# REPORT OF THE $14{ }^{\text {TH }}$ GENERAL ASSEMBLY OF THE INTERNATIONAL MATHEMATICAL UNION <br> Shanghai, China 

## 1. Opening

The President Jacob Palis opened the meeting at 10:00 a.m. on August 17, 2002.

## 2. Address by the President

The President welcomed the delegates and observers and urged their cooperation to work together for the next two days on the IMU reports concerning the activities in the past four years and to help to formulate the plans for the next four years. Professor Palis introduced Li Tatsien (Li Daqian), the head of the General Assembly Local Organizing Committee. Professor Li expressed his welcome to all whom have come from afar to attend the $14^{\text {th }}$ General Assembly in Shanghai.

## 3. Committees

The following committees were appointed.

## Credentials Committee

Christer Kiselman, Chair (Sweden)
S. D. Chatterji (Switzerland)

Dong Myung Chung (Republic of Korea)

## Finance and Dues Committee

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Jennifer Chayes, Chair (United States of America)
Uriel Feige (Israel)
E. C. Lance (United Kingdom)
Roberto Markarian (Uruguay)
Alf Van Der Poorten (Australia)
A. B. Zhizhchenko (Russia)
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## Nominating Committee

Jacob Palis, Chair (Brazil)
Michael Benedicks (Sweden)
Alberto Conte (Italy)
T. J. Lyons (United Kingdom)

Bodil Branner (Denmark)
Li, Daqian (China)
Jose A. De La Pena (Mexico)
David Eisenbud (United States of America)
L. D. Faddeev (Russia)

Sizwe Mabizela (South Africa)
Christine Rousseau (Canada)
Kenji Ueno (Japan)

## Resolutions Committee

Olavi Nevanlinna, Chair (Finland)
Suely Druck (Brazil)
Albert Fathi (France)
Peter Gritzmann (Germany)
Carlos Andradas Heranz (Spain)
Donald Saari (United States of America)

## Tellers

Olav Arnfinn Laudal, Chair (Norway)
Franco Brezzi (Italy)
Marcio Soares (Brazil)
Yun-Tong Siu (United States of America)
Tao Tang (Hong Kong)

## 4. Members

New Members
Bosnia and Herzegovina was admitted to the Union in Group I as of January 1, 2003.
Member Group Changes
Georgia changed from Group II to Group I as of January 1, 2003.
Egypt changed from Group I to Group II as of January 1, 2003.
Yugoslavia changed from Group II to Group I as of January 1, 2003.
Member moved to Observer Status
Due to non-communication with IMU, the Democratic Republic of Korea was changed to observer status as of January 1, 2003.

## 5. Activities of the Union

Bulletins
Bulletins produced at the end of each fiscal year report on the activities of the IMU. A special Bulletin was produced in June 2002, reporting on the activities of IMU since the prior General Assembly in 1998. All colloquia supported financially or by imprimatur can be found in these Bulletins.

World Directory of Mathematicians 2002
The 12th Edition of the World Directory of Mathematicians 2002 was produced in June 2002 and is ready for purchase.
IMU Commissions and Committee
Commission on Development and Exchanges (CDE) -- Phillip Griffiths gave a brief overview of CDE including its mission of supporting mathematicians in developing countries for their research travel and projects. Typically the support is modest, but Professor Griffiths would like to see the IMU support of CDE increased. CDE wishes to encourage a wider use of its programs-presently the distribution is uneven.

International Commission on Mathematical Instruction (ICMI) - Hyman Bass made a presentation to the GA that included the establishment of two medals to be given out every other year.
International Commission on the History of Mathematics (ICHM) -- Professor Griffiths reported that ICHM functions similarly to ICMI and supports the journal Historia Mathematica.
Committee on Electronic Information and Communication (CEIC) - Martin Grötschel, IMU EC representative, Peter Michor, Chair, and Alf van der Poorten reported in detail about the CEIC activities 1998-2002. The IMU Executive Committee (EC) has, based on an enabling resolution of the 1998 General Assembly, established the Committee on Electronic Information and Communication (CEIC) at the ICM'98 in Berlin with the following objective in mind: "Information and Communication have become increasingly important components of our research and teaching, and likewise, electronic forms of publication, distribution, and archiving have begun to play a dominant role. Progress in communication technology brings many benefits to mathematics, but there is no doubt that the mathematical community also needs an excellent organizational infrastructure to make best use of the new technologies for its own advancement. CEIC's task is to play an active role in this development in order to ensure that the new technological environment meets the needs of mathematics."

The presentation included a brief review of mathematics in the Web, an introduction into Math-Net and the importance of Math-Net Pages for mathematical institutes and departments, a preview on standardized personal pages for mathematical researchers, an outline of the "Best Current Practices Recommendations" on electronic publishing including a review of mathematical preprint servers, a call to all mathematicians to make publications electronically available, an explanation of CEIC's copyright recommendations, and an outline of plans for a Digital Mathematics Library. CEIC has prepared a booklet that collects CEIC's current recommendations on various aspects of electronic information and communication. These recommendations have been drafted by CEIC members and finalized in open discussions during CEIC's 1998-2002 term. They have been endorsed by the IMU Executive Committee and by the Shanghai General Assembly. The booklet was distributed in at the GA in printed form and is electronically available at CEIC's web site http://www.ceic.math.ca. CEIC was reviewed by the IMU EC in its meeting preceeding the GA. The EC decided to re-establish CEIC for a second term with revised terms of reference that can also be found at CEIC's web site.

## 6. Finance and Dues

- The Activities of the Union for the years 1998 - 2001, as well as the complete audited financial reports are published in the special Bulletin \#48, June 2002.
- The financial report for the years 1998-2001 was approved by the General Assembly (Appendix 2). Budget for years 2003-2006 - The budget for the years 2003-2006 was accepted by the General Assembly. It contains a 10\% increase in dues (Appendix 3.) It was requested that the Secretary prepare a document explaining the dues increase that delegates could give to their Adhering Organizations.


## 7. Site of the International Congress of Mathematicians 2006

The President announced that the Executive Committee recommends Madrid, Spain, as the site of ICM 2006. Rome, Italy, and Delhi, India had also submitted proposals but at the meeting kindly manifested their support to the bid by Spain. The GA then approved unanimously Madrid, Spain to host the Congress in 2006.

On behalf of the Local Organizing Committee, Jose Luis Fernandez presented the plans of the Spanish colleagues for ICM 2006.

## 8. Elections

The President clarified that the structure of the EC is a statutory matter. Any proposal to change the structure, e.g. the number of Members at Large, must be submitted to the Secretary at least four months before the General Assembly. For this meeting of the General Assembly, no proposal has been submitted. On the other hand, there are no such limitations concerning the present IMU Commissions ICMI, CDE and ICHM.

It was also clarified that a proposal for Procedures for Elections was sent to all National Committees in 1998 for consideration and adopted by the EC a year later upon their comments, being on display at the IMU homepage and the Committees were directly informed of the contents at several occasions.

For the elections at this GA, the Nominating Committee met in the morning of August 18. It adopted the following slates:

## EXECUTIVE COMMITTEE (EC)

| President: | John M. Ball | (United Kingdom) <br> Vice-Presidents: |
| :--- | :--- | :--- |
|  | Jean-Michel Bismut | (France) <br> (Japan) |
|  | Masaki Kashiwara | (USA) |
| Secretary: | Phillip A. Griffiths | (Russia) |
| Members at Large: | Andrey A. Bolibruch | (Canada) |
|  | John Friedlander | (Germany) |
|  | Martin Grötschel | (China) |
|  | Zhi-Ming Ma | (Norway) |
|  | Ragni Piene | (Italy) |
|  | Claudio Procesi | (India) |
|  | Madabusi S. Raghunathan | (New Zealand, USA |
| Members at Large | Vaughan Jones | Permanent Position) |
| From the Floor: |  | (Israel) |
|  | Joram Lindenstrauss |  |

EC: 5 Members at Large to be elected

INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION (ICMI)

| President: | Hyman Bass | (USA) |
| :--- | :--- | :--- |
| Vice Presidents: | Jill Adler | (South Africa) <br> (France) |
|  | Michèle Artigue | (Canada) |
| Secretary: | Bernard R. Hodgson | (Spain) |
| Members at Large: | Carmen Batanero | (USA) |
|  | Mary Elizabeth Falk de Losada | (Russia) |
|  | Nikolai Dolbilin | (Australia) |
|  | Peter Lawrence Galbraith | (Bulgaria) |
|  | Petar Stoyanov Kenderov | (India) |
|  | Somaskandan Kumaresan | (Hong Kong) |
| Members at Large | Frederick K.S. Leung | M. Asaad |
| From the Floor: | Yukihiko Namikawa | (Egypt) |
|  | Jian-pan Wang | (Japan) |
|  |  | (China) |

ICMI: 5 Members at Large to be elected

## COMMISSION ON DEVELOPMENT AND EXCHANGES (CDE)

| Chair: | Paulo Domingos Cordaro | (Brazil) |
| :--- | :--- | :--- |
| Secretary: | C. Herbert Clemens | (USA) |
| Members at Large: | Hajer Bahouri | (Tunisia) |
|  | Graciela L. Boente Boente | (Argentina) |
|  | Shrikrishna G. Dani | (India) |
|  | Gérard Gonzalez-Sprinberg | (France) |
|  | Jean-Pierre Gossez | (Belgium) |
|  | Fazal M. Mahomed | (South Africa) |
|  | Toshikazu Sunada | (Japan) |
| Member at Large | Jiping Zhang | (China) |
| From the Floor: | Leif Abrahamsson |  |
|  |  | (Sweden) |

CDE: 6 Members at Large to be elected
INTERNATIONAL COMMISSION ON THE HISTORY OF MATHEMATICS (ICHM)

| Members at Large: | Ahmed Djebbar <br> Jeremy John Gray <br> Wenlin Li | (Algeria and France) <br> (United Kingdom) <br> (China) <br> S. Balachandra Rao |
| :--- | :--- | :--- |
| Member at Large |  |  |
| From the Floor: | Stan Kaijser | (Sweden) |

ICHM: 2 Members at Large to be elected

The following are the Committees elected for 2003-2006.
EXECUTIVE COMMITTEE (EC)

| President: | John M. Ball | (United Kingdom) |
| :--- | :--- | :--- |
| Vice-Presidents: | Jean-Michel Bismut | Masaki Kashiwara <br> (France) <br> (Japan) |
| Secretary: | Phillip A. Griffiths | (USA) |
| Members at Large: | Andrey A. Bolibruch | (Russia) |
|  | Martin Grötschel | (Germany) |
|  | Zhi-Ming Ma | (China) |
|  | Ragni Piene | (Norway) |
|  | Madabusi S. Raghunathan | (India) |
| Ex-officio: | Jacob Palis (Past President) | (Brazil) |

INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION (ICMI)

| President: | Hyman Bass | (USA) |
| :--- | :--- | :--- |
| Vice Presidents: | Jill Adler | (South Africa) |
|  | Michèle Artigue | (France) |
| Secretary: | Bernard R. Hodgson | (Canada) |
| Members at Large: | Carmen Batanero | (Spain) |
|  | Mary Elizabeth Falk de Losada | (Colombia) |
|  | Nikolai Dolbilin | (Russia) |
|  | Peter Lawrence Galbraith | (Australia) |
|  | Petar Stoyanov Kenderov | (Bulgaria) |
|  | Frederick K.S. Leung | (Hong Kong) |

Due to a tie in the voting for Members at Large, the President proposed, and the Assembly approved, the addition of one more member.

## COMMISSION ON DEVELOPMENT AND EXCHANGES (CDE)

| Chair: | Paulo Domingos Cordaro | (Brazil) |
| :--- | :--- | :--- |
| Secretary: | C. Herbert Clemens | (USA) |
| Members at Large: | Hajer Bahouri | (Tunisia) |
|  | Graciela L. Boente Boente | (Argentina) |
|  | Shrikrishna G. Dani | (India) |
|  | Gérard Gonzalez-Sprinberg | (France) |
|  | Fazal M. Mahomed | (South Africa) |
|  | Toshikazu Sunada | (Japan) |
|  | Jiping Zhang | (China) |

Similarly to the case of ICMI, the President proposed, and the Assembly approved, the addition of one more Member at Large.

## INTERNATIONAL COMMISSION ON THE HISTORY OF MATHEMATICS (ICHM)

Members at Large: Jeremy John Gray<br>Wenlin Li

(United Kingdom)<br>(China)

## 9. Adoption of Resolutions

The Resolution Committee presented proposals of resolutions for approval of the General Assembly. With respect to the proposal in Resolution 8, the President clarified that for the elections at the International Council for Science - ICSU, of which IMU and all main International Scientific Unions are members, the Nominating Committee is designated by the Executive Board and meets twice: four months before the GA and at the GA. After discussion, the following resolutions were approved:

## Resolution 1

The General Assembly resolves that the next meeting of the General Assembly will be held at a time and place conveniently linked to the International Congress of Mathematicians in Madrid, Spain, in 2006.

## Resolution 2

The General Assembly expresses its gratitude to the Organizing Committee of ICM 2002, chaired by Ma, Zhi-ming.

The General Assembly also expresses its gratitude to Li Ta-tsien for his hospitality reception and excellent arrangements at General Assembly meeting in Shanghai.

## Resolution 3

The $14^{\text {th }}$ General Assembly gives warm thanks to the Executive Committee and to the President of IMU for their work during the period 1999-2002.

## Resolution 4

The General Assembly gives especial thanks to Phillip Griffiths for his excellent work as Secretary to the IMU over the last four years assisted by Arlen Hastings and Linda Geraci. It also thanks the Institute for Advanced Study (IAS) for its generous support of the IMU secretariat over this period.

## Resolution 5

The General Assembly recommends continuing the tradition of the 1994, 1998, 2002 ICMs, by holding an Emmy Noether lecture at the next two ICMs (2006 and 2010), with selection of the speakers to be made by an IMU appointed committee.

## Resolution 6

The General Assembly of the IMU endorses the "Best Practices" document of its Committee on Electronic Information and Communication (CEIC), also endorsed by the IMU Executive Committee at its April 13, 2002, meeting. In particular the Assembly endorses the provisions
designed to ensure access by mathematicians of the developing world to current mathematical literature: the posting of the articles on personal homepages and servers and the practice now beginning with several publishers of making journal articles in electronic form freely accessible five years after they have been published, or even sooner. An important part of making mathematical literature available is coming to agreement on common standards for digitization. The Assembly commends the CEIC for its work on this matter and urges further efforts in this direction.

## Resolution 7

Notwithstanding these times of heightened tension and security concerns, we urge a continuation of scientific exchange and publication. The IMU opposes efforts either by governments, organizations, or individuals to restrict contacts and interactions in the world mathematical community. Specifically, we oppose holding individual mathematicians liable for the actions of their governments. The IMU endorses the principles expressed in the Article 5 of the Statutes of the International Council for Science - ICSU, as adopted at the 1998 General Assembly, that reads as follows: "In pursing its objections in respect of the rights and responsibilities of scientists, ICSU, as an international non-governmental body, shall observe and actively uphold the principle of the universality of science. This principle entails freedom of association and expression, access to data and information, and freedom of communication and movement in connection with international scientific activities, without any discrimination on the basis of such factors as citizenship, religion, creed, political stance, ethnic origin, race, colour, language, age or sex. ICSU shall recognize and respect independence of the internal science policies of its National Scientific Members. ICSU shall not permit any of its activities to be disturbed by statements or actions of a political nature".

## Resolution 8

The General Assembly of IMU expects the Executive Committee to develop a proposed mechanism to involve members from the National Committees for Mathematics, not on the Executive Committee, to assist in the selection of slates. This proposal should be put forth to the 2006 General Assembly.

## Resolution 9

The General Assembly recommends the guidelines for receiving Colloquia support from IMU be further developed and available on the IMU website. These scarce funds should go primarily to supporting mathematicians from developing countries and high quality international conferences that take place in developing countries.

## 10. Next Meeting of the General Assembly

In connection with Madrid ICM-2006, the next GA will take place in Santiago de Compostela on August 18-19, 2006.

## 11. Closing

The President thanked the Assembly for its work and declared the $14^{\text {th }}$ General Assembly of IMU closed at 2:10 p.m.

