should not take any part whatsoever in discussions of, or vote on, the nominee concerned.

Martin Grötschel
IMU Secretary

8. Archiving Guidelines



IMU Archiving Guidelines

Endorsed by the IMU Executive Committee on March 8, 2014

1. Aims of the IMU Archive

- To keep record of, and reflect the activity and history of the International Mathematical Union (IMU) in all its facets.
- To keep record of, and reflect the activity and history of IMU commissions and committees (such as ICMI, CDC, ICHM, CEIC, ...) if deemed desired. The archives of IMU commissions and committees are subsets of the IMU Archive. Archiving is a labor intensive long-term activity, therefore any commission or committee archiving needs are to be checked for feasibility and approved by the IMU EC in cooperation with the IMU Secretariat. The Guidelines for the IMU Archive below apply, *mutatis mutandis*, to the commission and committee archives.

2. Archive location

The archived material is physically preserved at a facility established and equipped to serve this purpose, as well as on the server hosting the IMU Web site and providing the electronic infrastructure for IMU.

3. Objects of the IMU Archive

The IMU Archive shall contain all material suitable to give evidence of the activity and history of IMU. The material can be of internal origin and/or external origin.

Collected in the IMU Archive is material in hard copy format as well as in electronic form, including audio-visual material. Copies of the IMU Web page are archived at regular intervals.

4. Demand for archiving

There is a general responsibility to archive all documents/material created by the IMU president and secretary, the IMU administrative staff, and the IMU prize committee chairs/prize committees. Other material supplied to the IMU Archive can also be preserved.

IMU's four-year office term is the time span unit applicable to archiving in the IMU Archive. The IMU secretary informs the persons/committees eligible to feed the IMU Archive of their responsibility when they assume office. Anyone who has the obligation to provide material to the IMU Archive according to these guidelines is expected to deliver the material within 3 months at the latest after the end of each four-year term.

5. Classification of archive material

Basically, the person/body delivering material to the IMU Archive is required to assign one out of the three categories of IMU's confidentiality classification to the material and to label it accordingly. Material delivered without labeling is classified by the IMU secretary. The IMU executive committee is authorized to modify characteristics of IMU's confidentiality classification, likewise it is authorized to change the confidentiality category of material archived (exclusively from a lower level of confidentiality to a higher level).

6. IMU categories of confidentiality and access

IMU category of confidentiality	A) General unclassified	B) Union internal use only	C) Confidential
Embargo time (years)	0	20	70
Public access	Immediately.	After 20 years of the end of the four-year term during which the material was created.	After 70 years of the end of the four-year term during which the material was created.
Availability	The material is available to everybody. Copying permitted subject to copyright restrictions.	During embargo: The material is available to IMU officers, IMU EC, IMU administrative staff. After embargo time: Category A) applies.	During embargo: The material is available to IMU officers, IMU EC, IMU administrative staff, except for material of IMU prize selection committees. After embargo time: Category A) applies.
Exceptions		The IMU EC may grant, upon request, access before the end of the embargo time for purposes of research in intellectual history or for reasons of law.	The IMU EC may grant, upon request, access before the end of the embargo time for purposes of research in intellectual history or for reasons of law, except for material of IMU prize selection committees.

Examples of material	<ul style="list-style-type: none"> Printed matter such as books, journals, brochures, press releases All contents of the IMU Web site including the ICM Web sites Contents of other Web sites concerning the IMU, its representatives or commissions Artifacts of events as well as posters and promotional items Interviews (only with the interviewee's consent) 	<ul style="list-style-type: none"> Minutes Correspondences, discussions within the EC and other committees Agreements with persons or institutions ICM documents (e.g., Site Committee) Financial items that are not, by statute, already publicly accessible 	<ul style="list-style-type: none"> All discussions, statements, correspondences concerning the nominees and nominators, as well as investigations and opinions related to the IMU awards (that is: Fields Medal, Rolf Nevanlinna Prize, Carl Friedrich Gauss Prize, Chern Medal Award, Leelavati Prize, and any other future prize) Non-official political or personal statements Oral history tapes, videos and transcripts (the content of which is subject to embargo)
Remarks	Although there may be cases in which drafts are archived as well, typically only the final version of a document is archived to reflect the activity and history of IMU. The person generating the document will make this decision. Any EC members can request that some additional documents be archived.	Although there may be cases in which drafts are archived as well, typically only the final version of a document is archived to reflect the activity and history of IMU. The person generating the document will make this decision. Any EC members can request that some additional documents be archived.	Although there may be cases in which drafts are archived as well, typically only the final version of a document is archived to reflect the activity and history of IMU. The person generating the document will make this decision. Any EC members can request that some additional documents be archived.

7. Transfer of material to the IMU Archive

When material has reached the IMU Archive the archivist assigns a unique accession number, registers the category of confidentiality, and enters the records into the IMU Archive database.

Instructions for the transfer of hard copy records and materials to the IMU Archive

- Contact the IMU archivist and/or the IMU Archive curator, and additionally the IMU technician, to notify the transfer and agree on the details.
- List and box the records: The transfer should be accompanied by a transfer list. When the boxes are ready, e-mail a copy of the transfer list to the IMU Archive.
- Label category of confidentiality.

- Identify all information clearly (e.g., box number, file title, item).

Instructions for the transfer of electronic/digital records to the IMU Archive

General information:

- Before starting the transfer process, consult the IMU technician and the IMU archivist who will coordinate the transfer of the records. Items of importance are:
 - Formats, organization, and amount of records that are to be transferred.
 - The format of documents should be an open format. The ISO standard PDF/A is preferred.
 - Preparation and tools available for transfer.
 - Capture and storage of these records (e.g., CDs, DVDs, hard drives) or transfer via Internet.
 - Label category of confidentiality.

E-mail correspondence:

Every e-mail received at the address secretary@mathunion.org and president@mathunion.org is automatically archived. If the IMU secretary and the IMU president, respectively, wish to archive e-mail they send they have to insert their e-mail address secretary@mathunion.org and president@mathunion.org, respectively, in the Cc line.

- Make arrangements with the IMU technician for transfer of the records in electronic format that are to be stored in the IMU server environment.
- Archiving of e-mail records in electronic format requires that specific system information be provided to IMU before approval can be granted (file format information, export format for e-mail messages, metadata, transmission and receipt data, attachment management information).
- There are no finalized solutions for e-mail archiving yet.
- Alternative: Print the e-mail and transfer hard copies to the IMU Archive (not recommended).

Web sites

The IMU Web site should be archived regularly, at least once a year.

- Contact the IMU technician. Archiving of Web records in electronic format requires that specific system information be provided to IMU before approval can be granted.
- Transfer to the IMU Archive:
 - An electronic version of the Web site.
 - Or: A view version of the page (how it looks when served up by a browser), as well as the source document (the code that creates the page that is served).

The guidelines for electronic materials are updated depending on technological development.

9. IMU Membership Guidelines

INTERNATIONAL MATHEMATICAL UNION (IMU): INFORMATION ABOUT IMU'S ACTIVITIES AND THE APPLICATION PROCESS FOR IMU MEMBERSHIP AND IMU ASSOCIATE MEMBERSHIP

1. General Information about the IMU
2. IMU membership/associate membership
3. How to apply for IMU membership

1. General Information about the IMU

Detailed Information about the International Mathematical Union and its activities can be found at [IMU's Web site](#). Here is a short summary of what IMU does and an applying country can benefit from. In a nutshell:

IMU is an international non-governmental and non-profit scientific organization, with the purpose of promoting international cooperation in mathematics. It is a member of the International Council for Science (ICSU), which is an umbrella organization for scientific unions and national science foundations.

Briefly, the objectives of IMU are:

- To promote international cooperation in mathematics.
- To support and assist the International Congress of Mathematicians (ICMs) and other international scientific meetings or conferences.
- To encourage and support other international mathematical activities considered likely to contribute to the development of mathematical science in any of its aspects, pure, applied, or educational.
- A special focus is the support of the development of mathematical research and education in the developing countries, by helping training of highly qualified personal, networking and capacity building, both in education and research.

IMU is responsible for the organization of the International Congresses of Mathematicians, which are held every four years and which, since 1897, play an important role in the development of mathematics and the celebration of the major achievements in the mathematical sciences around the world. The most important mathematical prizes (Fields Medal, Nevanlinna Prize, Gauss Prize, Chern Medal Award, Leelavati Prize) are awarded at the ICM Opening Ceremonies.

IMU's sub-organization **Commission for Developing Countries (CDC)** supports mathematics in developing countries through a wide range of projects, including a Conference support program, the Volunteer Lecturer Program, the Abel Visiting Scholar Program, IMU-Simons Foundation Travel Fellowships, travel grants to attend the ICMs, a Mathematical Libraries Assistance Scheme. The CDC is regularly releasing reports on the current state of a developing region of the world and on opportunities for new initiatives to support their mathematical development. Details can be found on the CDC Web page <http://www.mathunion.org/cdc/>.

IMU engages in mathematics education via the **International Commission on Mathematical Instruction (ICMI)**, see <http://www.mathunion.org/icmi/>, whose goal is to foster efforts to improve the quality of mathematics teaching and learning worldwide. ICMI fulfills its mission through a variety of publications, the organization of small special purpose conferences or the quadrennial International Congress on Mathematical Education (ICME). A new initiative is the Capacity & Networking Project (CANP) aiming to enhance mathematics education at all levels in developing countries, e.g., by creating sustained and effective regional networks of teachers, mathematics educators and mathematicians and linking them to international support.

IMU engages in electronic information and communication through its **Committee on Electronic Information and Communication (CEIC)**, see <http://www.mathunion.org/ceic> which regularly produces "best practices recommendations" on a variety of publication and communication aspects. The CEIC is involved in a coordinated effort to digitize the past mathematical literature in order to make it available online and thus, in the long run, building the World Digital Mathematical Library.

IMU is governed by an Executive Committee (EC) that is elected every four years by the IMU General Assembly (GA) which consists of all ordinary members (associate members have no voting rights). The GA usually determines, for the forthcoming period of four years, the tasks to be performed by the EC. All this is regulated in the statutes which also describe IMU membership in detail, see <http://www.mathunion.org/fileadmin/IMU/Statutes2006.pdf>.

2. IMU membership/associate membership

There is no application form or the like. The IMU EC just would like a country to report faithfully about the state of its mathematics in a way that the IMU members get a clear picture and have a sound basis for their vote.

A description of what the IMU EC would like to know is enclosed below. To see what other countries applying for membership or associate membership or for a group upgrade have delivered, please go to the Web page <http://www.mathunion.org/publications/cl> at which all Circular Letters to the IMU Adhering Organizations can be found. Letter headings such as „Applications for IMU associate membership" indicate that some countries have applied for IMU (Associate) Membership. These letters contain (in the appendix) the material the applying countries provided. Examples of such letters are 3/2014, 4/2012, 12/2011, 16/2009, 06/2009, 06/2008, 09/2007, 08/2007, 02/2007, 01/2007.

Associate IMU members pay no dues and have no voting rights. The current IMU dues structure can be found on the Web page <http://www.mathunion.org/members/countries>.

Please send all communication concerning your application to the IMU Secretary (secretary@mathunion.org). Do not hesitate to ask questions. Your application will be reviewed by the IMU EC and then sent with the EC's recommendation to all IMU members for formal vote.

3. How to apply for IMU membership

The International Mathematical Union intends to be as non-bureaucratic as possible, and the IMU Executive Committee (EC) will handle every Membership and Associate Membership application in a very flexible way.

Nevertheless, the IMU members request that countries applying for (Associate) Membership provide supporting material.

Whenever a country applies for Membership (or Associate Membership), the country is requested to report about the state of mathematics in its country. What the IMU EC asks for is an overview over the state of mathematics which includes some statistics and comments about the research activities throughout the country applying. What countries have typically submitted in previous cases is, in addition to a general outline (of two pages or so) in descriptive form, statistical material such as:

- the number of universities in the country where mathematics is taught,
- the list of universities with significant research activities in mathematics,
- the (estimated) number of professors in mathematics in the country,
- the (estimated) number of research mathematicians in the country,
- the list of mathematical societies in the country and the number of their members,
- a list of mathematicians whom the country considers well-known in the world-wide mathematical community,
- an estimation of the number of mathematical publications that have been produced by mathematicians living in the country and that have appeared in respected mathematical journals in the recent years,
- a list of the names of the mathematical journals published in the country,
- a brief overview of educational activities,
- whatever a country considers important for the application.

This is a long list, and not every country applying can easily produce such documents, in particular in the case of application for Associate Membership. But be assured that the IMU EC is determined to help every applicant to become an IMU Member, even if only for a small fraction of items of the list above, reasonable indicators can be reported.

Please review the outline of indicators of mathematical activity listed above, check which of the figures and lists you can produce without undue effort. The IMU Secretary will be happy

to discuss with you a preliminary form of application, where you outline what you can deliver and what appears too difficult to obtain.

Please do not hesitate to contact the IMU Secretary so that an application can be worked out that satisfies the standards the IMU EC has in mind and that increases the chance of a positive vote by the IMU members.

Please note that the IMU Executive Committee does not decide on an application. The IMU EC just reviews a proposal and formulates a recommendation. Every application together with the recommendation of the EC will be sent to all IMU Members for a vote.

Please do not forget to read the sections of the IMU statutes concerning Membership and Associate Membership:

II. Membership, art. 3. - 6.

III. Associate Membership, art. 7. - 12.

The statutes are on the Web at <http://www.mathunion.org/fileadmin/IMU/Statutes2010.pdf>. Please make yourself acquainted with these formalities.

And please recall that the IMU members are countries. It may be necessary to contact - before an application is made - a governmental institution (e.g., the ministry of education and science, the ministry of foreign affairs) that, within the country, is responsible for such memberships. IMU assumes that when such an application is made the National Mathematical Society (or the National Academy of Science) has discussed the application with official representatives of the country and applies for IMU Membership or IMU Associate Membership as the future Adhering Organization. If there is more than one Mathematical Society in a country it may be wise to discuss the plan with all these before an application is made.

Berlin, July 2014

The IMU Secretary