

**Bulletins of the
International
Mathematical Union**



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Bulletin of the International Mathematical Union

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IMU International Mathematical Union

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IMU International Mathematical Union

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Executive Committee 1995-1998

January 1, 1995 - December 31, 1998

President:

Professor David Mumford

Vice-Presidents:

Professor Vladimir Arnold

Professor Albrecht Dold

Secretary:

Professor Jacob Palis

Members:

Professor James Arthur

Professor Simon Donaldson

Professor Björn Engquist

Professor Shigefumi Mori

Professor K. R. Parthasarathy

Past President:

Professor Jacques Louis Lions

IMU International Mathematical Union

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Members of the Union

The following countries were members of IMU as of January 1, 1998:

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

In its last meeting held in Berlin on May 15-16, 1997, the IMU Executive Committee decided to invite the following countries to apply to change their Groups of Adherence: Sweden and Switzerland from III to IV, and Canada, Israel and Italy from Group IV to Group V. In the Postal Ballot sent to all country members, the change of Sweden and Switzerland from Group III to Group IV and Italy from Group IV to Group V, were approved and is taking effect as of January 1, 1998. As for Canada and Israel, the Postal Ballots are under way.

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IMU News

- [IMU Homepage](#)
- [electronical World Mathematical Year 2000 newsletter](#)
- [Special Development Fund](#)
- [World Directory of Mathematicians - 1998](#)

IMU and ICM on the World Wide Web

- IMU Homepage: <http://elib.zib.de/IMU/>
- ICM98 Homepage: <http://elib.zib.de/ICM98/>
- Electronical availability of the World Mathematical Year 2000 (WMY 2000) Newsletter: <http://elib.zib.de/IMU/wmy/>
- Electronical availability of the IMU Canberra circular: <http://wwwmaths.anu.edu.au/imu.html>

Special Development Fund

The Special Development Fund helps IMU to fulfill the important obligation of helping developing countries within the framework of mathematical research. The means of the Fund, which go unreduced to mathematicians from developing countries, are used primarily for travel grants to young mathematicians, to make it possible for them to participate in International Congresses of Mathematicians. The Executive Committee of IMU elects an international committee to distribute the grants.

Means to the Special Development Fund come from donations. Donations can be sent, at any time and in any convertible currency, to the following account:

Account no. 0862-656208-21
Schweizerische Kreditanstalt
Stadtfiliale Zürich-Rigiplatz
Universitätstrasse 105
CH-8033 Zürich
Switzerland

The following contributions have been received in the years 1991-1996:

1991		
American Mathematical Society	US	\$14.772,93
Royal Society	US	\$ 8.780,27
London Math. Society	US	\$ 1.730,10
1992		
American Mathematical Society	US	\$27.787,00
Wiskundig Genootschap, Netherlands	US	\$ 1.825,40
Royal Society	US	\$ 8.377,21
Deutsche Math. Vereinigung	US	\$ 6.406,74
1993		
American Mathematical Society	US	\$32.500,95
Wiskundig Genootschap, Netherlands	US	\$ 1.418,43

1994	
American Mathematical Society	US \$30.550,06
Mathematical Society of Japan	US \$18.881,11
Royal Society	US \$ 4.477,00
Com. Nat. Frac. Math., France	US \$ 3.404,86
CNPq, Brazil	US \$ 6.944,44
1995	
American Mathematical Society	US \$33.227,89
CNPq, Brazil	US \$10.000,00
London Mathematical Society	US \$ 3.263,12
1996	
American Mathematical Society	US \$31.807,41
London Mathematical Society	US \$ 3.639,60
1997	
Societe Mathematique de France and Societe des Math. Appl. et Ind.	US \$ 2.341,81
American Mathematical Society	US \$30.872,76
CNPq, Brazil	US \$ 9.708,05
Royal Swedish Academy of Sciences	US \$ 265,95
London Mathematical Society	US \$ 3.121,05

World Directory of Mathematicians - 1998

National Committees and Mathematical Societies were requested to prepare the list of mathematicians in their countries. Each mathematician should be the author of at least two papers published in journals whose articles are internationally reviewed. E-mail address and fax numbers should also be provided, when possible. The new issue of the World Directory of Mathematicians (11th Edition) will appear at the occasion of the International Congress of Mathematicians, 1998

IMU International Mathematical Union

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Meeting of the Executive Committee of IMU

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- [Grants to attend the ICM/98](#)
- [ICM-2002](#)
- [General Assembly](#)
- [World Mathematical Year 2000](#)
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- [Miscellaneous](#)

The Executive Committee of IMU met in Berlin, May 15-16, 1998 Excerpts of this meeting:

ICM 98

According to the Local Organizing Committee, chaired by Professor Martin Groetschel, who was invited to attend part of the E.C. meeting, the preparations for the Congress are proceeding well. The Executive Committee visited the location of the Congress. Especial attention was given to the Opening Ceremony and activities of the first day of the Congress.

Grants to attend the ICM/98

Besides the young research mathematicians from developing countries, the Organizing Committee of ICM/98 is raising funds for mathematicians from Eastern Europe and former Soviet Union to attend the Congress. In a much smaller scale, some funds are also being raised for mature mathematicians from developing countries.

ICM-2002

Applications to hold the ICM 2002 has been received from Norway and China. The Site Committee has decided to recommend to the next General Assembly that the Congress should be held in China. This decision was taken under the fundamental assumption that all mathematicians of the world will be allowed to participate in the meeting. Thus, the Executive Committee expects that the final vote at the General Assembly will take into account the importance of the host country to abide by ICSU's principle of free circulation of scientists.

General Assembly 98

The General Assembly shall take place in Dresden, on August 15 - 16 at Hotel Bellevue and the Executive Committee will meet on August 14, 1998. The E.C. sent a form to all National Committees to appoint the delegates to attend the ICM 98.

World Mathematical Year 2000

Meetings

The Executive Committee, approved in principle, that IMU shall jointly sponsor the following meetings to be held in the year 2000:

- ICME-9 - July 31 - August 7, to be held in Makuhari/Chiba (Japan)
- THIRD EUROPEAN CONGRESS OF MATHEMATICS, European Math. Society, July 10-14, to be held in Barcelona, (Spain)
- INTERNATIONAL CONGRESS OF MATHEMATICAL PHYSICS XIII, to be held in London, July 17 - 22.
- FIRST LATIN AMERICA AND CARIBBEAN MATHEMATICAL CONGRESS - Latin American And Caribbean Union (UMALCA), August, to be held in Rio de Janeiro

A few other cases were discussed, especially a meeting of the American Mathematical Society (Special Meeting on the theme "Mathematical Challenges of the XXIst Century", August)

Book

Mathematics Tomorrow - V. Arnold, M. Atiyah, P. Lax and B. Mazur are members of the Committee in charge to prepare a book of articles by prominent mathematicians on how they see the prospects of mathematics in the coming century

Manifesto/Video

It is expected that Professors Arnold, Mumford and Palis write a preliminary version of a manifesto from IMU to promote mathematics in the turn of the century, stressing its importance to society. It should also appeal to the mathematical community to engage itself in the promotion of a more creative teaching of mathematics at all levels.

The Executive Committee wishes to support the production and distribution of video recordings of lectures delivered by outstanding mathematicians and aimed at general audiences. Prof. Donaldson agreed to initiate this effort, possibly working with Prof. Atiyah.

Change of Groups

The EC decided to invite Canada, Israel and Italy to apply to move from Group IV to Group V, in the IMU structure, as for January 1, 1998. At the same time, the EC also decided to invite Sweden, Switzerland and Netherlands to apply to move from Group III to Group IV, as for January 1, 1998.

Change in the IMU Statutes

The EC decided to recommend to the next General Assembly, the following addition to the IMU Statutes (all the other items remain the same, renumbered as necessary):

CHANGE IN STATUTES of the INTERNATIONAL MATHEMATICAL UNION

Approved in the 63th meeting of the Executive Committee, held in Berlin on May 15-16, 1997

III. AFFILIATION

1. For the purpose of facilitating jointly sponsored activities and jointly pursuing the objectives of the IMU, multi-national mathematical societies and professional societies can be affiliated with the Union.
2. The members of the Union shall elect the affiliate members by Postal Ballots or at meetings of the General Assembly upon recommendation of the EC. The affiliation may be terminated by the same procedure.
3. Affiliate members have the right to participate in the General Assembly but shall have no voting rights.
4. Such affiliate members have the right to submit proposals for joint activities to the General

Assembly and to the President and Secretary for consideration of the Executive Committee.

5. The Executive Committee, with the support of the Adhering Organizations and National Committees, shall look for ways to keep close relations with the affiliated organizations and to enhance mathematical activities in their regions. They shall receive the Bulletin of the IMU and be kept informed of all activities relevant to them.

Miscellaneous

Following previous discussions with EC Members and Members of the Fields Medal Committee, it was decided that IMU high appreciation for the work of A. Wiles, and perhaps others, should be expressed in some appropriate form. Also that this should be done at the Opening Ceremony of ICM-98. The following committee was appointed to suggest of such an event: Y. Manin (Chairman), B. Mazur and J-P. Serre.

CDE - Professors David Mumford and Jacob Palis discussed their view points that IMU-CDE should try to originate and support projects of development of mathematics in less affluent regions of the world. A good example of that has just been proposed by H.Clemens to take place in Botswana and Zimbabwe. Perhaps this project can be expanded to all of Southern Africa if South Africa joins the effort.

ICMI - About ICMI there were comments on the importance of teaching of sciences and the search for new talents, issues that are meriting widespread attention. In particular, ICSU has recently launched an ambitious project called Capacity Building on Science, aiming at attracting as many as possible primary and secondary school children to the beauty of Science all over the world. The EC will encourage ICMI to join in such an effort.

Book on the History of IMU - The EC approved the idea of having a ceremony at the International Congress, to launch the book on the history of IMU, by Olli Lehto.

The EC shall look for ways of supporting Ukranian mathematicians. Professors David Mumford and Jacob Palis will write to Prof. Drinfeld asking for suggestions.

IMU Committee on Electronic Publishing - A Committee was formed to address the various aspects of electronic publishing that are of interest to mathematicians: L.Lovasz (Chairman), Neil Calkin, John Franks, Martin Grötschel, Joachim Heinze, Peter Michor, Andrew Odlyzko, John Price - Wilkin, Hans Roosendaal. The issue was presented to the EC members by Prof. Martin Gröetschel. He suggested a meeting of the committee, which was approved with a financial support of US\$ 10,000 from IMU.

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Guidelines for a country that wish to become a member of IMU

A country interested in becoming a member of the International Mathematical Union, shall send to the Secretary of IMU, a sample of activities in mathematics, specially concerning research, as well as a sample of research papers published in international journals by the local mathematicians in the last 10 years or so. The Secretary of IMU shall then present the case to the Executive Committee, and, upon a recommendation of this board, the Adhering Organizations are consulted. The final decision depends on a majority vote of the members at a General Assembly or through a Postal Ballot.

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History of IMU

Mathematics Without Borders

By Olli Lehto

Springer-Verlag, 1998

Professor Olli Lehto, who was the Secretary of the International Mathematical Union in the eighties, wrote a book on the History of IMU. This is an invaluable contribution in many ways: besides being a register of IMU, up to now, it is also a relevant document in explaining the scenario of cooperation in the mathematics in the turn of this century and how the Union was created. It helps to promote IMU and to make it more visible to present day mathematicians.

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**Report About The Current State Of Preparations For The
IMU General Assembly 1998
Dresden, Germany, August 15 - 16, 1998**

The [General Assembly 1998](#) will be held in Dresden, August 15 - 16, on the weekend directly before the International Congress of Mathematicians in Berlin ([ICM98](#)).

Dresden, the capital of the "Freistaat Sachsen", one of the states of the Federal Republic of Germany, is one of the most beautiful cities of Germany. Dresden has been destroyed almost completely at the end of World War II. Extensive rebuilding projects are still going on to recover the beauty of the "old times" when Dresden was built under the rule of the Kings of Saxony.

The meeting will take place at

[Hotel Bellevue](#)
[Grosse Meissner Strasse](#) 15
D-01097 [Dresden](#)
Phone: +49/351/8120-733
Fax: +49/351/8120-749

The hotel is located on the river Elbe, close to the point where one of the most famous views of Dresden has been [painted by Canaletto](#) in 1748.

Rooms have been reserved at the Hotel Bellevue, where the GA takes place, at DM 222.00 per night for single rooms and DM 249.00 for double rooms.

In addition, the organizers will also offer hotels with lower room rates. The procedures for room reservation will be announced with the invitation letters to the General Assembly. Travel hints will also be provided.

The schedule of the GA is roughly as follows:

Friday, August 14, arrival of the delegates in Dresden.

Saturday, August 15

10 am: Opening of the General Assembly

1 pm: one hour break for lunch

5 pm: boat tour on the river Elbe (by invitation of the State of Saxony)

Sunday, August 16

8 am: Sessions of the Committees

Credentials Committee

Resolutions Committee

Committee for Finance and Dues

Nominating Committee

9:30 am: second session of the General Assembly

1 pm: Closing of the General Assembly

3 pm: guided tours of Dresden

8:30 pm: concert in the Unterkirche of the Frauenkirche which is currently under reconstruction

Monday, August 17, transfer Dresden-Berlin (in form of a sight-seeing tour, see below).

The agenda will be dispatched by the IMU Executive Committee to the Adhering Organizations three months

before the meeting. The procedure regarding proposals for the agenda is laid down in the By-Laws of IMU, paragraphs 2 and 3.

The transfer from Dresden to Berlin is planned for Monday, August 17. The fastest connection is by train, departing from Dresden every hour (the trip takes about 2 hours). The organizers will offer a coach tour from Dresden to Berlin to all delegates of the General Assembly. The coach will stop at several places of touristic interest. It is planned to visit the city of Meissen with its famous Porzellan Manufaktur, known for its Dresden china.

The ICM'98 Organizing Committee is responsible for the organization of the General Assembly. For questions, please contact the president of the Organizing Committee

Prof. Dr. Martin Grötschel
Konrad-Zuse-Zentrum
Takustr. 7
D-14195 Berlin
Germany
E-mail: groetschel@zib.de
Phone: +49/30/84185-210, Fax: +49/30/84185-269

In addition, a team of colleagues of the Technische Universität of Dresden will support the Organization. Local responsibility rests with

Prof. Dr. Volker Nollau
Technische Universität Dresden
Institut für Mathematische Stochastik
Willersbau B 320
D-01062 Dresden
Germany
E-mail: nollau@math.tu-dresden.de
Phone: +49/351/463-2425, Fax: +49/351/463-7251

More about the [General Assembly](#) (travel advice, update of the program, etc.) can be found in the [IMU WWW-server](#), where also pictures, maps, etc. are shown. Please use this electronic service to find the most recent information about the GA 1998.

Berlin, April 10, 1997

Martin Grötschel
President of the
ICM'98 Organizing Committee

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Circular letter about delegates to the next General Assembly

The circular below was sent by the Secretariat to the IMU members
Rio de Janeiro, July 7, 1997

FROM: IMU Secretariat

TO: All Adhering Organizations and National Committees Dear Colleagues,

1. The 13th General Assembly 1998 of the International Mathematical Union (IMU) will be held in Dresden, August 15 - 16, on the weekend directly before the International Congress of Mathematicians Berlin 1998 (ICM98). The meeting will take place at Hotel Bellevue (Große Meißner Straße 15, D-01097 Dresden, Tel: +49/351/81 20-733, Fax: +49/351/81 20 749). Delegates may stay in Hotel Bellevue, other accomodations will also be offered. The procedures for room reservation will be announced with the invitation letters from the Local Organizing Committee to the delegates appointed by the Adhering Organizations/National Committees. More information can be found under the URL: <http://elib.zib.de/IMU/GA-Dresden>.

2. According to the Statutes of the Union, each Adhering Organization "shall appoint and certify to the Secretary of the Union a delegation which shall have the number of votes corresponding to the Group in which it adheres, as follows:

Number of votes:	I	II	III	IV	V
Group:	I	II	III	IV	V
Number of votes:	1	2	3	4	5

provided that the number of delegates shall not exceed the corresponding number of votes. Any Adhering Organization which desires to ensure its full quota of representatives at meetings of the General Assembly by the appointment of alternates for its regularly named delegates may do so, provided that no such alternate shall be permitted to participate in the work of the General Assembly until he has been duly certified to the Secretary of the Union as assuming the powers and duties of the delegate he has been designated to replace. No person shall be a member of the delegation of more than one country. Voting by the General Assembly shall be by delegations, provided 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."

3. You are hereby requested to designate the delegation of your country. Please enter on the accompanying form the names of your delegates, with alternates if any, together with their addresses and return this form to the Secretariat by March 1, 1998.

4. As provided for in the By-Laws of the Union, Adhering Organizations may propose business to be transacted at the General Assembly. Such proposals shall reach the Secretary at least four months before the meeting, i.e., preferably before March 1, 1998.

We are now sending to all Adhering Organization and National Committees, the enclosed form for "Appointment of Delegations".

Thank you very much for your attention.

INTERNATIONAL MATHEMATICAL UNION

13th General Assembly, 1998

DRESDEN, Germany

Appointment of Delegations

You are hereby requested to designate the delegation of your country.

OBS: The appointment of delegations is the responsibility of the Adhering Organization

COUNTRY: _____ GROUP OF ADHERENCE: _____

ADHERING ORGANIZATION: _____

DELEGATES: 1. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

2. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

3. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

4. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

5. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

ALTERNATIVES: 1. NAME: _____ E-MAIL: _____

ADDRESS: _____ FAX: _____

This form should be filled in capital letters and should be returned, not later than March 1, 1998 to:

IMU Secretariat
IMPA - Instituto de Matemática Pura e Aplicada
Estrada Dona Castorina, 110 - Jardim Botânico
22460- Rio de Janeiro - RJ - BRASIL
Fax: (55) (21) 512-4115/4112
e-mail: imu@impa.br

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Procedures for the Election of the Executive Committees

- [Procedures for the Election of the Executive Committee of IMU 1998](#)
- [Procedures for the Election of the Executive Committee of ICMI](#)
- [Procedures for the Election of CDE](#)
- [Procedures for the Election of ICHM](#)
- [ICMI - Terms of Reference](#)
- [CDE - Terms of Reference](#)

Procedures for the Election of the Executive Committee of IMU 1998

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 meeting of the EC in the spring before the Assembly.
2. The EC shall then draw up its own list of nominations, making certain that each candidate is willing to serve if elected. The slate should be mailed to the National Committees at least three 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 one month before the GA. The same information as in (2) concerning the nominees, including their willingness to serve if elected, should be provided. The Secretary will inform all National Committees of these last proposals before the GA. The National Committees are asked to cooperate in having their delegates to the GA fully informed.
4. The EC might modify its list in view of (3)
5. On the first day of the meeting, the General Assembly shall appoint a Nominating Committee (NC) consisting of:
 - a) the President (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).

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.

International Commission on Mathematical Instruction Terms of Reference

1986

1. The Commission shall consist of

(a) the members of an Executive Committee as specified in (2) below, elected by IMU, and

(b) one delegate from each member nation as specified in (4) below,

2. The Executive Committee consists of four officers, namely, President, two Vice-Presidents, and Secretary, and of three further members. Furthermore, the outgoing President of ICMI, the President and the Secretary of IMU, and the representative of IMU at CTS (ICSU) are members ex-officio of the E.C.

3. In all other respects the Commission shall make its own decisions as to its internal organization and rules of

procedure.

4. Any Adhering Organization wishing to support or encourage the work of the Commission may create, or recognize, in agreement with its Committee for Mathematics, a Sub-Commission for ICMI to maintain liaison with the Commission in all matters pertinent to its affairs. The Adhering Organization in question shall designate one member of the said Sub-Commission, if created, to serve as a delegated member of ICMI as mentioned in (1).

5. The Commission shall be charged with the conduct of the activities of IMU, bearing on mathematical or scientific education and shall take the initiative in inaugurating appropriate programmes designed to further the sound development of mathematical education at all levels, and to secure public appreciation of its importance. In the pursuit of this objective, the Commission shall cooperate, to the extent it considers desirable with effective regional groups which may be formed spontaneously, within, or outside, its own structure.

6. The Commission may, with the approval of the Executive Committee of IMU, coopt, as members of ICMI, suitable chosen representatives of non-IMU countries, on an individual basis.

7. The budget of the Commission shall be submitted to the Executive Committee of IMU and the General Assembly, for approval, at such times as may be determined by agreement between the Commission and the Executive Committee of IMU.

8. The Commission shall file an annual report of its activities with the Executive Committee of IMU, and shall file a quadrennial report at each regular meeting of the General Assembly.

Commission on Development and Exchange Terms of Reference

1986

1. The Commission shall consist of a Chairman and ten other members including the outgoing Chairman of CDE, the President and Secretary of IMU and the representative of IMU at COSTED (ICSU). The last four are members ex-officio of the CDE. The rules for the election of the Commission are similar to those of the IMU E.C. and of the ICMI E.C., with the same Nominating Committee. The E.C. shall request proposals for the membership of CDE from the Committees for Mathematics and will conduct extensive consultations with the existing CDE before proposing slates to the Nominating Committee.

2. The Commission shall elect, from among its members, a Secretary who shall act also as its Treasurer, unless the Commission appoints another member for that purpose.

The Chairman, the Secretary (if any) and the Treasurer (if any) shall be designated as Officers of the Commission. The Commission may, in exceptional circumstances, elect the Chairman as Secretary or Treasurer, as the case may be, provided that the Commission has at least two different (elected) officers. The Commission shall make its own financial arrangements, subject to By-law 10 of the IMU.

3. Acting in accordance with the Statutes and By-laws of the Union, and the administrative policies of the Union, as determined by the Executive Committee, the Commission shall

(a) support and encourage the growth of Mathematics in developing countries and cooperate with appropriate bodies to that end;

(b) support the exchange of visits with member countries of the Union which, for one reason or another (e.g. non-convertible currencies), such exchanges are not easy to arrange;

(c) advise and assist existing agencies working towards the same objective with due regard to the non-governmental and non-political nature of IMU and to its administrative policies, and without duplicating or prejudicing the work of other Commissions and Committees of IMU at points of common interest.

4. The Commission may accept gifts, legacies and subventions, subject to the Statutes of IMU, Section 16. The Commission shall make its own arrangements for the utilization of such funds for the activities mentioned in (3).
5. The Commission shall report annually to the Executive Committee on its activities and provide a financial statement.
6. The Commission shall file a quadrennial report at each regular meeting of the General Assembly.

The Commission shall come into existence on January 1, 1979, and the Commission on Exchange" shall be dissolved from that date.

IMU International Mathematical Union

Bulletin no 41, April 1998

Report About the Current State of Preparations for the International Congress of Mathematicians 1998 Berlin, Germany, August 18-27, 1998

1. [ICM'98 Organizing Committee and VICM](#)
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Detailed information about the plans and the state of preparation can be found on the ICM'98 WWW-server: <http://elib.zib.de/ICM98>.

This report is an updated short summary as of March, 1998. The ICM'98 Organizing Committee provides an e-mail service distributing more complete information about ICM'98 in form of Circular Letters (CL) to all persons that have requested the Second Announcement. A request form is available under the above [WWW-address](#).

1. ICM'98 Organizing Committee and VICM

The board of directors consists of :

- President: M. Grötschel (ZIB Berlin)
- Vice President: M. Aigner (FU Berlin)
- Honorary President: F. Hirzebruch (MPI Bonn)
- Treasurer: J. Sprekels (WIAS Berlin)
- Secretary General: J. Winkler (TU Berlin)

The ICM'98-server contains the list of all other colleagues currently involved in the organization. Here we only mention two further positions of general interest:

- Local Arrangements Chair: R. Möhring (TU Berlin)
- Local Scientific Committee Chair: M. Pohst (TU Berlin)

The International Congress is formally organized by the "Verein zur Durchführung des International Congress of Mathematicians 1998" (VICM) that has been legally established and has the right to accept tax deductible donations etc. so that sponsors can take full advantage of their donations to the organization of ICM'98.

2. Opening Ceremony

The Opening Ceremony on August 18, 1998 will take place at the International Congress Center (ICC). Words

of welcome will be delivered by the IMU president, the president and honorary president of the ICM'98 Organizing Committee, the DMV president, the Federal Minister of Science and Technology, the Governing Mayor of Berlin, the Secretary of State of the President of Germany, and the President of the TU Berlin. The ICM'98 special stamp will be presented, a short film about Berlin will be shown, and the Fields Medals and Nevanlinna Prize will be awarded. TV will be present. In the afternoon, also at ICC, the laudationes on the prize winners will be given. The first plenary lecture will be presented by J. Moser.

3. Local Arrangements

From August 19 on, the congress (including local registration) will take place at the Technische Universität (TU). All necessary rooms have been reserved and technical equipment is available. All Congress sites are ready for ICM'98. Book and software exhibitions have been arranged. A number of evening activities and events for the general public will also be in the Urania building,

3.1. Professional Congress Organization Company

The ICM'98 Organizing Committee has selected DER Congress as the congress organization company to support the ICM organization. In particular, DER Congress handles registrations, runs the accommodation service (hotels with rates ranging from 75 DM to 360 DM as well as low-budget private accommodations are available), and offers tours to sites of touristic interest.

3.2 Registration

Registration Forms are [available on the WWW](#) or in print. They may be sent to DER Congress via WWW, by fax, or by surface mail. It is also possible to send only non-confidential information over WWW and to fax confidential parts.

If an invitation letter is required by a participant for obtaining financial support or a visa this can be marked on the Registration Form.

4. Sponsoring and Finance

The total budget of ICM'98 will be approximately 3,000,000 DM. About 600,000 DM have been reserved for the support programs.

The most important sponsors of ICM'98 are the [Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie \(BMBF\)](#) with 700,000 DM and the [City of Berlin](#) with 600,000 DM. A [list of sponsors](#) can be found on the ICM'98 server.

5. Support of Mathematicians from Eastern Europe and from Developing Countries

IMU and the Organizing Committee are making strong efforts to ensure ICM'98 participation of mathematicians coming from countries with small financial basis. In particular, IMU and the local organization have established three different support programs for

- Young mathematicians from developing countries (announced in CL-6, applications were submitted to IMU, about 120 can be supported)
- Mature mathematicians from developing countries (announced in CL-16, almost 200 applications, up to 30 can be supported)
- Mathematicians from Eastern Europe (announced in CL-8 and CL-14, more than 1000 applications, up to 250 can be supported)

For all three programs the deadline for application was January 1, 1998. All applicants will be informed about the result immediately after May 1, 1998.

6. Public Relations

To promote ICM'98 and mathematics in general several public relations activities have been initiated in

newspapers and television.

A series of four articles on mathematics was published in the high-standard German weekly "[Die Zeit](#)", and a series of ICM-Specials has been started in the "[Mitteilungen der Deutschen Mathematiker-Vereinigung](#)" (comparable to the [AMS Notices](#)).

A summary of the opening ceremonies will be broadcast in the evening news of the ARD and of "Sender Freies Berlin". A ninety-minute program on ICM'98 and mathematics is planned for ARTE. Several TV evening programs and TV science magazines will show reports on special topics.

A series of press items on ICM'98 will be published by the press agency of TU-Berlin, the first has already appeared in January 1998. Special preparations have been made for the timely announcement of The Fields Medallists and Nevanlinna Prize winner. A press conference is scheduled for Monday, August 17, 11 a.m.

To further advertise ICM'98 and mathematics in Berlin itself several events for the general public will be staged in the Urania.

7. Special Conferences Around ICM'98

The list of "satellite conferences" currently includes 35 events. We maintain a special homepage in the ICM'98 server where detailed information can be found.

8. Scientific Program

8.1. Invited Program

The invitation process as well as the scheduling of the presentations has been completed for all Invited Speakers. The list of speakers as well as the final program have been announced in circular letters CL-19 and CL-23. This information is also available on the ICM'98 server. In total there will be 21 Plenary Lectures and 163 Invited Presentations in 18 sections.

8.2. Section of Special Activities

In accordance with the Program Committee and the IMU Executive Committee a Section of Special Activities will be organized in addition to the sections of the official scientific program. This section will house several topics that have been brought to the attention of the Organizing Committee. In particular there will be:

- Sessions on Mathematical Software.
- A workshop entitled "Berlin as a Centre of Mathematical Activity" organized by the International Commission on the History of Mathematics (ICHM).
- Talks, discussions, and roundtables related to Electronic Publishing (tentative).
- The Noether Lecture and a roundtable "Events and policies: Effects on women in mathematics" organized by the Association for Women in Mathematics (AWM), the European Women in Mathematics (EWM) and the Committee on Women and Mathematics of the European Mathematical Society; the organizers have received planning advice from women in several additional countries.
- Further roundtables on educational topics and other events such as the presentation of O. Lehto's new book on the IMU.

The [Deutsche Mathematiker-Vereinigung \(DMV\)](#) will present an exhibition on the suppression and expulsion of mathematicians from the Berlin universities by the Nazis. There will also be lectures concerning the impact of the Nazi regime on mathematics.

8.3 Short Communications and Posters

Since the mid of January abstracts for Short Communications and Posters can be [submitted electronically by means of a WWW-form](#) or by e-mail as well as in print. The deadline for submission of abstracts is May 1, 1998. Abstracts are being checked for proper content by the Local Scientific Committee before authors are being informed about acceptance. Before and during the congress it is possible to reserve rooms for Organized

Sessions and Informal Seminars by contacting the chair of the Local Arrangements Committee. If the request is received before May 1, 1998, the sessions will also be announced in the final program, after a review by the Local Scientific Committee.

9. Other Events for the General Public

The first highlight will be a talk by Andrew Wiles on the development of number theory during the last twenty years in the Audi Max of the Technical University in the evening of Wednesday, August 19, 1998.

Afterwards our major focus for events for the general public is the Urania in Berlin. The Urania foundation is a well-established organization, founded by, among others, Werner von Siemens, other industrialists, and famous scientists more than 100 years ago in order to popularize scientific research (in a broad sense). The Urania building is closed during summer and we have rented the place for the time of the conference. The management of Urania is willing to support us by advertising the events that will take place during the conference through its well-established channels.

The following events will be staged in the Urania from Thursday, August 20, to Friday, August 28, 1998.

Talks About Mathematics and its Relations to Other Subjects. About ten talks (partially in German) by prominent mathematicians, philosophers, musicians, artists, novelists, and journalists will highlight the impact of mathematics on society today.

The [VideoMath Festival](#). A call for submission of short high-quality videos on mathematical topics has been issued in CL-20. Deadline for submissions is April 3, 1998. A program committee will select and combine the submissions into one or two films of about two hours length that will be shown in the movie theater of the Urania every day. The program will be complemented by a selection of (documentary) films about mathematics and/or prominent mathematicians.

Exhibitions. Besides an exhibition on "Mathematics and Ceramics" and an exhibition of stone sculptures of Klaus Becker the central exhibition is "Mathematik zum Anfassen" (Hands-on Mathematics). "Mathematik zum Anfassen" is organized in cooperation with the Deutsches Museum in Munich and will show several mathematical models and related objects. Detailed explanations and guided tours for school classes will help to make this also a major attraction for teachers and pupils. In order to advertise these events in schools we are currently initiating a drawing contest for pupils. The winners of the contest will be honored in the Urania and their work will be exhibited.

At TU Berlin the exhibition "Kolloquiumsplakate" (Colloquium Posters) by Karl Heinrich Hofmann will be shown in the library of the mathematics building. The location of the exhibition "Mathematik in der Kunst" (Mathematics in the Arts) organized by Dietmar Guderian will be announced soon.

Music Events. On Sunday, August 23, there will be a Matinee in the Urania consisting of two concerts, starting at 10:30 am and 12:00 am, respectively. For the evening we have reserved half of the tickets of "Die Zauberflöte" (Magic Flute) in the Deutsche Oper for participants of ICM'98.

10. Social Program

After the opening session a complimentary lunch buffet will be offered to all participants. It will be served in the International Congress Center (ICC). A (complimentary) ICM'98 party will be staged in the evening of Wednesday, August 26, on the campus of the TU.

Besides the official (non complimentary) tourist program of DER Congress several Berlin mathematicians, their friends and spouses have volunteered to offer informal tours of Berlin in order to convey some of the many facets of Berlin to the ICM'98 participants, and in particular to accompanying persons. These "Footloose Tours" will be free of charge (except for possible entrance fees and transportation costs) and will include visits to special museums, sights, and shopping streets as well as an organ recital in the cathedral of Berlin.

11. Publications

11.1 Announcements

Since the end of August 1997 roughly 25000 printed copies of the First Announcement have been distributed all over the world. Furthermore the First Announcement was published electronically on many scientific and news networks. All mathematicians were encouraged to request the Second Announcement by submitting an electronic or printed request form. Till today about 5400 requests have arrived, most of them also requested to be added to the e-mail distribution list of ICM'98 Circular Letters. Distribution of the Second Announcement started on January 12, 1998. On that day roughly 6000 copies were posted. We would like to thank the AMS for publishing a text version of the Second Announcement in the AMS notices. There will be no third announcement, all further information will be made public by means of the WWW-server or e-mail Circular Letters.

11.2. Abstracts and Proceedings Volumes

At on site registration each participant will receive the program, an abstracts volume, and volumes II and III of the Proceedings that contain the papers of Invited Section Speakers. These three will be available electronically shortly before the congress. Volume I of the Proceedings will contain the speeches given at the Opening Ceremony, including the laudationes on the Prize Winners, and the report on the Congress, as well as the papers of the Plenary Speakers and will be distributed shortly after the Congress. The Proceedings will be published electronically and on paper as a volume of Documenta Mathematica, the electronic journal of the Deutsche Mathematiker-Vereinigung (DMV). It will be available on the book market via AMS.

11.3. The Berlin Intelligencer and Daily News

The Mitteilungen of the Deutsche Mathematiker-Vereinigung (DMV) and Springer-Verlag Berlin/Heidelberg will together prepare, publish, and present to all participants a magazine called the "Berlin Intelligencer", which is meant to welcome participants to Berlin and to ICM'98 as well as to guide participants' visit to Berlin and to some of its manifold aspects and attractions.

A newsletter containing program changes, announcements of informal seminars and information of general interest to ICM'98 participants will be available each day at the TU conference office.

12. Fees

Registration Until May 1, 1998 After May 1, 1998

Full registration fee	DM 450,-	DM 600,-
Students *	DM 200,-	DM 350,-

**Registration as a student requires an official certificate of the university to be attached.*

The registration fee includes a registration package (a bag, the congress badge, the program, an abstract book), the Proceedings of the Congress (except for students), a free public transportation ticket for the duration of the Congress (August 17--27, 1998), the Lunch Buffet at the Opening Ceremony, and the ICM'98-Party.

13. General Assembly

The IMU General Assembly will take place in Dresden on August 15 and 16 at Hotel Bellevue.

V. Ilau (TU Dresden) and his team help with the local organization. The preparations are finished and the program is set. A WWW-server giving detailed and up-to-date information on the General Assembly in Dresden is available at : <http://elib.zib.de/IMU/GA-Dresden>.

Delegates are expected to arrive on August 14. Complimentary bus transfer to Berlin, including a stop in Meissen, has been arranged for Monday, August 17. The GA program starts on August 15 at 10 a.m. and ends on August 16 at 1 p.m. A boat tour on the river Elbe including a buffet dinner is offered to all delegates and accompanying persons by the State of Saxony in the evening of August 15. Guided tours of Dresden are

scheduled for August 16, 3 p.m.

A complimentary concert in the Unterkirche of the Frauenkirche is offered, free of charge, in the evening of August 16.

Berlin, March 11, 1998

Martin Grötschel
President of the ICM'98 Organizing Committee

IMU International Mathematical Union

Bulletin no 41, April 1998

Report for the International Mathematical Union and its commissions, 1997

Professor Jacob Palis
Secretary

Introduction

The International Mathematical Union was founded in its present form in 1951. The purpose of the Union is to promote international cooperation in mathematics, to support and assist the International Congress of Mathematicians and other international meetings and 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 education. IMU has two commissions, the International Commission on Mathematical Instruction and the Commission on Development and Exchange. The International Commission on the History of Mathematics is a joint commission with the International Union of the History and Philosophy of Science.

Membership

The members of IMU are countries. At the moment IMU has 62 members. Information concerning IMU can be found in IMU-pages on the World Wide Web. The pages are located through URL:

<http://elib.zib.de/IMU>

Gopher access is possible through the following address:

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gopher://elib.zib.de/11imu
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The IMU server can be accessed via telnet as follows:

```
telnet elib.zib.de
Login: imu
no password required
```

Scientific Meetings

Conferences supported by IMU - 1997

- International Conference on Operator Algebras, held at the Inst. of Math. Sciences, Madras, India, from January 6-11.
- International Conference on Dynamical Systems, held in Mexico, June 1-5.
- XIIth International Congress of Mathematical Physics, held in Brisbane, Australia, July 13-17.
- EQUADIFF 9, Conference on Differential Equations and their Applications, held in Brno, Czech Republic, August 25-29.
- 3rd International Conference on Combinatorial Mathematics and Combinatorial Computing, held in Melbourne, Australia, June, 6 - July 4.
- Free Boundary Problems - theory and applications, held in Crete, Greece, June 8-14.
- FOCM - Foundations on Computational Mathematics, held in Rio de Janeiro, Brazil from January 5-11. (IMU Imprimatur)
- Conference dedicated to the memory of D. K. Faddeev, held in St. Petersburg, Russia, from June 24-30.
- 24 conference on stochastic processes and their applications, held in Viña del Mar, Chile, from June 16-

20.

- Mathematics and its uses in Southern Africa (MUSA) meeting , held in the Univ. of Botswana in Gaborone, December 11-12.
- Diderot Mathematical Forum on Mathematics and Environment, organized by the European Math. Society, held in Madrid, Spain, on December 19 - 20.

Education

International Commission on Mathematical Instruction - ICMI

Report prepared by Mogens Niss, Secretary, 1997

1. Organisation The Executive Committee had its third meeting in Madrid on 31st August - 1st September 1997. Beside in meetings, the work of the EC is conducted by correspondence and electronic communication under the direction of the President and the Secretary.

As of 1st January 1997, Latvia and Uruguay have been adopted as new members of IMU and hence of ICMI as well. Also ICMI continues to receive applications from countries to be co-opted as non-IMU member states of ICMI in accordance with the terms of reference. In 1997 it was decided, with the endorsement of the International Mathematical Union, to co-opt Indonesia as a non-IMU member of ICMI. The Adhering Organisation is the Indonesian Mathematical Society. Other applications were considered by the EC in 1997. Final decisions are expected to be made in 1998.

A number of countries have not (yet) appointed National Representatives in ICMI. These are Georgia, Greece, Latvia, Mexico, Pakistan, Romania, Slovenia, and Uruguay.

It is part of ICMI's general policy to encourage member states to establish National Sub-Commissions of ICMI. In 1997 the EC was not informed of the establishment of new National Sub-Commissions.

2. ICMEs The next International Congress on Mathematical Education, ICME-9, will be held in Makuhari, Chiba, Japan, in 2000. Preliminary dates are 31 July to 7 August. An International Programme Committee was appointed in 1996. It is chaired by Professor Hiroshi Fujita, Meiji University, Tokyo, Japan. The list of members was published in the ICMI Bulletin No. 42, June 1997, p. 17. The IPC has been working for most of 1997 by means of electronic post under the direction of Professor Fujita. The IPC will meet for the first time in the beginning of March 1998.

No official bids have been received by the Executive Committee with respect to ICME-10 in 2004. However, Brazil has produced a declaration of intent to let ICMI know that it is preparing a bid to host this Congress.

3. ICMI Studies The mounting and conducting of so-called ICMI studies on crucial themes and issues in mathematics education were continued in 1997. The ICMI studies are published by Kluwer Academic Publishers, Dordrecht, the Netherlands, under the general editorship of the President and the Secretary of ICMI.

The study Mathematics Education as a Research Domain: A Search for Identity. An ICMI Study, based mainly on the study conference What is Research in Mathematics Education, and What Are Its Results?, held at University of Maryland, College Park, USA, May 1994, appeared, in two volumes (576 pages), at the end of 1997. The study is edited by Anna Sierpinska and Jeremy Kilpatrick.

The manuscript for the study on Perspectives on the Teaching of Geometry for the 21st Century, the corresponding study conference of which was held at Università di Catania, Italy, September-October 1995, was sent to the publisher in the autumn of 1997. The study, edited by Vinicio Villani and Carmelo Mammana, will appear in the beginning of 1998.

The next study in the series is devoted to the theme The Role of the History of Mathematics in the Teaching and Learning of Mathematics. An International Programme Committee was appointed in 1996 (a list of members' names was published in the ICMI Bulletin, No. 41, December 1996, p. 14) with John Fauvel, the Open University, UK, and Jan van Maanen, the University of Groningen, the Netherlands as co-chairs. The Discussion Document for this study was published in various journals and newsletters, including the ICMI

Bulletin, No. 42, June 1997, pp. 9-16, and in an abbreviated version in *L'Enseignement mathématique*, 2e Série, t. 43, fasc 1-2, janvier-juin 1997, pp. 199-203. The study conference will be held in France, at CIRM, Luminy (near Marseille), 20-25 April 1998, with Jean-Luc Dorier, Grenoble, France, in charge of the Local Organisation.

Moreover, the ICMI EC has mounted a study on the Teaching and Learning of Mathematics at University Level. The IPC which was appointed in 1997 (a list of members' names is included in the ICMI Bulletin, No. 42, June 1997, p. 18) is chaired by Derek Holton, University of Otago, Dunedin, New Zealand. The Discussion Document for this study has been/will be published in numerous places, including the ICMI Bulletin, No. 43, December 1997, pp. 3-13, and *L'Enseignement mathématique*, 2e Série, t. 43, fasc. 3-4, juillet-décembre 1997, pp. 381-390. The corresponding study conference will take place in Singapore, 8-12 December 1998.

Plans for further studies, on average one per year, are under development.

4. Regional Conferences No ICMI Regional Conferences were held in 1997. The next such meeting, The First ICMI East Asia Regional Conference on Mathematics Education (ICMI-EARCOME 1), will be held in Chungbuk, The Republic of Korea, 17-21 August 1998.

5. Affiliated Study Groups ICMI continues to have four affiliated study groups, HPM (The International Study Group for the Relations Between the History and Pedagogy of Mathematics), IOWME (The International Organisation of Women and Mathematics Education), and PME (The International Group for the Psychology of Learning Mathematics), and WFNMC (The World Federation of National Mathematical Competitions).

6. The Solidarity Programme In 1992 ICMI established a Solidarity Programme to help the development of mathematics education in countries in which there is a need for it that justifies international assistance. The first stage in this programme was the mounting of a Solidarity Fund based on private contributions by individuals, associations, etc. The Fund is to be activated to support concrete initiatives and activities that may foster solidarity in mathematics education between well-defined quarters in developed and less developed countries. The Solidarity Fund has received donations from various organisations and individuals in mathematics education for which it is most grateful. Thus, in 1997 the Fund received a donation of French Francs 5.000 from the French National Sub-Commission of ICMI, C.F.E.M. In 1997 no projects were supported by the Solidarity Fund. Although the total funds are not excessive, the ICMI EC would welcome applications concerning projects which are worthy of support in line with the general aims of the Fund.

7. ICMI WMY 2000 Committee In order to consider, plan and prepare the main aspects of ICMI's involvement in the World Mathematical Year 2000, an ad hoc committee, ICMI WMY 2000 Committee, has been formed, under the chairmanship of ICMI's President, Professor Miguel de Guzmán. The other members are listed in the ICMI Bulletin No. 42, June 1997, pp. 18-19.

8. ICMI Bulletins In 1997, ICMI Bulletin Nos. 42 and 43 were published under the editorship of the Secretary of ICMI. Furthermore, the ICMI Bulletin is available in the following electronic forms: In ASCII-format on direct request to the editor. On the World Wide Web, where it can be found under the following coordinates on the IMU-server, through URL:

[http://elib.zib.de/imu.icmi.bull.\[no.\]](http://elib.zib.de/imu.icmi.bull.[no.])

or

<http://elib.zib.de/imu/icmi/bulletin/no>

9. 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 pages are located through URL:

<http://elib.zib.de/imu.icmi>

Activities Involving Developing Countries

Commission on Development and Exchanges - CDE

Report prepared by Pierre Bérard, Secretary

Amendment to the 1996 report

First of all, the 1996 report listed a donation of FF 19,700 (approx. \$3,900) by the Société Mathématique de France. It was later decided between IMU and SMF that this donation should be divided as follows : 40% for the CDE, 30% for ICMI and 30% for the Special Development Fund of IMU. I have accordingly re-imbursed IMU and the share of the CDE in the SMF donation has been \$1,600 in 1997.

I have also recently made a \$1,300 payment (travel grant to Professor Elizondo, see summary dated 96sep25). This fund was committed in 1996 and included in that year report.

The conference DEBC-97 (dynamical systems, scheduled to take place in Ukraine), was canceled. An amount of \$3,000 committed in 1996 should now be added to the funds available.

Commission on Development and Exchange (CDE)

Prepared by Pierre Berard, Secretary

As in the past years, the CDE received applications for travel support from individuals and applications for support to conferences organized in developing countries.

As a matter of fact, few applications for travel support met CDE standards or programmes so that only few individuals have actually been supported. Among the 6 beneficiaries, one has been supported within the CDE - ICTP agreement while two others were supported in the framework of the MUSA project (see below).

A total of nine conferences received CDE support. One of them was part of the CDE -- CIMPA agreement and another of the MUSA project (see below).

The CDE has been deeply involved in the MUSA project in the Southern Africa Region (a description of the project has been published in the Notices of the American Mathematical Society in May 1997). This project, introduced by the secretary of CDE some time ago, has been set up thanks to an extensive work by Professor Clemens on behalf of the CDE. A planning meeting was held in Botswana (late December 1997) and it is expected that the MUSA project will evolve very positively in a near future.

Although contacts have been made in Vietnam to develop a similar project, no effective responses can be reported yet.

Individual travel grants B. Oksendal (Norway --> Botswana)	\$ 1,500
E. Lungu (Botswana --> Norway) [committed]	\$ 1,500
H. Sissaoui (Algeria --> ICTP)	\$ 1,000
(CDE -- ICTP cooperation) V.R. Padmawar (India --> Australia)	\$ 1,000
R. Sahadevan (India --> Belgium)	\$ 1,000
H. lan (China --> Finland)	\$ 1,200
Support to conferences AMU Algebra conference (Burkina-Faso)	\$ 2,000
Geometry workshop (Lebanon)	\$ 2,000
Colloquium in Hanoi (Vietnam)	\$ 2,000
CIMPA workshop (Vietnam)	\$ 6,000
(CDE -- CIMPA cooperation) Algebra conference 1 (Morocco)	\$ 2,000
Algebra conference (Vietnam)	\$ 3,000
Algebra conference 2 (Morocco)	\$ 2,000
Mathematics in Finance (Botswana)	\$ 3,000
MUSA meeting (Botswana)	\$ 2,000

Other Scientific Activities

International Commission on the History of Mathematics - ICHM

Report prepared by Eberhard Knobloch, 1997

Past congresses to which the ICHM contributed:

XX International Congress of History of Science, Liege (Belgium), July 20-26, 1997

On behalf of the ICHM members of the Executive Committee (EC) or of the ICHM organized the following three symposia:

"Symposium in memory of A.P. Yushkevich" (K. Chemla, S. Demidov, E. Knobloch)

"Formation of a research area and a scientific community: applied mathematics" (J. Dauben, G. Israel)

"Ten classics of ancient Chinese mathematics" (J. Dauben, Liu Dun)

E. Knobloch, chairman of the ICHM, gave a plenary lecture on "Les ingenieurs de la Renaissance et leur manuscrits et traites illustres"

The ICHM reception at the "Musée d'histoire des techniques et de la métallurgie" for some 400 participants was sponsored by Academic Press.

On the occasion of the ICHM plenary meeting the 1997 K.O. May medal for outstanding contributions to the history of mathematics was awarded to René Taton, France. On the same occasion the election returns of the new EC of the ICHM were made known. The four main officers are:

Chair: Kirsti Andersen (Denmark)

Vice-chair: Craig Fraser (Canada)

Secretary: Jeanne Peiffer (France)

Treasurer: Menso Folkerts (Germany)

Their term of office lasts from January 1, 1998 until December 31, 2001.

"Constructions, reconstructions et images du corpus mathématique dans l'histoire. Dynamiques internes et causalité externes", September 22-26, 1997

Amy Dahan, France, and Umberto Bottazzini, Italy, organized this conference at the Centre International de Rencontres Mathématiques (CIRM) in Luminy (France).

K. Chemla, E. Knobloch, J. Peiffer, members of the EC or of the ICHM, were among the invited speakers.

"Language as an analogy in the natural sciences", November 21-23, 1997

Matthias Doerries, Germany, organized this conference at the Deutsches Museum in Munich (Germany).

K. Chemla, E. Knobloch, members of the EC or the ICHM were among the invited speakers.

Future Congresses

- International Congress of Mathematicians, August 18-28, 1998, Berlin

- Colloquy: "Berlin as a centre of mathematical activities" The colloquy is organized by G. Israel, Rome, and by E. Knobloch, Berlin, both being members of the Executive Committee of the ICHM. It will be a special activity of the International Congress of Mathematicians. Three historical lectures will be given by speakers who were invited by the program committee of the ICM: K. Chemla, France, J. Dauben, USA, J. Gray, United Kingdom. All three are members of the ICHM.

International Conference:

"Transmission and transformation of mathematical thought - a comparative approach", Wuhan (China), October 4-8, 1998. The conference is organized by the "Chinese Society of History of Mathematics". The head of the Organizing Committee is Li Wenlin, Beijing, Chinese member of the ICHM. J.W. Dauben and E. Knobloch, past chairmen of the ICHM, are vice chairmen of the conference. K. Andersen, chairperson of the ICHM, is a member of the Board of Directors. E. Knobloch is among the invited speakers.

Ongoing projects

Revised ICHM Bibliography - Albert Lewis, Canada, with the concurrence of the ICHM, serves as Chief Editor of the CD-ROM edition of J.W. Dauben's Selected Bibliography on History of Mathematics. The AMS will be the publisher. The contract was signed by the chairman of the ICHM.

ICHM Historiography project It is directed by J.W. Dauben and C.J. Scriba. The aim is to describe the historiography of mathematics from the first historical writings on mathematics by the ancient Greeks and Chinese to the present time.

Chair:

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Secretary:

Jeanne Peiffer,

6 rue des deux gares, F-75010 Paris, France

fax at CNRS, Centre Alexandre Koyre, rue Damesme 27, 75013 Paris: 0033-1-45811647

e-mail: peiffer@paris7.jussieu.fr

Publications

IMU published one bulletin in 1997. The 10th World Directory of Mathematicians came out during the summer of 1994.

ICMI published 2 Bulletins, both supported by UNESCO grants. Other publications by ICMI were described above. ICHM also had several publications in 1997; they are described above in the topic of the ICHM activities.

Organizational Matters

The Executive Committee of IMU met once this year: on May 15-16, Berlin, site of the 1998 International Congress of Mathematicians.

Vital Statistics

- members (countries) - 62 - 11 (IMU) + 10 (CDE) + 6 (ICHM) = 27 conferences supported
- 1 (IMU) + 2 (ICMI) = 3 bulletins;
most conferences published their proceedings.

IMU International Mathematical Union

Bulletin no 41, April 1998

Report on preparations for the World Mathematical Year WMY 2000

Mireille Chaleyat-Maurel, Paris (France)

History

On May 6th 1992 in Rio de Janeiro (Brazil), the then chairman of the International Mathematical Union (IMU), Professor Jacques-Louis Lions declared the year 2000 to be "The World Mathematical Year" (cf "Declaration of Rio de Janeiro on Mathematics", first number of the Newsletter 2000).

This special event has the sponsorship of UNESCO, and the International Mathematical Union, with the support of the International Council of Scientific Unions (ICSU), The Third World Academy of Sciences, The French and Brazilian Academies of Sciences, and several Governments. It aims at three main issues:

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

First of all, it was decided to publish a newsletter (Newsletter 2000), which would gather and widely redistribute information on initiatives taken by the international mathematical community for the preparation of WMY 2000. It then became necessary to tighten links with UNESCO and to register projects for the world mathematical year as they take shape all over the world.

My report consists of four parts:

1. Publication and distribution of ["Newsletter 2000"](#)
2. [Relations with UNESCO](#)
3. [Projects registered to date](#)
4. [Subsidiary activities](#)

1. "Newsletter 2000"

In 1993 and 1994, H el ene Gispert and Mrs Theis (Paris, France) saw to the publication and distribution of the first two issues of the newsletter (NL 1 and NL 2), from an office at the Institut Henri Poincar e (IHP).

In August 1994, on the occasion of the International Congress of Mathematicians in Zurich, J.-L. Lions entrusted Gerard Tronel and myself with the publication and distribution of the Newsletter. It was also decided to create a larger Editorial Board with representatives in each continent. Thanks to the Director of the IHP, J. Oesterl e, the Newsletter was given an office there in 1995.

Since 1994, we have published and distributed 3 new issues (NL 3, NL 4, NL 5), on a year on average, and we hope to publish the sixth issue in time for the Berlin international congress, ICM'98.

1-1 Structure of "Newsletter 2000"

Registered office: Institut Henri Poincar e, 11, rue Pierre et Marie Curie, 75005 PARIS (FRANCE)
Editor in Chief: J.-L. Lions

Editors: M. Chaleyat-Maurel and G. Tronel (Paris, France)

Editorial Board:

- A. Ashour (Giza, Egypt)
- M. Hassan (Trieste, Italy)
- M. Morimoto (Tokyo, Japan)
- M. Niss (Roskilde, Denmark)
- R. Rebolledo (Santiago, Chile)
- A. Sierpiska (Montreal, Canada)

1-2 Headings and collection of articles

Headings:

- o "Editorial" to be written each time by a different member of the Editorial Board
- o "Mathematical Institutions' participation in WMY 2000": announcement of projects launched by mathematical associations
- o "Letters to the Editor"
- o "Agenda" : announcement of events which will take place in 2000
- o "News"

The way the Newsletter operates is quite flexible: articles are submitted by electronic mail to the Editorial Board which responds likewise.

1-3 Printing

Articles, collected mostly by e-mail, are put together by the UFR 921 (Paris, France) and the English version is revised by the staff of the Institute des Hautes Études Scientifiques (IHÉS - Bures-sur-Yvette, France). The Newsletter is printed by the Ecole Polytechnique (Palaiseau, France) (7000 copies). Financial support, for the paper, is given by the Comité National Français des Mathématiciens.

1-4 Distribution

Paper version:

Distribution is done with the help of the Collège de France and several Mathematics Laboratories in Paris. The Newsletter is sent to all country members of IMU and to all institutions linked with Mathematics.

Electronic version :

Thanks to P. Jarraud (Paris, France) and to the web-site hospitality of the Institute of Mathematics of Jussieu, the five issues of the Newsletter are available on Internet at the following address: <http://www.jussieu.fr>. Links are made with the International Mathematical Union (IMU), American Mathematical Society (AMS) and the European Mathematical Society (EMS) web sites.

Our distribution has increased with the support of CIMPA and some relays in Africa. There is now a considerably greater demand for the newsletter.

1-5 Preparation of the 6th issue

We are presently working on the Issue No. 6 and hope to publish articles from eminent mathematicians on how they see the World Mathematical Year 2000. We would like to make it clear that this event is also of great interest for non-mathematicians : the mayor of Bures-sur-Yvette sent us an article to this effect.

1-6 Budget

We have received two grants (from the IMU and UNESCO) which allow us to pay the office rent, some mailing costs and the printing of writing stationers with the logo of WMY 2000 letterhead.

2. WMY 2000 and UNESCO

Until the beginning of 1997, the person in charge of Mathematics at UNESCO was A. Marzollo (Venice, Italy). Thanks to his support, the newsletter obtained an UNESCO grant.

After A. Marzollo retired, there was some reorganization of the UNESCO departments: the person responsible for Mathematics is now S. Raither (Paris, France) who depends on the Science Department directed by V. Zharov (Paris, France).

In March 1997, C. Guillopé and J.-P. Kahane, two French mathematicians, members of the French Commission for Sciences of UNESCO, asked me to join them for their first visit to S. Raither and V. Zharov. During this visit, A. Raither asked for clarification of the status of WMY 2000 with respect to UNESCO having found no written document explaining it.

It was therefore decided in agreement with D. Mumford and J. Palis to create a special committee to deal with the collaboration between the IMU and the UNESCO on the preparation of WMY 2000. Members of this Committee are: A. Ashour, M. Chaleyat-Maurel (President), M. Narasimhan, M. Niss, R. Rebolledo, A. Sierpiska and G. Tronel.

In order to formalize and strengthen the UNESCO support for this celebration, A. Raither suggested that a resolution be put to the General Assembly of UNESCO, scheduled for November, 1997. Luxembourg, J.-P. Pier being its principal author, presented such a resolution. It has been backed up by 15 countries and by the International Council of Scientific Unions (ICSU), whose Vice-President and Secretary of IMU, J. Palis, made at the occasion a formal intervention to support it. It was adopted by the Plenary of the General Conference (see Newsletter No. 5) and a grant of US\$ 20,000 was awarded to WMY 2000.

Since then, I have been keeping up a profitable and fruitful collaboration with A. Raither for all issues concerning the WMY 2000. For instance, he suggested that organizers of events for WMY 2000 ask for grants via their national representatives in the frame of a "Participation Programme". These grants are different from that of 20.000 \$ awarded through the resolution. For example, the French commission has decided to support a project called "Memory of Mathematicians". (cf list below).

3. Projects for WMY 2000

Since the World Mathematical Year was launched in 1992, most of the international mathematical organizations, the learned societies and some countries have set up special committees charged with the study and preparation of events for 2000 (for more detailed information, see the Newsletter).

At the instance of A. Raither, who wished to get a panoramic view of all the projects under way for WMY 2000, I keep an updated list of all events being prepared to my knowledge worldwide, with the name and e-mail address of a contact person for each. This document is sent out regularly to all persons concerned with WMY 2000.

I enclose an up-dated list in this report. I could also provide more detailed information about some of them, if required.

International Commission for the Mathematical Instruction (ICMI)

International Congress on the Teaching of Mathematics (ICME-9) July 31 - August 7, 2000, Makuhari/Chiba (Japan)

Contact : Mogens Niss, MN@mmf.ruc.dk

ICMI WMY 2000 Committee

Contact : Miguel de Guzman, mdeguzman@bitmailer.net

EUROPEAN MATHEMATICAL SOCIETY (EMS)

Third European Congress of Mathematics (3ECM), July 10-14, 2000, Barcelona (Spain)

Contact : Sebastia Xambó Descamps, sxd@grec.upc.es

LATIN AMERICAN AND CARIBBEAN UNION (UMALCA)

Latin American Congress of Mathematics, August 2000

Contact : Jacob Palis, jpalis@impa.br

MATHEMATICAL PHYSICS - INTERNATIONAL CONGRESS OF MATHEMATICAL PHYSICS XIII

to be held in London, July 17 - 22, 2000

Contact: <http://www.ma.ic.ac.uk/~boz/ICMP2000/wwwbid.html>

Other meetings:

BERNOULLI SOCIETY for MATHEMATICAL STATISTICS and PROBABILITIES

World Congress of the Bernoulli Society, May 15-20, 2000, Guanajato (Mexico)

Five Year 2000 Conferences Causality, Ecology and Environment, Financial Mathematics, Neural Networks and Learning, Quantum Stochastics, Stochastic Geometry and Imaging

Special Volume of « Bernoulli » This volume will comprise a number of special invited papers that should take stock of the developments in mathematical statistics and probability in the XXth century and speculate about stochastics and its applications in XXIst century

Contact : Ole Barndorff-Nielsen, atsoebn@mi.aau.dk

EUROPEAN MATHEMATICAL SOCIETY (EMS)

Alhambra 2000 (in collaboration with CIMPA (Nice, France)) European-Arab Congress of Mathematicians (with contributions from historians)

UNITED STATES

Special Meeting on the theme "Mathematical Challenges of the XXIst Century", August 2000

Contact : Felix E. Browder, browder@math.rutgers.edu

Web page : <http://www.ams.org/amsmtgs/wmy2000.html>

Information:

INTERNATIONAL COMMISSION ON HISTORY OF MATHEMATICS (ICHM)

Memory of Mathematicians Creation of a public database containing for each mathematician a description of the locations where original documents concerning him or her are stored

Contact : Hélène Gispert, Helene.Gispert@ghdso.u-psud.fr

BACHELIER FINANCE SOCIETY

Second World Conference « Bachelier Dissertation Centenary », June 27-29, 2000, Paris (France)

Contact : Hélyette Geman, geman@dauphine.fr

EUROPEAN MATHEMATICAL SOCIETY (EMS)

Mathematics posters in the subways of cities all over the world A gesture towards the general public in the form of small posters on the trains, and larger ones in the stations, showing mathematical subjects of general interest

Postage stamps

Issue of stamps representing European mathematicians. Wherever possible, concerted action between countries or on the European level.

Contact : Vagn Lundsgaard Hansen, V.L.Hansen@mat.dtu.dk

SOUTH-EAST ASIAN MATHEMATICAL SOCIETY (SEAMS) - SUPPORT BY CDE (?)

Third Asian Mathematical Conference (AMC2000), October 23-27, 2000, Manila (Philippines)

Contact : Polly Wee Sy, pweesy@i-manila.com.ph

Countries

CANADA

1. Canadian Mathematical Society (CMS)

Contact : Bernard Hodgson, bhodgson@mat.ulaval.ca

2. Quebec

United Congress of all mathematical associations and groups of Quebec Spring 2000

Mathematics Exhibition

Contact : Richard Pallascio, pallascio.richard@uqam.ca

FINLAND

Rolf Nevanlinna Colloquium
8-12 August 2000, Helsinki (Finland)

Contact : Pekka Tukia, pekka.tukia@helsinki.fi

Studia Generalia lecture series
Autumn 2000; first lecture 1 October 2000, University of Helsinki (Finland)

Contact : Olli Martio, olli.martio@helsinki.fi

FRANCE

1. French Committee for World Mathematical Year

Mathematics posters in the Paris underground (with the EMS) This project could involve the re-fitting of certain tube stations (Monge and Laplace).

Contact : Mireille Chaleyat-Maurel, mcm@ccr.jussieu.fr

Postage stamps

A list of mathematicians has been submitted to the Post Office for an issue, in the year 2000, of six stamps portraying French mathematicians.

Contact : Liliane Zweig, zweig@dmi.ens.fr

Mathematics and other fields of knowledge (with the Ecole Normale Supérieure and historians of mathematics)

Re-edition of books out of circulation In partnership with the CNL (Centre National du Livre) it is planned to re-edit important mathematical works no longer available.

Contact : Martin Andler, andler@math.uvsq.fr

A book « An outlook by women mathematicians » An initiative of the Association « Femmes et Mathématiques »

Film : "Four women mathematicians at the far end of the world" An initiative of the Association « Femmes et Mathématiques »

Contact : Julianne Unterberger, julia.unterberger@univ-reims.fr

GERMANY

Mathematics and Expo 2000, Summer 2000, Hanover
Various mathematical manifestations on the occasion of Hanover's International Trade Fair

Contact : Klaus Hulek, hulek@math.uni-hannover.de

ITALY

Exhibition « Mathematics in contemporary art »
March-September 2000, Museo di arte contemporanea del castello di Rivoli, Rivoli, Torino (Italy)

Stamp

The proposition to have a commemorative stamp celebrating WMY 2000 was already submitted to the Ministero delle Poste

RAI Programme « Mathematics in western civilization » RAI, the Radio-Television National State Broadcasting Company is considering the proposition to produce a series of 3 programmes on « Mathematics in western civilization »

Contact : Alberto Conte, conte@dm.unito.it

LUXEMBOURG

The development of mathematics : 1950-2000 A collective book retracing the development of mathematics during the second half of the XXth century.

Contact : Jean-Paul Pier, pier@cu.lu

PORTUGAL

Macao 2000 : Mathematics and Civilization

A joint portuguese-chinese initiative for a congress on a general subject of the scientific and cultural role of the mathematical sciences in the history of civilization and in the future development of humanity

Contact : José Francisco Rodrigues, rodrigue@lmc.fc.ul.pt

UNITED STATES OF AMERICA

Joint Mathematics Meetings (Joint meeting of the American Mathematical Society, Mathematical Association of America, and Society for Industrial and Applied Mathematics), January, 19-22 , 2000, Washington, D.C.

Contact : Hope Daly, hhd@math.ams.org - Web page : <http://www.ams.org/amsmtgs/wmy2000.html>

4. Subsidiary activities

4-1 Logo

Newsletter No. 3 launched a competition for the logo of WMY 2000. This competition was also announced by Springer. We received 10 proposals. The winning entry was that of Marie-Claude Vergne (IHÉS, Bures-sur-Yvette). It may be used on all documents related to WMY 2000.

4-2 ICM 98

We hope to spotlight WMY 2000 during the International Congress of Mathematicians in Berlin, so as to interest as many countries as possible. Thus we plan to have a special stand "WMY 2000" at the Congress. M. Groetschel, Chair of the Local Organizing Committee, has supported the idea. We are now working on the material to be presented on this stand.

4-3 Publicity

We are making a poster to be widely distributed all over the world and at ICM 98.

P. Jarraud and I are also working on the web site of WMY 2000, in the Jussieu server. It now contains the Newsletter, in order to give more information about the World Mathematical Year and convince the mathematical community to participate more actively in it.

May we take this opportunity to thank all the persons and Institutions who are helping us, in particular, D. Mumford and J. Palis, for their continuous support.