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Mathematical Union**



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**BULLETIN OF THE
INTERNATIONAL MATHEMATICAL UNION**

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**46th Bulletin of the
International Mathematical Union**

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List of Abbreviations

| | |
|--------------|--|
| CDE | Commission on Development and Exchange |
| CEIC | Committee on Electronic Information and Communication |
| ICHM | (Joint) International Commission on the History of Mathematics |
| ICMI | International Commission on Mathematical Instruction |
| ICSU | International Council for Science |
| IUHPS | International Union of the History and Philosophy of Science |

INTERNATIONAL MATHEMATICAL UNION

Executive Committee

January 1, 1999 – December 31, 2002

| | | |
|-------------------------|---|--|
| President: | Jacob Palis | (Brazil) |
| Vice-Presidents: | Simon Donaldson Shigefumi Mori | (United Kingdom) (Japan) |
| Secretary: | Phillip Griffiths | (USA) |
| Members: | Vladimir Arnold Jean Michel Bismut Björn Engquist Martin Grötschel M.S. Raghunathan | (Russia) (France) (Sweden) (Germany) (India) |
| Past President: | David Mumford | (USA) |

Members of the Union

The following 65 countries were members of IMU as of January 1, 2001:

- Group I:** Armenia, Bulgaria, Cameroon, Croatia, Cuba, Egypt, Estonia, Greece, Hong Kong, Iceland, Ivory Coast, Kazakhstan, Democratic Republic of Korea, Latvia, Lithuania, New Zealand, Nigeria, Peru, Philippines, Portugal, Romania, Saudi Arabia, Singapore, Slovenia, Tunisia, Turkey, Uruguay, Venezuela, Vietnam.
- Group II:** Argentina, Austria, Chile, Czech Republic, Denmark, Finland, Georgia, Iran, Ireland, Republic of Korea, Mexico, Norway, Slovak Republic, South Africa, Ukraine, Yugoslavia.
- Group III:** Australia, Belgium, Brazil, Hungary, India, Poland, Spain.
- Group IV:** Netherlands, Sweden, Switzerland.
- Group V:** Canada, China, France, Germany, Israel, Italy, Japan, Russia, United Kingdom, United States.

| Group | I | II | III | IV | V |
|-------------------------|----------|-----------|------------|-----------|----------|
| Number of Votes | 1 | 2 | 3 | 4 | 5 |
| Dues Unit Contributions | 1 | 2 | 4 | 7 | 10 |

Meeting of the Executive Committee of IMU

The Executive Committee of IMU met May 15-16, 2000, in Madrid, Spain. Among the items discussed by the Executive Committee were the following:

- The Executive Committee authorized the transfer from a Swiss franc account to a US dollar account of all IMU reserve funds. Although IMU's financial operations are based on Swiss francs, financial reports to ICSU must be presented in dollars, and it was agreed that the possibility of converting budget, dues, and other calculations to US dollars would be raised at the next meeting of the General Assembly.
- Planning for ICM-2002 in Beijing, China, is well underway. Members of the EC met twice in 1999 with members of the Chinese Local Organizing Committee to offer guidance and review the status of fundraising, publicity and local arrangements.
- As of May 2000, three countries had expressed interest in extending bids for ICM-2006. To encourage maximum participation in the International Congresses, an attempt is made to vary the world regions where they are held, so while there is no formal rule, Europe will be favored as a site for ICM-2006.
- The members of the Fields Medal committee were appointed.
- The members of the Nevanlinna Prize committee were appointed. The scope of the Nevanlinna prize, formerly limited to theoretical computer science, was broadened to encompass outstanding contributions in Mathematical Aspects of Information Sciences, including: all mathematical aspects of computer science, e.g. complexity theory, logic of programming languages, machine models, cryptography; scientific computing, numerical analysis and optimization; and information theory, signal processing, control theory and the modeling of intelligence. It was agreed that if in the future a new prize is established that covers some of these expanded areas, the scope of the Nevanlinna Prize could be narrowed again.
- There was preliminary discussion of a proposed new monetary prize for applications of mathematics.
- The president and secretary of the International Commission on Mathematical Instruction (ICMI) were invited to meet with the IMU EC to discuss ways to strengthen relations between IMU and ICMI, making them more mutually supportive. There were several specific conclusions reached:
 - International Congresses: Talks are to be geared primarily to research mathematicians as opposed to educators; the ICM section will be renamed "Mathematics education; popularization of mathematics"; the core of the selection panel should draw at least one member from the ICMI Executive Committee.
 - International Congress on Math Education (ICME): The International Program Committee (IPC) will include one member designated by IMU.
 - An IMU delegate will attend ICMI Executive Committee meetings.

- Representatives of ICMI, as well as IMU's other commissions, will be invited to attend the IMU General Assembly.
- Also in the interest of strengthening relations among IMU, its constituent commissions, and other organizations, it was agreed that a representative of CICIAM (Committee for International Conferences on Industrial and Applied Mathematics) would attend the May 2001 IMU Executive Committee meeting to explore avenues of cooperation.
- There was a brief discussion regarding the feasibility of replacing or supplementing the World Directory of Mathematicians with an electronic version.
- The IMU publication, "*Mathematics: Frontiers and Perspectives*" has sold out in hardcover and will be reprinted in paperback. A Russian translation has been authorized and a Japanese translation is under consideration.
- Two membership changes were agreed on by the Executive Committee and subsequently approved via postal ballot: The Netherlands was upgraded from Group III to Group IV, and Peru and Estonia were invited to join Group I.

Procedures for the Election of the Executive Committee of IMU – 2002

1. Not less than a year before the meeting of the GA, the EC shall request proposals for the membership of the EC from the National Committees for Mathematics, to be considered before the spring EC meeting prior to the Assembly. The candidate's CV and a brief description of activities should accompany the suggestions, as should assurance of the candidate's willingness to serve if elected.
2. The EC shall then form its own slate. The slate should be mailed to the National Committees at least four months before the GA, together with background on the candidates, their fields and countries/geographic areas.
3. After the slate drawn by the EC is known, the National Committees can make further proposals of names specifically for the offices of President, Secretary, Vice-President, and Members-at-Large. These proposals shall reach the Secretary not less than two months before the GA. The same information as in (1) and (2) concerning the nominees, including their willingness to serve if elected, should be provided.
4. The Secretary will send National Committees a list of all names proposed, as well as candidates' CV's, before the GA. The National Committees are asked to cooperate in having their delegates to the GA fully informed.
5. On the first day of the meeting, the General Assembly shall appoint a Nominating Committee (NC) consisting of:
 - a) the President of IMU (chairman),
 - b) all Past Presidents who are present (ex-officio),
 - c) eight further delegates.(Election to (c) shall be from names either proposed by the President or proposed and seconded from the floor, and shall be by show of hands unless the meeting decides otherwise.)
6. The NC shall propose a slate drawn from the slate of the EC and the names in (1) and (3) and shall make it known to the meeting. No person shall be a candidate for more than one office.
7. Further nominations can be made from the floor after the slate of the NC has been declared, provided that they are drawn from names previously offered by the National Committees as in items (1) and (3), signed by at least ten delegates, and convey the same information as in (2) and (3) above.
8. The General Assembly shall then elect the new President, Vice-President, Secretary, and Members-at-Large by written ballots from the EC and NC slates as well as the list of nominations from the floor (unless a candidate withdraws), but no others. A vote shall be invalid if more names are marked in any category than the number of places to be filled (i.e., one each for President and Secretary, two for Vice-Presidents and five for Members-at-Large).

9. A candidate for President or Secretary may be elected only if unopposed or if he or she obtains a majority of the votes cast. If the first ballot is indecisive, there shall be a second ballot. In the ballots for the Vice-Presidents and Members-at-Large, the two or five candidates respectively who obtain the largest numbers of votes shall be elected. In the event of a tie, the President shall decide.

[Note: Statute (9) provides (inter alia) that: “each delegation shall be free to cast the votes to which it is entitled either as a unit or divided in such a manner as it may determine.”]

Procedures for the Election of the Executive Committee of ICMI

The rules for the election of the Executive Committee of ICMI are similar to those for the election of the Executive Committee of IMU with the same Nominating Committee.

The EC of IMU shall request proposals for the membership of the EC of ICMI from the National Committees for Mathematics and will conduct extensive consultations with the existing Executive Committee of ICMI before proposing slates to the Nominating Committee.

No person can be a candidate for more than one office.

Procedures for the Election of CDE

The rules for the election of the Commission of Development and Exchange are similar to those for the election of the Executive Committees of IMU and ICMI with the same Nominating Committee.

The EC of IMU shall request proposals for the membership of CDE from the National Committees for Mathematics and will conduct extensive consultations with the existing CDE before proposing slates to the Nominating Committee.

No person can be a candidate for more than one office.

Procedures for the Election of ICHM

The rules for the election of the two IMU members of the Executive Committee of ICHM are similar to those for the election of the Executive Committees of IMU, CDE and ICMI, with the same Nominating Committee.

The EC of IMU shall request proposals for the membership of the two IMU members from the National Committees for Mathematics and will conduct extensive consultations with the existing ICHM before proposing slates to the Nominating Committee.

**Conferences Supported by IMU – 2000
In Celebration of the World Mathematical Year**

- I. INTERNATIONAL COLLOQUIUM ON ALGEBRA, ARITHMETIC AND GEOMETRY
Mumbai, India, January 4-12, 2000
Organizer: Balwant Singh
IMU Representatives: Shigefumi Mori, A. Suslin
- II. MATHEMATICS AND THE 21ST CENTURY
Cairo, Egypt, January 15-20, 2000
Organizer: A.A. Ashour
IMU Representatives: Jacob Palis, Phillip Griffiths
- III. SIXTH PAN AFRICAN CONFERENCE ON MATHEMATICS (PACOM 2000)
Cape Town, South Africa, January 21-31, 2000
Organizer: Ahmed Kerkour
IMU Representatives: Jacob Palis, Phillip Griffiths
- IV. 2000 YEARS TRANSMISSION OF MATHEMATICAL IDEAS
Bellagio, Italy, May 8-12, 2000
Organizers: Joseph W. Dauben, Yvonne Dold-Samplonius
IMU Representative: Jean-Michel Bismut
- V. ALHAMBRA 2000: A JOINT MATHEMATICAL EUROPEAN-ARABIC CONFERENCE
Granada, Spain, July 3-7, 2000
Organizer: Rolf Jeltsch
- VI. THIRD EUROPEAN CONGRESS OF MATHEMATICS (3ECM)
Barcelona, Spain, July 10-14, 2000
Organizer: Sebastian Xambo Descamps
IMU Representative: Simon Donaldson
- VII. INTERNATIONAL CONGRESS OF MATHEMATICAL PHYSICS XIII
London, England, July 17-22, 2000
Organizer: Boguslaw Zegarliniski
IMU Representative: Vladimir Arnold
- VIII. INTERNATIONAL CONGRESS ON MATHEMATICS EDUCATION (ICME-9)
Makuhari/Chiba, Japan, July 31-August 7, 2000
Organizers: Hyman Bass, Bernard Hodgson
IMU Representative: Phillip Griffiths
- IX. LATIN AMERICAN CONGRESS OF MATHEMATICS
Rio de Janeiro, August 2000
Organizer: Mario Wscherbor
IMU Representative: Jacob Palis

IMU offered its imprimatur, but no financial support, for the following conferences in 2000:

- **MODERN ANALYSIS AND ITS APPLICATIONS**
Voronezh Winter Mathematical School 2000, Voronezh, Russia,
January 28-February 4, 2000
Organizer: V.G. Zuyagin
IMU Representative: Vladimir Arnold
- **SYMPOSIUM ON THE LEGACY OF J.C. FIELDS**
Fields Institute, Toronto, Canada, June 18-9, 2000
Organizer: William Langford
IMU Representatives: Jacob Palis, Phillip Griffiths
- **ROLF NEVANLINNA COLLOQUIUM**
Helsinki, Finland, August 8-12, 2000
Organizer: Olli Lehto
IMU Representative: Olli Lehto
- **WORKSHOP ON TOPOLOGICAL ALGEBRAS**
Tartu, Estonia, September 2000
Organizer: Mati Abel
- **INTERNATIONAL CONFERENCE ON ANALYSIS AND ITS APPLICATIONS**
Chennai, India, December 6-9, 2000
Organizer: A. Swaminathan
IMU Representative: S. Kesevan

Conferences Supported by IMU – 2001

- **MATHEMATICAL PROBLEMS OF NONLINEAR DYNAMICS**
Nizhny Novgorod, Russia, July 2-6, 2001
Organizer: L. Shilnikov
IMU Representative: Jacob Palis
- **NINTH PRAGUE TOPOLOGICAL SYMPOSIUM**
Prague, Czech Republic, August 20-25, 2001
Organizer: Josef Štěpán
IMU Representative: Simon Donaldson
- **WORKSHOP ON MATHEMATICAL PHYSICS**
Mambucaba, Rio de Janeiro, August 19-25, 2001
Organizer: Vladas Sidoravicius
IMU Representative: Jacob Palis

IMU offered its imprimatur, but no financial support, for the following conferences in 2001:

- **INTERNATIONAL CONFERENCE ON COMPLEX ANALYSIS AND THE IXth ROMANIAN-FINNISH SEMINAR**
Brasov, Romania, August 27-31, 2001
Organizer: Cabiria Andreian Cazacu
- **SECOND INTERNATIONAL CONFERENCE “HARMONIC ANALYSIS AND APPROXIMATIONS”**
Yerevan, Armenia, September 11-18, 2001
Organizer: Mamikon Ginovian
- **GEOMETRIE AU VINGTIEME SIECLE: 1930-2000**
Paris, France, September 24-29, 2001
Organizer: Dominique Flament

INTERNATIONAL CONGRESS OF MATHEMATICIANS 2002 (ICM-2002)

Report prepared by Zhi-Ming Ma, Chairman of the Organizing Committee

Detailed information about the plans and the state of preparation can be found at the ICM-2002 WWW server (URL: <http://www.icm2002.org.cn>). This report provides a short summary as of August 11, 2001.

The International Congress of Mathematicians 2002 (ICM-2002) Organizing Committee provides an e-mail service distributing information about ICM-2002 and the International Mathematical Union to those who have electronically preregistered for ICM-2002 in Beijing. Electronic preregistration can be made at the WWW server of ICM-2002. If the World Wide Web is unavailable, preregistration is possible by sending an email to: icmsec@beijing.icm2002.org.cn. Please write PRELIMINARY PREREGISTRATION in the subject line.

1. ICM-2002 ORGANIZING COMMITTEE

The ICM-2002 Organizing Committee is growing as the Congress approaches. The Chairman of the Organizing Committee is the President of Chinese Mathematical Society (CMS), Professor Zhi-Ming Ma. Professor Kung Ching Chang, ex-President of CMS, is the ex-Chairman of the Organizing Committee. The General Secretary of the Organizing Committee is Professor Ya-xiang Yuan.

The current list of the Organizing Committee is as follows:

| | |
|-------------------|---|
| Chang, Kung Ching | (Peking University) |
| Chen, Shuping | (Zhejiang University) |
| Ding, Weiyue | (Peking University and Inst. of Math., AMSS, CAS) |
| Feng, Keqin | (Tsinghua University) |
| Feng, Qi | (Institute of Mathematics, AMSS, CAS) |
| Hou, Zixin | (Nankai University) |
| Jiang, Boju | (Peking University) |
| Li, Daqian | (Fudan University) |
| Li, Wenlin | (Institute of Mathematics, AMSS, CAS) |
| Lin, Qun | (Inst. of Comput. Math., AMSS, CAS) |
| Lin, Fanghua | (University of New York, USA) |
| Liu, Taiping | (Inst. of Math., Academia Sinica, TAIWAN) |
| Liu, Yingming | (Sichuan University) |
| Lu, Shanzhen | (Beijing Normal University) |
| Ma, Zhi-Ming | (Inst. of Applied Mathematics, AMSS, CAS) |
| Peng, Lizhong | (Peking University) |
| Wang, Jianpan | (Eastern China Normal University) |
| Wong, Roderrick | (City University of Hong Kong) |
| Yang, Lo | (Academy of Math. and Sys. Sci., CAS) |
| Yuan, Ya-xiang | (Inst. of Comput. Math., AMSS, CAS) |
| Zhang, Jiping | (Peking University) |
| Zhang, Xiangsun | (Academy of Math. and Sys. Sci., CAS) |
| Zhou, Qing | (East China Normal University) |

2. PROFESSIONAL CONGRESS ORGANIZATION COMPANY

The ICM-2002 Organizing Committee has selected the China International Conference Center for Science and Technology (CICCST) as the company to support the ICM organization. CICCST will handle the registrations, run the accommodation service, and provide tourist advice.

3. SPONSORING AND FINANCE

Up to now government agencies, public foundations, and private companies have agreed to support the Congress with a total amount well above US \$1 million. The Organizing Committee is making efforts to seek further sponsoring to provide as much financial support as possible for mathematicians from developing countries and from Eastern Europe.

4. LOCAL ARRANGEMENTS

The opening ceremony of ICM-2002 will be held at the Main Auditorium of the Great Hall of the People in Tiananmen Square. All other parts of the Congress (including local registration) will be at Beijing International Convention Center (BICC), which is located in the Asian Games Village, in the north of Beijing. All rooms have been reserved and technical equipment is available. All Congress sites are ready for ICM-2002.

5. PUBLIC RELATIONS

Similar to ICM-98 in Berlin, a major public relations campaign is planned in China, not only to publicize the International Congress, but also to increase public knowledge about mathematics and public awareness of our subject. The Chinese Central Television (CCTV) has agreed to help in this respect. CCTV has already filmed two half-hour programs about mathematics, which will be aired next month. To promote public awareness of ICM-2002, a special press conference will be held at the Great Hall of the People on August 16, 2001.

6. SATELLITE CONFERENCES

In conjunction with the Beijing Congress, about 40 satellite conferences will be held in different parts of Asia, with one as far away as Moscow. Taking part in one or two such satellite meetings can enhance the academic benefits of attending ICM-2002 and also provide the chance to enjoy the history and beauty of China and its neighboring countries. The list of satellite conferences, which is growing, can be found at <http://www.icm2002.org.cn/satellite/index.htm>.

7. SUPPORT FOR MATHEMATICIANS FROM DEVELOPING COUNTRIES AND FROM EASTERN EUROPE

The circular letters ICM-CL3, ICM-CL7, ICM-CL10 and ICM-CL11, which can be found at <http://www.icm2002.org.cn/mail/circular.htm>, describe the procedures of application for support. For the young mathematicians selected by the IMU Special Development Fund, sufficient amounts of money for local support are available. The Chinese Mathematical Society and the Organizing Committee of ICM-2002 have made plans to provide as much financial support as possible to allow both young and older mathematicians from developing countries and from Eastern Europe to attend the Congress.

8. CULTURAL PROGRAM, EVENTS FOR THE GENERAL PUBLIC

We plan a number of cultural activities open to the general public during ICM-2002. The Organizing Committee will invite several distinguished scholars to give public talks at ICM-2002. Beijing is an ancient yet modern city with a rich and precious cultural heritage. There is much to see and explore in Beijing. During the Congress, a number of guided tours of Beijing, visits to museums, and walking tours will be offered. On Sunday, August 25, excursions to several places of cultural interest will be arranged. For that evening, Beijing opera will be available. Registered participants and accompanying persons may purchase tickets in advance for these events as well as for many day trips and pre- or post-Congress tours to places of interest.

9. ICM-2002 PROGRAM

One of the most important jobs for ICM-2002 has been completed. The ICM-2002 Program Committee (headed by Professor Yuri I. Manin), appointed by IMU, has selected and invited all of the speakers.

10. ANNOUNCEMENTS

The First Announcement of ICM-2002 will be ready by the beginning of September 2001. We try to distribute the First Announcement to as many mathematicians as possible. Those who have preregistered for ICM-2002 will receive the (very detailed) Second Announcement in early spring 2002.

11. PROCEEDINGS

The Publication Sub-Committee of the Organizing Committee has already selected the Higher Education Press (HEP) of China to undertake the publication of the proceedings of ICM-2002. Every participant will obtain a copy as part of the Congress fee. The proceedings will also be electronically available.

12. FEES

The Congress fee will be US \$240 (before May 1, 2002) and US \$280 (after May 1, 2002).

Commission on Development and Exchange (CDE)

Report prepared by Herb Clemens, Secretary/Treasurer, 2000.

During the year 2000, the CDE received 40 or more requests, inquiries and applications from mathematicians in developing countries for support for research travel, conferences and projects. After initial routine screening by the Secretary/Treasurer to insure that requests fell within IMU program guidelines, 16 formal applications for individual research travel were reviewed, with support or partial support being granted in 13 cases, and 15 formal applications for conference support were reviewed with support or partial support being granted in 12 cases. Two requests for project support, using dedicated funds raised externally by IMU, were also processed.

The relatively high funding rate this year was based on the high quality of the applications received and on the desire of the CDE to give at least some partial support to all applications of high mathematical merit.

CDE wishes to encourage wider use of its programs by developing world mathematicians. At this point geographical distribution of applications and awards is not sufficiently even, with parts of Asia, Africa and Latin American still seriously underrepresented.

INTERNATIONAL COMMISSION ON THE HISTORY OF MATHEMATICS (ICHM)

Report prepared by Kirsti Andersen and Jeanne Peiffer, 2000.

Christoph J. Scriba and Joseph W. Dauben have almost finished the editorial work on "*Writing the History of Mathematics: Its Historical Development*". This book, which has been prepared under the patronage of the ICHM, contains chapters on the historiography of the history of mathematics in different parts of the world, biographical notes on important historians of mathematics, and bibliographical information. It will be published in the "Science Network" series of Birkhäuser Verlag, Basel.

For the XXIst International Congress of History of Science and Technology (Mexico City, July 8-14, 2001) with the theme "science and cultural diversity," the ICHM has decided to support the following symposia proposals.

1. Mission et diffusion des sciences européennes – en Amérique et en Asie: le cas jésuite (organized by Eberhard Knobloch, Berlin and Antonella Romano, Paris).
2. Foundations and Practice in the History of Mathematics (organized by Craig Fraser, Toronto).
3. Encounter of Greek mathematics with the mathematics as developed in the 16th and 17th centuries Europe (organized by Ivo Schneider, München).
4. On the history of the relationship between French and German mathematics (organized by Ulf Hashagen, Padderborn)
5. Precolumbian mathematics (organized by Ubi D'Ambrosio, São Paulo, Michael Closs, Alejandro R. Garcadiago, Mexico City, and Sergio Nobre, Rio Clara)
6. Colonial mathematics 1500-1800 (organized by Alejandro R. Garcadiago, Mexico City, Sergio Nobre, Rio Clara, and Luis Saraiva, Lisboa)
7. Contemporary mathematics (organized by Alejandro R. Garcadiago, Mexico City, Sergio Nobre, Rio Clara, Eduardo Ortiz, London and Mario Otero)

ICHM is also represented, by Kirsti Andersen, in the programme committee for the entire conference.

In 2000 the first steps were taken to make the *World Directory of Historians of Mathematics* accessible electronically at the home page that will be created in 2001 or 2002.

From January 1, 2000, Umberto Bottazzini and Craig Fraser have taken over the editorial ship of the commission's journal *Historia Mathematica*.

The ICHM supports the regular international meetings of historians mathematics which tend to alternate between Oberwolfach, Germany and Luminy-Marseille, France. In 2000 a meeting in Oberwolfach was held during the week of January 30 to February 5 with the theme "The history of mathematics in the 20th century", organized by Jesper Lützen, Copenhagen University, Denmark, Jeremy Gray, Open University, UK, and Moritz Epple, Mainz University, Germany.

INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION (ICMI)

Report prepared by Bernard R. Hodgson, Secretary, 2000.

1. Organization

The Executive Committee of ICMI had its second meeting in Tokyo/Makuhari, Japan, during the ICME-9 congress. The Committee met on July 28-30, prior to the congress, as well as on the closing day of ICME-9. The President, Vice-Presidents and Secretary of the Commission also met in October in Geneva, on the occasion of the symposium celebrating the centennial of *L'Enseignement Mathématique* (see item 5 below). Beside these meetings, the work of the EC during 2000 was conducted by electronic communication under the direction of the President and the Secretary.

During 2000, Estonia and Peru became members of ICMI, following their admission as new members of the International Mathematical Union. No National Representatives to ICMI have yet been appointed.

A number of countries have no ICMI National Representative at the moment. In addition to Peru, these are Armenia, Brunei Darussalam, Estonia, Georgia, Greece, Kazakhstan, Democratic People's Republic of Korea, Kuwait, Lithuania, Mexico, Pakistan, Romania, Saudi Arabia, Slovenia, Turkey, Ukraine, Uruguay and Venezuela.

The National Representatives represent a crucial part of ICMI life, the Commission being composed of the Executive Committee of ICMI and of the National Representatives, as stipulated in the Terms of Reference of ICMI (see *ICMI Bulletin* No 47, December 1999, p. 35). While the "system" of National Representatives is functioning reasonably well in many aspects, the Executive Committee believes there is place for improvement and wishes to involve more regularly the Representatives in various aspects of ICMI life. In particular, there is a need for closer and more frequent contacts between the EC and the National Representatives and also for a better use of the local expertise of the Representatives. Electronic communication plays an essential role in facilitating these contacts, and it is unfortunate that the e-mail addresses of only 33 Representatives are known to the Secretary at the moment, in spite of repeated attempts to obtain more addresses.

In order to gain a better understanding of the current situation with respect to representatives of the various countries members of ICMI, a letter was sent to all National Representatives in June 2000, asking for information about the infrastructure supporting ICMI-related matters in each country: procedure of appointment of the ICMI Representative; body responsible for the appointment; number of consecutive years the current Representative has been in position; existence of a National Sub-Commission for ICMI. A dozen replies were received by the Secretary.

It continues to be part of ICMI general policy to encourage member states to establish National Sub-Commissions for ICMI. No new National Sub-Commission was established during 2000.

2. ICMEs

The ninth International Congress on Mathematical Education, ICME-9, was held in Tokyo/Makuhari, Japan, from July 31 to August 7, 2000. The congress was attended by 2012 delegates (and 239 accompanying persons) from 70 different countries. The International Program Committee, chaired by Professor Hiroshi Fujita, has proposed a rich and intensive program and the organizational infrastructure and logistic support offered by the organizers was of an exceptional quality. The novel feature instigated at ICME-8 of imposing a “Solidarity Tax” on all registrations was repeated at ICME-9. It had been announced in the Second Announcement of ICME-9 that a Grant Fund would be set to provide support to participants from non-affluent countries. This Fund was to be made of two components: (i) 7% of all the registrations fees; (ii) a sum equivalent to 3% of the total of the registration fees to be collected from domestic donations. It has turned out that this second component, essentially made of individual donations, was substantially higher, as it amounted to 8% of the registration fees, so that the organizers could provide support to 96 participants coming from 37 different countries. The distribution of the money generated for the Fund was made by a specially appointed Grants Committee which, as is customary, worked incognito in order to minimize potential problems of pressure.

The 10th International Congress on Mathematical Education, ICME-10, will be held in Copenhagen, Denmark, from July 4 to 11, 2004. The International Program Committee is chaired by Professor Mogens Niss, Roskilde University, Denmark, and its composition was announced in the December 2000, No. 49, of the *ICMI Bulletin*.

An official call for bids to host ICME-11 in 2008, the year of the centennial of the Commission, was made by the Secretary of ICMI during the closing session of ICME-9. This call also appears in the *ICMI Bulletin* (No. 49, December 2000).

3. ICMI Studies

The mounting and conducting of so-called ICMI Studies on crucial themes and issues in mathematics education were continued in 2000. The resulting ICMI Study volumes are published by Kluwer Academic Publishers, Dordrecht, the Netherlands, in the “New ICMI Study Series” (NISS) appearing under the general editorship of the President and the Secretary of ICMI.

No new Study conference took place in 2000. However progress was made concerning five different Studies.

ICMI Study 10: The Study Conference on *The Role of the History of Mathematics in the Teaching and Learning of Mathematics* was held in Luminy, France, in April 1998, and the resulting study volume entitled *History in Mathematics Education: The ICMI Study* was published in 2000, edited by John Fauvel and Jan van Maanen (NISS 6).

ICMI Study 11: The Study Conference on the *Teaching and Learning of Mathematics at University Level* took place in Singapore in December 1998. This Study resulted in two different publications. The first of these is a special issue of the *International Journal of Mathematical Education in Science and Technology* (iJMEST) — volume 31, number 1, January-February 2000 — containing 15 of the papers presented at the Study Conference.

The editorial work on the corresponding NISS volume was achieved in 2000, so that the book is due to appear in 2001.

Reports on these two studies were presented at ICME-9.

ICMI Study 12: The next study in the series, *The Future of the Teaching and Learning of Algebra*, was initiated in 1998 by the appointment of an International Program Committee chaired by Professor Kaye Stacey, University of Melbourne, Australia (the composition of the IPC was given the *ICMI Bulletin* No. 46, June 1999, p. 35 — Rosamund Sutherland has since been appointed on the IPC, following the resignation of Kenneth Ruthven). The IPC met in Melbourne in January 2000 and the Discussion Document for this Study has appeared in the *ICMI Bulletin* No. 48, June 2000, pp. 6-13, and elsewhere. The Study Conference will take place at the University of Melbourne, Australia, in December 2001.

ICMI Study 13: The thirteenth ICMI Study is entitled *Mathematics Education in Different Cultural Traditions: A Comparative Study of East-Asia and the West*. The two co-chairs for this Study are Klaus-Dieter Graf, Freie Universität Berlin, Germany, and Frederick K.S. Leung, the University of Hong Kong, and the composition of the IPC was announced in the *ICMI Bulletin*, No. 48, June 2000, p. 14. Many members of the IPC were able to meet during ICME-9 and a more formal meeting took place in Berlin in December 2000, which resulted in the Discussion Document published in the *ICMI Bulletin*, No. 49, December 2000, pp. 16-33. The Study Conference is planned to take place in Hong Kong in 2002.

ICMI Study 14: The next Study will be devoted to the theme of applications and modeling. The International Program Committee is chaired by Werner Blum, Universität Kassel, Germany, and its composition is given in the December 2000 issue (No. 49) of the *ICMI Bulletin*. The Study Conference is expected to take place in 2003 in Germany.

4. Regional Conferences

The following ICMI Regional Conferences, sponsored by the Commission morally, financially or both, took place in 2000.

The symposium EM 2000 (Espace Mathématique 2000) was held in Grenoble, France, from July 15 to 17, 2000. The theme of the conference was *L'enseignement des mathématiques dans les pays francophones au XXe siècle et ses perspectives pour le début du XXIe siècle* (Mathematics education in French-speaking countries in the XXth century and prospects for the beginning of the XXIst century). It was the first ICMI Regional Conference where the “region” was defined not in geographical but rather in linguistic terms, the gathering being based on a common language. The symposium was attended by 178 participants coming from 18 different countries. A report on EM 2000 has appeared in the *ICMI Bulletin* No. 49, December 2000, pp. 45-47.

The All-Russian Conference on Mathematical Education devoted to the theme “Mathematics and Society. Mathematical Education at the Frontier of Centuries” took place in Dubna (near Moscow), Russia, from September 18 to 23, 2000.

5. Other activities

The international journal *L'Enseignement Mathématique*, the official organ of ICMI since the inception of the Commission in 1908, was established in 1899 by Henri Fehr and Charles Laisant. On the occasion of the centennial of the journal, ICMI and the University of Geneva organized jointly, as a contribution to the celebration of the World Mathematical Year 2000, a symposium with the aims of looking at the evolution of mathematics education over the last century and identifying some guidelines and trends for the future, taking into account, among other sources, the documents, debates and related papers having appeared in *L'Enseignement Mathématique*. This symposium was devoted to the theme *One Hundred Years of L'Enseignement Mathématique : Moments of Mathematics Education in the 20th Century*, and it took place in Geneva, the home of the journal since its birth, from October 20 to 22, 2000. There were 55 participants coming from 18 different countries. Some reflections by Geoffrey Howson on the symposium and its theme were published in the *ICMI Bulletin* No. 49, December 2000, pp. 48-50. The Symposium Proceedings will be published under the responsibility of the Editorial Board of the *Monographies de l'Enseignement Mathématique*, in collaboration with the Programme Committee.

6. Affiliated Study Groups

ICMI continues to have four affiliated study groups, *HPM* (The International Study Group on the Relations Between the History and Pedagogy of Mathematics), *IOWME* (The International Organization of Women and Mathematics Education), *PME* (The International Group for the Psychology of Mathematics Education), and *WFNMC* (The World Federation of National Mathematics Competitions). All these groups were part of the program of ICME-9. Updated information about the ICMI Affiliated Study Groups has appeared in the *ICMI Bulletin* No. 49, December 2000, pp. 36-44.

7. The Solidarity Program

In 1992 ICMI established a Solidarity Program in Mathematics Education. The overall objective of the Solidarity Program is to increase, in a variety of ways, the commitment and involvement of mathematics educators around the world in order to improve the situation of mathematics education, in particular in those parts of the world where the economic and socio-political contexts do not permit adequate and autonomous development. This initiative thus aims at providing means which, together with institutional or other help obtained from various sources, may support concrete initiatives and activities so to foster solidarity in mathematics education between well-defined quarters in developed and less developed countries. Particular emphasis is placed on projects that enable the activation of a self-sustainable infra-structure within mathematics education in the region, country, or province at issue.

The first stage in this program of international assistance was the mounting of a *Solidarity Fund* based on contributions by individuals, organizations, etc. The Solidarity Fund has received donations from various organizations and individuals in mathematics education for which it is most grateful. Being based on voluntary donations, the Solidarity Fund is kept separate from ICMI's funds. One private donation to the amount of US \$100 was received during 2000.

An ad hoc committee, chaired by Colette Laborde (Université Joseph Fourier, Grenoble, France) has been set up in 1999 by the EC of ICMI to review the functioning and the impact of the Solidarity Fund, after its eight years of existence, and to bring recommendations to the EC concerning its orientation and development. A preliminary report was received by the EC in 2000.

8. The ICMI Awards

It has been suggested frequently in the past that the Commission should establish some ICMI sponsored awards aiming at recognizing exceptional contributions to mathematics education. An ad hoc committee of internationally renowned people was formed in 1999 to bring recommendations to the Executive Committee of ICMI. These recommendations, which were received at the EC meeting taking place during ICME-9, were positive and the EC has since then been working on defining some of the parameters for these awards. An hypothesis being considered is the establishment for the time being of two awards, one recognizing a major program of research on mathematics education during the past ten years, and the other for life-time achievement in mathematics education. An announcement about these awards will appear in the June 2001 issue of the ICMI Bulletin.

9. ICMI Bulletins

In 2000, ICMI Bulletin Nos. 48 and 49 were published under the editorship of the Secretary of ICMI. Direct access to the ICMI Bulletin on the WWW, through the IMU master site, can be obtained at the address <http://www.mathunion.org/ICMI/bulletin/>

The ICMI Bulletin is also available electronically directly from the Secretary either as an attached document (RTF or Word file — prepared with Word 8) or as a plain text inside an e-mail message.

10. ICMI on WWW

Since the end of 1995, information concerning ICMI can be found on the ICMI-pages of the IMU-server on the World Wide Web. The location of these pages was changed in 2000, so that the ICMI website is now accessible at the address: <http://www.mathunion.org/ICMI/>

The information available about ICMI on its website was in serious need of being updated. A renewed content for the ICMI webpages was made accessible around June 2000.

COMMITTEE ON ELECTRONIC INFORMATION AND COMMUNICATION

Report prepared by Peter Michor, Secretary, 2000.

The CEIC Meeting was held in Vienna, Austria, on October 5-7, 2000.

1. **Membership:** Peter Michor (Austria), Jonathan Borwein (Canada), John Ewing (USA), Jonas Gomes (Brazil), Martin Grötschel (Germany), Wilfrid Hodges (UK), David Morrison (USA), Kapil Paranjape (India), Alf van der Poorten (Australia), Alexei Zhizhchenko (Russia), Qing Zhou (China).
2. **Preliminaries:** Agenda, Minutes of the previous meeting.
3. **Math-Net:** Two presentations were given on Math-Net.
 1. Wolfram Sperber: spoke on Math-Net in Germany: the regional concept, technical aspects, new layout of secondary home pages, new meta-maker for preprints, harvesting now via 9 regional modes.
In the discussion, concern was expressed that the scheme is too complicated to be easily extended over the whole world.
 2. Martin Grötschel: spoke on Math-Net International: What do we have, what is to be done? Some progress has occurred in France, Austria, and Japan. Brazil had been promising, but the key person (Jonas Gomes) has left for industry.
In subsequent discussion the following matters arose:
 - a. An Agreement between CEIC and the European Physical Society was proposed. The Agreement was approved unanimously.
 - b. An Agreement between CEIC and a new MathDoc cell at Grenoble as Math-Net service provider was proposed. The agreement was accepted.
 - c. An Agreement between CEIC and the preprint indexing service MPRESS (Osnabrueck) as Math-Net service provider was proposed. This agreement was accepted.
 - d. Dissertations Online is in preparation in France and in Germany; this could be a Math-Net service when ready. Members of the Committee asked whether Dissertations Online can be absorbed into MPRESS?
 - e. Duties of a Math-Net member: The formal duties of a Math-Net member are (a) to designate an information coordinator; (b) to install the Math-Net page; and (c) to generate metadata at least for preprints and persons.
 - f. Technical Advisory Board: Dave Morrison reported on the activities of the TAB, acknowledging that there has been little email traffic up to now, but anticipating considerably more activity.
 - g. Math-Net as a portal: The Committee was asked whether Math-Net should choose to display links to some useful services such as 'integer sequences', 'geometric models', featured sites, etc? The Committee did not reach consensus on this issue.
 - h. The Committee determined that Math-Net services should be decided upon by the CEIC. Members are decided by the membership committee (currently: Martin Grötschel). Jon Borwein, Dave Morrison, and Peter

Michor will act as a test bed for the internationalization of Math-Net (putting up home pages, etc.).

4. Report on the preprint server arXiv (central service in Los Alamos): Dave Morrison remarked that the server still exists despite fire and spies in Los Alamos! There is a moratorium on establishing new mirrors, and a backlog on software upgrading, due to manpower shortage. Growth: there are now roughly 12,000 preprints in mathematics, 250/month is the current uploading rate: see http://www.arXiv.org/Stats/math_monthly.gif for the statistics up to June 2000. There is the new concept of an 'overlay journal': whose files reside in the ArXiv. These are: *Geometry and Topology*, *Advances in Theoretical Mathematical Physics*, *Annals of Math* (in preparation). There is a list of journals which accept arXiv submissions at <http://front.math.ucdavis.edu/journals>.
5. Report on the journal storage service JSTOR: Dave Morrison reported that the usage by mathematicians is one tenth of the usual usage of other disciplines.
6. Reports on various activities of interest.
 - a. Report on activities of the AMS: (Ewing)
 - (i) <http://www.ams.org/membership/journal-survey.html> is an online page on journal prices. AMS journals provide free abstracts and references online, with links to Math Reviews (MR) and Zentralblatt ZBL. MR looks at some 100,000 papers/year and adds 70,000 per year to MR. MR-lookup <http://www.ams.org/mrlookup> provides a new service where authors can upload intended references to their papers, and the like.
 - (ii) The AMS has bought the CM and AMS fonts for TeX in Type 1 postscript form from Blue Sky and has put these into the public realm. The AMS is active in the UNICODE project: there are now 970 mathematics symbols in UNICODE. The AMS is also active in the MathML (the mathematical counterpart part of XML), CrossRef, and DOI (Document Object Identifier) activities. The last is a joint activity with publishing houses and the music industry.
 - b. Report on activities of the Canadian Mathematical Society: (Borwein) The CMS publishes four journals, all are online, but not free. There is the successful new Pacific Institute of Mathematical Sciences (PIMS) of which also the University of Washington (USA) is a member. A sort of 'Oberwolfach in Alberta' is being created. Most Canadian public money for electronic publishing projects is locked up in huge digital library projects.
 - c. Report on activities of the London Mathematical Society: (Wilfrid Hodges) There are now 10 full staff members, the LMS had to move to new premises. They run one fully electronic journal.
 - d. Report on the Deutsche Mathematiker Vereinigung: (Grötschel) The DMV is an all volunteer enterprise with 1/2 employee. Details had been mentioned in Grötschel's talk.
 - e. Report on the European Mathematical Society: (Michor) The European Mathematical Trust is being founded. It will run the Publishing house of

the European Mathematical Society. It will not publish new journals, but will help to market existing journals.

Report on the Australian Mathematical Society: (van der Poorten) The AustMS publishes three learned journals and a house journal; it has some three employees. A new electronic only journal is still in pilot phase and there are only trial electronic versions of the journals.

- f. Report on China: (Zhou) There are some ten departments with home pages. There are about fifty Chinese language journals which contain some Mathematics.
- g. Report on Russia: (Zhizhchenko) There are 11 local Math. societies. Electronic activities are centered in the Academy: Five mathematical journals, full text (in Russian), are freely available for all sites with .ru, .su, addresses. Access for others is decided upon request by a Board. There are great hopes but significant problems with secondary homepages there. The main problems are: that *Referativny* journal, *Doklady Nauk* are in poor shape. About 50% of all papers by Russian mathematicians still are published in Russia.

7. Report on Copyright Matters: (Hodges)

- a. WIPO (World Intellectual Property Organization), a UN-organization, has published guidelines which are just now being voted into different national laws. The copyright material ('checklist') of the CEIC (Wilfrid Hodges' work) will be enhanced by an executive summary, containing a list of appropriate expectations of an author of a journal research article. The material could then be discussed by the IMU, sent to ICSU, to UNESCO, and so on. Wilfrid Hodges and John Ewing will work on this, with Peter Michor pressing the matter.
- b. The Committee discussed what copyright statement should be put on her/his personal homepage by a mathematician. For example, "The material on this homepage is for fair use only, the material is copyrighted by various publishing houses," etc.). The Committee did not reach any useful consensus on this issue.
- c. The Committee proposed calling to mathematicians with homepages, and to older mathematicians, that they take on the task of scanning their older reprints to put them online, thus creating an online version of their collected works. Libraries could be asked to collect such 'Works'. It was pointed out that one should appoint an executor of one's intellectual works. Alf van der Poorten agreed to attempt to create a How-To Page explaining the technical details of a sensible approach to scan articles and to put those scans online. One might hope for, say, an article in the Notices of the AMS, and elsewhere, as follow-up. Quing Zhou was asked independently to produce a How-To Page, using just public domain tools.

- 8. CEIC website: (Borwein) It was asked whether the look and feel of the site, at <http://www.ceic.math.ca/>, must be similar to Math-Net. There was no clear consensus on this point. It was decided that, of course, the site should be linked to by Math-Net and by the IMU home page. It was noted the IMU home page is now housed in IMPA, but that its maintenance could be improved.

9. IMU World Directory of Mathematicians: (Grötschel) The Committee noted that there is some financial loss to the IMU from publishing the print version. Thus some funds should, in principle, be available to pay for maintaining and updating an online version. It was noted that it had already been determined that the next version will be print. It was decided that the CEIC should recommend along the following lines:
- a. The electronic version should be made available six months after the publication of the printed version.
 - b. There must be plans for a regular update mechanism.
 - c. There should be an allocation of an appropriate sum of money per four-year cycle to the institution which agrees to maintain the electronic world directory on behalf of the IMU.
 - d. Martin Grötschel will inquire about the present state of play, and will suggest action if necessary. In any case the CEIC will again discuss these issues at its next meeting, preliminary to presenting its recommendations to the Executive Committee.

WORLD MATHEMATICAL YEAR 2000 (WMY2000)

Report prepared by Mireille Chaleyat-Maurel

The World Mathematical Year is now over, and it is time to look back to see what has been accomplished. The celebration has taken place all around the world with a great number of events, but this report focuses mainly on the great themes of the celebration, with complete details available on the WMY2000 website at: <http://wmy2000.math.jussieu.fr>).

Framework: On May 6, 1992 in Rio de Janeiro, Brazil, the chairman of the International Mathematical Union (IMU) declared the year 2000 to be “World Mathematical Year.”

This enterprise, placed under the aegis of UNESCO and the “Third World Academy of Sciences” had three different axes:

- The great challenges of the 21st century
- Mathematics, keys for development
- The image of Mathematics

The three aims have received a lot of attention from mathematicians with a special effort on what can be called “Raising Public Awareness of Mathematics.”

Sponsorship of UNESCO: After the support in 1992, of Frederico Mayor, the then General Director of UNESCO, S. Raither (the person in charge of mathematics at UNESCO) suggested that a resolution be put to the General Assembly. A resolution was presented in November 1997 by Luxembourg. It was backed by 15 countries and adopted by the Plenary of the General Conference. The text is on the server.

Newsletter WMY2000: In 1993 it was decided to publish a newsletter (Newsletter WMY2000) which would gather and redistribute widely, information on initiatives taken by the international mathematical community for the preparation of WMY2000. Nine issues have been published and distributed (7,000 copies of each). Their content is on the server.

The following institutions supported the Newsletter: IMU, ICSU, Comité National Français des Mathématiciens, Collège de France, École Polytechnique, IHÉS, UFR 921 (Université Paris 6).

The distribution received the help of the ICTP (Trieste, Italy) and of the CIMPA (Nice, France).

Server: Thanks to the Institut of Mathematics of Jussieu (Paris, France), a server has been run with the following address: <http://wmy2000.math.jussieu.fr>.

It contains all the information and documents concerning WMY2000: pictures of posters, postcards and stamps, reports of conferences, and announcements of events.

A great number of people connected to the server and many of them, after seeing the projects, decided to contribute to WMY2000. (For example, 8,000 accesses during the month of April).

Most of the Mathematical Societies have established a link to the WMY2000 server.

Publicity: The main publicity came from the server and the Newsletter, but we took the opportunity at the international congresses (ICM94 in Zurich (Switzerland), ICM98 in Berlin (Germany) and 3ECM in Barcelona (Spain)) to advertize for WMY2000 with a special booth where documents on the World Mathematical Year could be found.

Two posters were widely distributed--one with a design of Marie-Claude Vergne (who has created the WMY2000 logo) and one offered by Springer Verlag. We thank Springer for providing us with a page in each of its 2,000 newsletters where WMY2000 announcements appeared.

Many papers on WMY2000 were published in various European and international newspapers.

Associations: All the International Mathematical Societies have contributed to WMY2000, either by special conferences and events, or by their annual meeting with sessions devoted to the aims of WMY2000. Some of them have created a special committee.

Let us cite the book *Mathematics: Frontiers and Perspectives* published by the IMU, PACOM'2000 (the fifth Pan African Congress of Mathematicians) in Cape Town (South Africa), the first World Congress of the Bachelier Finance Society in Paris (France), "Mathematics and 21st Century" in Cairo (Egypt), the Latin American Congress of Mathematics in Rio de Janeiro (Brazil), etc.

Countries: More than 40 countries have participated to the celebration of the year with different accomplishments.

Argentina, Canada, France, Germany, Italy, Portugal, Spain and UK had a very active contribution to the year with good visibility toward the general public and the politicians.

Projects: Conferences--Several international conferences have been held during year 2000 (see the list on the server with reports). In some cases, they would have taken place independently of this special occasion; nevertheless, they have contributed to make WMY2000 more visible and very often they have organized round tables or talks about the aims of WMY2000. Let us cite the conference in Los Angeles organized by the AMS and a special day in Paris devoted to the Clay Prizes.

*Lectures for general public--*For at least 10 years, mathematicians have become more aware of the need for communicating mathematics to the general public and such events

have taken place in many countries (Algeria, Argentina, Australia, Canada, Denmark, Finland, France, Germany, Greece, Italy, Norway, Portugal, Senegal, Spain, UK,...).

Books--Some books have been published especially for WM2000. In addition to the IMU book, let us cite *Development of Mathematics: 1950-2000*, published by Birkhäuser under the direction of Jean-Paul Pier (Luxembourg) and the book of the publishing house Springer *Mathematics Unlimited-2001 and Beyond*.

Stamps--Stamps related to WMY2000 were issued in the following countries: Argentina, Belgium, Croatia, Czech Republic, Italy, Luxembourg, Monaco, Slovakia, Spain and Sweden (see the server for examples).

Posters--Following the poster competition arranged by the European Mathematical Society, posters or a series of posters have been produced in Belgium, Denmark, France, Germany, Italy, Luxembourg, Portugal, Spain and UK. Some of them were in the public transportation systems (buses and undergrounds) or presented in science museums like the series "Mathematics in the Daily Life" produced by a team in Paris within an European Contract (RPA-MATHS) related to the European Science and Technology Week.

Other activities--As a result of the project RPA-MATHS, the partner in Bangor (UK) produced a CD-ROM containing mathematics and knots and symbolic sculptures of the sculptor John Robinson. A booklet of the 12 exhibit themes "Mathematics in the Daily Life" was printed and widely distributed.

Postcards inspired by the posters have been printed in Denmark, France, Germany and Portugal.

The tramway in Torino (Italy) was covered for one month with the WMY2000 logo.

Among many other activities (see the list on the server), let us cite mathematical exhibitions, articles in newspapers and a few radio and television programs.

Conclusion: From this large and successful operation, it is clear that for years, many mathematicians have been convinced that communicating mathematics to the general public is necessary and very helpful for the community.

The production of posters with mathematical themes has been of considerable interest to schools, where teachers use them to motivate and inspire pupils.

An e-mail list of about 900 mathematicians, all volunteers--interested in activities, has been established. They ask for ideas and materials and are willing to continue the work.

Continuation: Some mathematical societies consider raising public awareness of mathematics an important task, and they have plans to continue the work.

The EMS has appointed a new committee (RPA Committee) to ensure a continuing presence to the European Science and Technology Week and to encourage activities toward the general public.

Let me suggest, as a possible work in this direction, a more important contribution of mathematicians to their National Science Festivals.

Another idea is to propose more stamps with mathematical themes. A special stamp on Pierre de Fermat will be issued in France this year.

One could also think about collaboration with other sciences: 2005 will be declared "International Year of Physics."

The future of the WMY2000 server is studied.

I take this opportunity to thank all the people and Institutions who contributed to the success of this year. I hope that these sorts of activities continue in the future.

**IMU APPROVED BUDGET FOR THE YEARS 1999 – 2002
IN SWISS FRANCS**

EXPENDITURE:

| Schedule A: | 1991-1994 | 1995-1998 | 1999-2002 |
|--------------------------------------|------------------|------------------|------------------|
| Secretarial help, IMU office | 19,400 | 15,000 | 17,000 |
| Secretarial help, President | 2,000 | 3,000 | 5,000 |
| ICMI | 10,000 | 11,000 | 11,000 |
| CDE | 5,500 | 6,000 | 6,000 |
| Office expenses (including postage) | 7,500 | 8,400 | 14,400 |
| Travel expenses of the EC | 25,000 | 27,000 | 30,000 |
| President's and Secretary's expenses | 2,000 | 2,000 | 4,000 |
| Contribution to ICSU | 5,000 | 7,000 | 7,000 |
| IMU Bulletin | 2,000 | 2,000 | 3,000 |
| Audit fee | 2,000 | 2,000 | 4,500 |
| General Assembly – 2002 | 3,500 | 4,000 | 4,000 |
| World Directory of Mathematicians | 18,000 | 20,000 | 20,000 |
| Contingencies | 2,000 | 2,000 | 2,000 |
| | | | |
| Subtotal | 104,500 | 110,000 | 127,900 |
| | | | |
| Schedule B: | | | |
| Symposia, confer, IMU Lecture | 56,000 | 65,000 | 86,000 |
| ICMI scientific activities | 18,000 | 22,000 | 22,000 |
| CDE scientific activities | 15,000 | 40,000 | 33,000 |
| Program Committee for ICM 2002 | 5,500 | 6,000 | 8,000 |
| Travel grants | 15,000 | 25,000 | 40,000 |
| Subvention to ICM 2002 | 24,000 | 26,000 | 28,000 |
| | | | |
| Subtotal | 133,5000 | 184,000 | 217,000 |
| | | | |
| Total | 238,000 | 294,000 | 344,900 |

INCOME:

| | | | |
|----------------------------|----------------|----------------|----------------|
| Membership dues (212x1200) | 187,000 | 210,000 | 254,400 |
| ICSU subvention | 20,000 | 26,000 | 10,500 |
| Sales of W.D.M. | 12,500 | 10,000 | 12,000 |
| Special Development Fund | 15,000 | 25,000 | 45,000 |
| Interest on bank accounts | 3,500 | 23,000 | 23,000 |
| | | | |
| Total | 238,000 | 294,000 | 344,900 |

ICMI Accounts 2000

1 January - 31 December

BALANCE AS OF JANUARY 1:

| | | |
|-------------------------------------|--------------------|-------------------|
| ICMI | • Canadian Dollars | 176 636,49 |
| | • US Dollars | 42 173,79 |
| Solidarity Fund (US Dollars) | | 31 962,56 |

Canadian Dollars Account:

Income:

| | |
|--|--------------------------|
| balance 1999 | 176 636,49 |
| royalties (Cambridge University Press — 10,54 GBP) | 22,91 |
| ICMI Study 10: surplus of Study Conference ¹⁾ | 540,00 |
| transfer from USD account (corresponding to 1 500 USD) | 2 250,60 |
| interest | 10 918,67 |
| total | <u>190 368,67</u> |

Expenditure:

| | |
|---|-----------|
| ICMI Study 10: expenses of editors of the Study Volume | 823,68 |
| ICMI Study 11: purchase of special issue of iJMEST ²⁾ | 1 629,25 |
| ICMI Study 12: IPC meeting, Melbourne, travel and local expenses | 16 141,94 |
| ICMI Study 13: co-chairs meeting, Québec, local expenses | 438,71 |
| ICMI Study 13: IPC meeting, Berlin, Secretary's travel and IPC local expenses ³⁾ | 1 735,84 |
| ICMI EC meeting, Tokyo/Makuhari | 17 757,59 |
| symposium on <i>L'Enseignement Math.</i> , Geneva, EC members travel and local expenses | 4 416,65 |
| transfer to USD account ⁴⁾ (corresponding to 15 000 USD) | 22 945,00 |
| transfer to USD account ⁵⁾ (corresponding to 3 000 USD) | 4 683,60 |
| bank charges (checks and foreign transfers) | 73,99 |

ICMI balance 2000 **119 722,42**

total **190 368,67**

US Dollars Account:

Income:

| | |
|---|------------------|
| ICMI balance 1999⁰⁾ | 42 173,79 |
| IMU (Schedule A: Administration — 11 000,00 CHF) | 6 626,51 |
| IMU (Schedule B: Scientific Activities — 22 000,00 CHF) | 13 253,01 |
| refund by Taylor & Francis ²⁾ | 1 103,44 |

| | |
|---|-----------------------|
| transfer from CAD account ⁴⁾ (corresponding to 22 945,00 CAD) | 15 000,00 |
| transfer from CAD account ⁵⁾ (corresponding to 4 683,60 CAD) | 3 000,00 |
| ICMI interest | 2 145,70 |
| Solidarity Fund balance 1999⁶⁾ | 31 962,56 |
| Contribution to the Solidarity Fund , by Joel Schneider, New York | 100,000 |
| Solidarity Fund interest | 1 284,56 |
| total | <u>116 649,57</u> |
| Expenditure: | |
| ICMI Study 12: IPC meeting, Melbourne, member's travel | 939,63 |
| ICMI Study 13: co-chairs meetings, Hong Kong and Québec, travel expenses | 900,00 |
| ICMI EC meeting in Tokyo/Makuhari, member's travel and accommodation | 2 320,37 |
| symposium on <i>L'Enseignement Math.</i> , Geneva, EC member's travel expenses | 1 305,73 |
| grant and loan ⁴⁾ to ICME-10 | 15 000,00 |
| grant to symposium on <i>L'Enseignement Mathématique</i> ⁵⁾ | 3 000,00 |
| grant to the All-Russian Conference on Mathematical Education (ICMI Regional Conf.) | 2 500,00 |
| transfer to CAD account (corresponding to 2 250,60 CAD) | 1 500,00 |
| bank charges | 24,61 |
| ICMI balance 2000 | 55 812,11 |
| Solidarity Fund balance 2000 | 33 347,12 |
| total | <u>116 649,57</u> |

Average exchange rate, 2000 1 USD = 1,48 CAD

Notes:

0. In 1999, a financial support of US \$15,000 was given to the organizing committee of ICME-9, in the form of an interest-free loan of US \$7,500 and a grant of US \$7,500. It was decided during 2000 to increase the support given to ICME-9 by transforming the loan part into a grant.

1. The surplus resulting from the ICMI Study Conference on *The Role of the History of Mathematics in the Teaching and Learning of Mathematics* was given to ICMI to facilitate the purchase of the Study Volume published in the NISS Series, so that each author would receive a free copy. (The purchase of the extra copies was paid in January 2001.)

2. As a result of the eleventh ICMI Study on *The Teaching and Learning of Mathematics at University Level*, a special issue of the *International Journal of Mathematical Education in Science and Technology* (iJMEST) — volume 31, number 1, January-February 2000 — was published. ICMI purchased 125 copies of this issue at a specially reduced price for distribution to the Study Conference participants. The total cost was U.K. £668.75 (equivalent to US \$1,103.44 or Can \$1,629.25). However because of a technical problem the delivery of the issue was substantially delayed, so that the publisher, Taylor & Francis, generously offered to reimburse ICMI in totality for the purchase. The refund was made in US dollars.

3. The International Programme Committee for the thirteenth ICMI Study on *Mathematics Education in Different Traditions: A Comparative Study of East Asia and the West* met in Berlin in December 2000. This meeting was generously supported by the Freie Universität Berlin for the equivalent of US \$4,400.

4. Financial support to the organization of ICME-10: grant of US \$7,500 and interest-free loan of US \$7,500. As the currency used for transferring the money to Denmark was the Danisk kroner, the equivalent of US \$15,000 (at the exchange rate of US \$1 = Can \$1.53) was taken from the Canadian dollar account to buy Dmark 130,000.

5. Financial support to the organization of the symposium organized by ICMI and the University of Geneva on the occasion of the centennial of *L'Enseignement Mathématique*. As the currency used for transferring the money to Switzerland was the Swiss franc, the equivalent of US \$3,000 (at the exchange rate of US \$1 = Can \$1.56) was taken from the Canadian dollar account to buy 5,335 CHF.

6. As a consequence of the ICMI General Assembly and Executive Committee meetings held in Québec, August 1992, it was decided to establish an ICMI Solidarity Fund based on private contributions. The **Solidarity Fund** was mounted to assist mathematics education and mathematics educators in less affluent countries. Its money can only be spent (by a committee chaired by Professor Jean-Pierre Kahane) to serve such purposes and is therefore **not** part of ICMI's general resources. However, the appearance of the Solidarity Fund on the ICMI accounts is due to the wish to keep ICMI's number of different bank accounts low. The accounts exhibit the ICMI balance and the Solidarity Fund balance separately.

7. In addition to the amounts displayed directly in the accounts, considerable extra sums should appear but do not and cannot. In particular Université Laval, the Secretary's home institution, has contributed in 2000 a substantial support to ICMI's work (e.g. telephone and fax, e-mail facilities, postage, all the printing and distribution costs of the Bulletin, secretarial help of various sorts, plus a partially reduced teaching load for the Secretary). It is estimated that the total contribution of Université Laval is equivalent to more than US \$8,000. The ICMI Executive Committee expresses its gratitude for this generous support.

The Executive Committee's thanks also go to the institutions of its other members, as well as to those of some of the individuals involved in the preparation of ICMI activities. These institutions, too, have given substantial support to ICMI's work in a variety of ways. For instance, in many cases these institutions have paid travel and other expenses related to participation in meetings (EC, IPC), and so forth. This was the case in particular for the IPC meetings for the ICMI Studies 12 and 13, held in Melbourne and in Berlin, as well as for the EC meeting held in Tokyo/Makuhari which are mentioned in this report. However it appears that this type of "invisible" support is becoming more and more problematic, due to the financial situation of several higher education institutions around the world, thus putting a severe constraint on ICMI finances in the long run.