IMU

**BULLETIN
OF THE
INTERNATIONAL MATHEMATICAL UNION**

**No. 26
December 1986**

INTERNATIONAL MATHEMATICAL UNION

EXECUTIVE COMMITTEE

	January 1, 1983 – December 31, 1986	January 1, 1987 – December 31, 1990
President:	Professor Jürgen Moser	Professor Ludwig D. Faddeev
Vice-Presidents:	Professor Ludwig D. Faddeev Professor J-P. Serre	Professor Walter Feit Professor Lars Hörmander
Secretary:	Professor Olli Lehto	Professor Olli Lehto
Members:	Professor S. Mizohata Professor G.D. Mostow Professor M.S. Narasimhan Professor Czeslaw Olech Professor Jacob Palis Jr.	Professor John Coates Professor Hikosaburo Komatsu Professor László Lovász Professor Jacob Palis Jr. Professor C.S. Seshadri
Past President:	Professor Lennart Carleson	Professor Jürgen Moser

Report of the 10th General Assembly of IMU

Oakland, California, U.S.A., July 31 – August 1, 1986

1.
The President opened the Assembly on July 31 at 10 a.m.

2.
The address given by the President is given as Appendix 1.

3.
The following committees were appointed:

Credentials Committee:

    Jacob Korevaar, Chairman
    Miroslav Fiedler
    Alessandro Figà–Talamanca
    G.E. Wall
    Olli Lehto, ex–officio

Resolutions Committee:

    Hans Weinberger, Chairman
    Lars Hörmander
    Christian Houzel
    Tsu Ann Peng
    V.S. Vladimirov
    Olli Lehto, ex–officio

Tellers:

    S.D. Chatterji, Chairman
    Rodrigo Bamón
    Klaus Matthes

Committee for Finance and Dues:

    Rémi Vaillancourt, Chairman
    Artur Lopes
    Masayoshi Nagata
    Blagovest Sendov
    Eric C. Zeeman
    Olli Lehto, ex–officio

Nominating Committee:

    Jürgen Moser, Chairman ex–officio
    Bogdan Bojarski
    Michel Broué
    A.A. Gonchar
    F.E.P. Hirzebruch
    Kiyoshi Ito
    M.S. Raghunathan

Claude A. Rogers
Mary Ellen Rudin

4.

It was unanimously decided to delete the word "national" from the IMU Statutes. The Executive Committee was authorized to make the changes that are necessary to remove any contradictions.

The word "national" will be deleted from the terms of reference of the IMU commissions.

5.1.

China was admitted to the Union in Group V with the adhering organization formed by two societies, Chinese Mathematical Society and Mathematical Society located in Taipei, China. The former has 3 votes and the latter 2. The former pays dues of 4 units and the latter dues of 2 units.

The listing of China is as follows:

China:

– Chinese Mathematical Society
– Mathematical Society located in Taipei, China.

The present membership of China–Taiwan ceases.

Neither of the societies mentioned above is required to make any change in the name under which it operates, or of the style in which it designates itself in its communications or in its Statutes.

The President welcomed the observers, Professors Wu Wen–Tsün and Lo Yang, as representatives of the new adhering organization, Chinese Mathematical Society, to IMU.

The Assembly expressed its appreciation to its member China–Taiwan for showing such a spirit of cooperation and good will which finally led to the conclusion of the negotiations.

The Assembly expressed its gratitude to the present Executive Committee for carrying out successfully the negotiations leading to the representation of all Chinese mathematicians in IMU. Special thanks were forwarded to the President and Secretary as well as the former President, Professor Lennart Carleson, and former Secretary, Professor J.L. Lions.

5.2.

Ivory Coast was admitted to IMU in Group I, becoming the 53rd member of the Union.

The Assembly expressed the wish to receive more information upon membership applications.

There was a break from 12:20 to 2:30 p.m.

The President announced that the Site Committee recommends Kyoto as the site for the 1990 International Congress of Mathematicians. The Assembly accepted Kyoto by acclamation.

6.

The activities of the Union in the years 1982–1985 had been reviewed in the Special Number Bulletin 25. The reports in the Bulletin covering symposia and conferences supported by IMU, IMU lectures, ICMI activities, CDE activities, the IMU Bulletin and the World Directory of Mathematicians were approved.

The Resolutions Committee presented Resolution 1 (Appendix 5), which was adopted.

The first session of the Assembly was closed at 3:30 p.m.

The second session of the General Assembly was opened on August 1 at 9:30 a.m.

7.

Professor R. Vaillancourt, Chairman of the Committee for Finance and Dues, reported on the work of the Committee. His report is printed as Appendix 3. The financial reports for the years 1982–1985 and the audited accounts for the years 1982–1985 as well as the work of the Executive Committee were accepted by acclamation.

The Committee recommended the acceptance of the budget the Executive Committee had proposed for the years 1987–1990. The budget was accepted; it is printed as Appendix 4.

The President thanked Professor Vaillancourt for his careful analysis and precise presentation and the attention the Committee had given to its work.

It was noted that most of the funds received to the Special Appeal Fund were donated by the London Mathematical Society. Professor Zeeman appealed to other members to make donations to the Fund.

A vote of thanks was given to the Secretary, Professor Olli Lehto, for his excellent work as the Treasurer of the Union.

The session had a break from 10:30 a.m. to 1:30 p.m.

8.

The Nominating Committee had met during the break. The Committee had not received any names from the floor for the IMU Executive Committee nor for the ICMI Executive Committee. One name was received for a member of CDE.

The IMU Executive Committee, elected unanimously, for the years 1987–1990 consists of

President:	Ludwig D. Faddeev
Vice-Presidents:	Walter Feit
	Lars Hörmander
Secretary:	Olli Lehto
Members:	John Coates
	Hikosaburo Komatsu
	László Lovász
	Jacob Palis Jr.
	C.S. Seshadri.

The Past President, Jürgen Moser, will be a member ex–officio.

The ICMI Executive Committee, elected unanimously, for the years 1987–1990 consists of

President:	Jean–Pierre Kahane
Vice-Presidents:	Emilio Lluis Riera
	Peng–Yee Lee
Secretary:	A.G. Howson
Members:	Hiroshi Fujita
	Jeremy Kilpatrick
	Mogens Niss.

Members ex–officio are Ludwig D. Faddeev, Olli Lehto and J.H. van Lint (IMU representative at ICSU/CTS).

The following Commission for Development and Exchange was elected for the years 1987–1990:

Chairman:	M.S. Narasimhan
Members:	Jean–Pierre Bourguignon
	Phillip Griffiths
	M. Immanaliev
	A.O. Kuku
	Lê Dũng Tráng
	Shingo Murakami
	Aron Simis
	Giovanni Vidossich.

Members ex–officio are Ludwig D. Faddeev and Olli Lehto.

9.

Professor Olli Lehto was elected to represent IMU at ICSU in the years 1987– 1990.

Professor J.L. Lions was elected to represent IMU at COSPAR in 1987–1990.

Professor J.H. van Lint was elected to represent IMU at CTS in 1987–1990.

There was a break between 2.40 p.m. and 3.00 p.m.

10.

The Resolutions Committee presented Resolutions 2–9 for approval.

Resolution 2 was adopted with a slight reformulation.

Resolution 3 was adopted and the Assembly was informed that the dates planned for the 11th General Assembly are August 18–20, 1990, and the site will be Nara, Japan.

Resolutions 4–6 and 8–9 were adopted as such.

There was a slight amendment to Resolution 7.

The Resolutions, as accepted, are printed in Appendix 5.

11.

On the proposal of Professor Mary Ellen Rudin, the Assembly recommended to the newly elected IMU Executive Committee that subfields of mathematics, women, and mathematicians in small countries should not be overlooked when persons to the Committees and Commissions of IMU or speakers to the ICM are selected.

12.
Professor M.S. Narasimhan was elected to represent IMU at COSTED.

The President declared the 10th General Assembly of IMU closed at 3:30 p.m.

The report of the Credentials Committee is printed as Appendix 2, the list of participants as Appendix 6.

Report of the International Congress of Mathematicians 1986
University of California, Berkeley
Berkeley, CA, USA
August 3–11, 1986

The Congress was attended by 3 982 participants from 85 countries, including 3 575 Ordinary Members, 339 Accompanying Members, and 68 Child Members.

The Opening Ceremonies were held in the Greek Theatre on the Berkeley campus. The meeting was opened by Jürgen K. Moser, President of the International Mathematical Union. Andrew M. Gleason, the Chairman of the Steering Committee, was elected President of the Congress, and Lars V. Ahlfors was elected Honorary President. Addresses were given by Calvin C. Moore, Associate Vice President for Academic Affairs, University of California; Richard Johnson, Acting Science Advisor to the President of the United States. Incidental music was provided by the New Albion Brass Quintet.

Academician Ludwig D. Faddeev announced the winner of the Rolf Nevanlinna Prize, and Professor Moser announced the winners of the Fields Medals. Professor Ahlfors presented the medals. The winner of the Nevanlinna Prize was Leslie G. Valiant, and the winners of the Fields Medals were Simon K. Donaldson, Gerd Faltings, and Michael H. Freedman. After the Opening Ceremonies, reports on the work of the medalists were presented in Zellerbach Auditorium. Michael F. Atiyah described the work of Donaldson, Barry Mazur the work of Faltings, John W. Milnor the work of Freedman, and Volker Strassen the work of Valiant.

The Program Committee of the Congress consisted of Enrico Bombieri, Lennart Carleson, Friedrich E.P. Hirzebruch (Chairman), David Mumford, Louis Nirenberg, Michael O. Rabin, J.A. Rozanov, David P. Ruelle, and I.M. Singer. The committee divided the work of the Congress into 19 sections with 16 invited Plenary Addresses and 148 invited 45-minute Lectures. Of these, 14 Plenary and 132 45-minute speakers were present. Of the 18 unable to attend, 17 were from one country. The participants were also able to give short communications and to organize and attend informal seminars. Invited addresses and a more comprehensive report of the Congress will be published in the Proceedings, which is planned for publication by the end of 1987.

In addition, ICM-86 provided an opportunity for sessions sponsored by the International Commission on Mathematical Instruction, the International Study Group on Math-

ematics Education in the Far East, The Commission on Development and Exchange of the IMU, and the International Study Group on the Relations Between History and Pedagogy of Mathematics. Other groups took advantage of the Congress to organize independent sessions on their own. Some of these were Pi Mu Epsilon and the U.S. National Committee for Mathematical Instruction.

The Executive Committee of IMU had appointed a committee consisting of M.S. Narasimhan (Chairman), H. Hogbe-Nlend, Olli Lehto, and Jacob Palis, Jr. to decide on the travel grants to young mathematicians from developing countries or from countries where severe money regulations exist, to help them to attend ICM-86. Funds for the grants came from donations, $ 4 833, to the Special Development Fund, $ 5 125 from UNESCO, $ 10 000 from ICSU, and $ 18 433 from IMU, totaling $ 38 401. Grants were given to 34 persons from 22 countries. ICM-86 provided these grantees with free accommodations in the university residence halls and complimentary registration. A detailed report will be found as Appendix 7 of this Bulletin.

At the Closing Ceremonies, Professor Moser reported on the most recent meeting of the General Assembly of IMU, held July 31–August 1, 1986, in Oakland, California. J. Frank Adams thanked the U.S. organizers for the excellent work they had done in arranging for ICM-86, and Masayoshi Nagata invited the world's mathematical community to attend the next ICM in Kyoto, Japan, in 1990. Finally, Professor Gleason, as President of ICM-86, having described the course of the Congress and expressed his thanks to the participants and to all those who had supported and assisted the Steering Committee, declared ICM-86 closed.

Special Development Fund

The Executive Committee acknowledges with gratitude the following donations to the Special Development Fund:

London Mathematical Society	1000 pounds sterling
Wiskundig Genootschap	1000 US dollars
Australian Mathematical Society	750 Australian dollars
Danish Mathematical Society	200 US dollars
Swedish Mathematical Society	208 Finnish marks
Finnish Mathematical Society	950 Finnish marks
Norwegian Mathematical Society	5000 Norwegian crowns.

8th World Directory of Mathematicians

The 8th World Directory of Mathematicians, compiled by the American Mathematical Society under the supervision of Professor G.D. Mostow, is now available. Instructions for ordering it appear inside the back cover of this Bulletin.

The following pages consist of the appendixes:
Appendix 1: The address by the President
Appendix 2: Report of the Credentials Committee
Appendix 3: Report of the Finance and Dues Committee
Appendix 4: Budget for the years 1987–1990
Appendix 5: Resolutions
Appendix 6: List of participants
Appendix 7: Travel grants
Appendix 8: Audited accounts for the year 1985

Appendix 1

Presidential Address

I declare open the 10th General Assembly of the International Mathematical Union. It is a pleasure to welcome all delegates, in particular, the delegates of the two new members, Chile and Malaysia, who joined the Union during the period since 1982. I hope to be able — after this General Assembly — to greet further new members. It is the goal of the Union to represent mathematicians from all parts of the world. Presently, the Union comprises 52 members, with a voting strength of 116.

This is the 10th General Assembly and the IMU, completing its 36th year, is now firmly established. Its usefulness and importance has increased over the years, and the rules have become firmer and more definite.

It is a tradition that the General Assembly opens with an address by the President. I should like to give a brief account of the work of the Union over the past four years. The task is eased greatly since most of the data have been collected in the Bulletin 25 (the Special number of our Bulletin). For the preparation of this Bulletin as well as for the immense help and advice I want to thank our Secretary, Professor Olli Lehto and his secretary Tuulikki Mäkeläinen. It is almost a miracle that you received material for the Assembly in time, in spite of a seven week strike in Helsinki, which impeded all mail for an even longer time.

The first objective of the Union is to promote international cooperation. In this connection we have, as in previous years, sponsored several international conferences and symposia. These include meetings in a wide variety of fields and many different countries. The decision about the support of the conferences lies in the hands of the Executive Committee. The lists and reports of these conferences reflect their high scientific value. From my own experience I can speak about the International Conference in Moscow and Leningrad and express how fruitful this exchange has been for all participants. The initiative for these meetings lies with the local organizers. In my opinion such international conferences play an important role in this world of fast developing mathematics.

Since the Congress 1962 in Stockholm a Program Committee (formerly called Consultative Committee) has been charged with preparing the scientific program of the Congress, in particular, with the list of speakers. The Committee for this Congress consists of F. Hirzebruch (chairman) and Enrico Bombieri, Lennart Carleson, David Mumford, Louis Nirenberg, Michael Rabin, J.A. Rozanov, D. Ruelle and I.M. Singer.

The Union has also contributed financially to the Congress. In particular, a fund of almost $ 40 000 was used for travel grants for 34 young mathematicians. This Travel Grants Committee consisted of Professors Narasimhan, Hogbe–Nlend, Lehto and Palis. I want to express our hearty thanks for their efforts.

Following established rules, a Fields Medal Committee, as well as a Committee for the Rolf Nevanlinna Prize, have been established. Its members are: for the Fields Medals Committee: Deligne, Glimm, Hörmander, K. Ito, Milnor, Novikov, Seshadri, and myself as chairman. For the Nevanlinna Prize Committee: L. Faddeev (chairman), Cook and Winograd.

Their reports will be presented at the opening ceremony of the Congress.

The Site Committee composed of the Executive Committee (excluding Professor Mizo-hata) and A. Gleason, charged with recommending a plan for the location of the Congress 1990, will report on their work at the closing ceremony of the Congress.

In the early 70's the IMU lectures were started. These lecture series are of high standards and their texts have subsequently been published. In the last 4 years we have had only one IMU lecture — by Kashiwara in Bern. Actually, this spring (which does not fall in the period of this report) E. Bombieri was IMU lecturer in Zürich.

These lectures can have an extremely good effect in dispersing knowledge. They should be continued and I should like to encourage people to organize such IMU lectures, of course, without compromising the high level they have now.

The numerous activities in mathematical education are represented by ICMI. Under its President, J.P. Kahane, ICMI has developed a very active program. The Bulletin contains a report, prepared by the ICMI Secretary, Professor Howson, on these activities (p. 11), as well as on their accounts (p.26).

There, you will also find a report on the work of the Commission on Development and Exchange, prepared by its chairman, Professor Hogbe–Nlend.

The World Directory of Mathematicians has been under the supervision of Professor G.D. Mostow. The printing is now done by the American Mathematical Society and, if my information is correct, the 8th edition will be available at this congress. Also the finances of the W.D.M. are in good shape, the publication is not a financial burden anymore. I want to thank Professor Mostow for his successful help in this project.

I want to add a statement about the interaction between mathematics and related fields. According to the statutes one of the goals of our Union is "to encourage and support other international mathematical activities considered likely to contribute to the development of mathematical science *in any of its aspects, pure, applied, or educational.*" Four years ago, L. Carleson, in his presidential address, stressed the need for increased contacts of mathematics with neighbouring fields of applications. I wish to reemphasize this concern which, in my opinion, is at least as urgent now, as it was then.

Traditionally, mathematics has always interacted strongly with various branches of science. It has served as an essential tool in many other fields and has in return received strong stimuli through these contacts. There are many examples illustrating this mutually beneficial effect. The work of J. von Neumann in the thirties on logic and computation had dramatic implications for the future development, as we all know. One can also think of the more recent work on the Yang–Mill's equation, originating in theoretical physics which led to striking results on the topology of four-manifolds. Another example is the development in soliton theory which started from numerical experiments and led to deep connections with infinite dimensional Lie algebras.

In many countries there has been serious concern about the decrease in the number of mathematics students in recent years. To deal with this problem and try to turn the tide, we should show young mathematicians the variety and promising connections with other fields mathematics can offer.

The Union has already taken some steps in this direction. In its program of invited lecturers, this congress covers a wide spectrum of mathematics including several neighbouring fields. In the last 2 years this Union has made contact with COSPAR, an international

space organization, affiliated with ICSU. In 1984, I attended their congress in Graz and this year Professor Lions, former Secretary of IMU, is participating in their congress in France. Finally, I want to mention the Rolf Nevanlinna prize, awarded for the first time at the Warsaw Congress, which is intended for the purpose of encouraging research in information sciences.

In the future, the IMU should continue to pursue and intensify such outside contacts. In my opinion, it is essential for the health and vitality of our science to extend and cultivate our relations to other fields of applications.

As a member of ICSU (International Council of Scientific Unions), the Union is committed to the principle of free circulation of scientists. The Executive Committee has always appealed to the host country to uphold this principle. In particular, before planning this Congress we requested and received the assurance of the president of the National Academy of Sciences in Washington, that the National Academy of Sciences intends to comply with this principle. This has indeed been the case, and I wish to emphasize the importance of this principle for the present Congress as well as for future Congresses.

It is a crucial aspect of the Congress that it is of non-political character. Clearly, we all are affected strongly by political concerns, but they must be vented through other channels while we have to restrict ourselves to mathematics.

Appendix 2

The report by the Credentials Committee:

The Credentials Committee verified that on July 31, 1986, the General Assembly was attended by representatives of 43 countries with a total of 104 votes. Absent were nine countries.

The Committee verified that on August 1 during the afternoon's voting, 41 countries were represented at the Assembly meeting, with a total of 102 votes.

(As of July 31, representatives from the People's Republic of China were present as observers.)

Signed

J. Korevaar   M. Fiedler   Alessandro Figà-Talamanca

REPORT OF THE FINANCE AND DUES COMMITTEE TO THE TENTH IMU GENERAL ASSEMBLY

The committee consisted of Olli LEHTO, IMU sec., ex officio; Mrs. Tuulikki MÄKELÄINEN, Prof. LEHTO's secretary; Artur LOPES, Brazil; Masayoshi NAGATA, Japan; Rémi VAILLANCOURT, Canada, chairman; Blagovest SENDOV, Bulgaria, excused; E. Christopher ZEEMAN, U.K.; Petar KENDOROV, Bulgaria, observer.

The committee met for more than two hours on August 31st, 1986. Firstly, it accepted the audited accounts for the years 1982 (Paris), 1983, 1984 and 1985 (Helsinki). The above accounts are in USD since they have to be filed with ICSU in USD. The year-end is December 31st. Secondly, the committee studied in detail the financial report for the years 1982-1985 which had been carefully prepared in Swiss francs from the audited accounts by Mrs. MÄKELÄINEN. The committee also studied the reports on the 6th (1978) and 7th (1982) editions of the World Directory of Mathematicians (WDM), the ICMI accounts for 1983-1985 and the CDE financial statements for 1982-1985. These reports are found in the Bulletin of IMU No. 25 (1986) pp. 16-30. Thirdly, the committee studied the balanced budget for the years 1987-1990 as presented by prof. LEHTO in Swiss francs and previously sent by registered mail to the adhering organizations, in care of the (national) committees for IMU, along with the audited reports and the special number of the Bull. (No. 25). The committee resolved to move at the General Assembly that the financial reports and the audited accounts be accepted and that new budget be approved with the understanding that transfers are permitted from one item to another and from one year to another, provided no appropriation from Schedule B (scientific activities) is allowed to augment the provisions made in Schedule A (operating budget).

The committee brought the following observations to the General Assembly. All figures are in Swiss francs.

(a) The study of the accounts for 1982 and 1983 was complicated by the fact that ICM 82 was held in 1983 and money appropriated during 1979-1982 was spent in 1983. The travel expenses 34 660 (budget 18 200) of the E.C.in 1982 was occasioned by a third meeting to cope with the situation in Warsaw regarding ICM 82.

(b) The 1983-1986 budget was a conservative one.   The annual amount of 15 000 in Sch. A for secreterial help and the IMU office was transferred to Sch. B since the IMU secretariat was generously supported by the University of Helsinki and the Finnish Ministry of Education. The same situation is likely to prevail in 1987-1990 with the budgeted 17 500.

(c) The annual increase, from 4000 to 9000, for the ICMI secreteriat in Sch. A is needed to offset the reduction in the help prof.   Howson, ICMI Secr., used to receive from the University of Southampton.

(d) Remark (b) above applies in part to offices expenses (from 6000 to 7000) and the IMU Bulletin (3000 to 2000 : due to a reduction in printing cost with, however, of a better quality).

(e) The budgeted amount for travel expenses of the IMU E.C. (from 19 000 to 22 500) was conservative in 1983-1986 since members managed to resort to other sources; however 22 500 may be insufficient in 1987-1990 due to increasing cost of travel.

 · (f) The contribution to ICSU (3000 to 4000) in Sch. A amounts to 2,5% of dues of previous year (136 000 to 163 000).

(g) In Sch. B, the scientific activities (70 000 to 76 000) are ventilated as follows for 1987-1990 : ICMI 15 000; CDE 10 000; symposia, conferences and IMU lectures 51 000.   The increase in the contribution to ICMI is needed to cover the expanding activity of the Commission since other sources are not easily available for that purpose.

(h) In Sch. B, the IMU Fellowship Fund (4000 unchanged) was used for other activities since no applications were received;   it is likely that this situation will repeat itself, since publicity for the fellowships is costly.

(i) The unit due, 600 (1975-1982), 850 (1983-1986, a 25% increase) is budgeted at 1000 (1986-1990, a 17,6% increase,   roughly 6,5% compounded yearly).   Organizations which pay dues generally prefer smaller and more frequent increases rather than infrequent but larger increases.

(j) The ICSU contribution has been well above the budgeted 25 000 for 1983-1986 due to special grants to ICMI and CDE. The reduction to 20 000 for 1987-1990, caused by the withdrawal of the U.K. and the U.S.A. from UNESCO

may be offset by direct contributions from these two countries to UNESCO projects. Prof. ZEEMAN, incoming president of the L.M.S. agreed to draw the attention of both Prof. MOSTOW, president-elect of the A.M.S., and the assembly to this point. He also agreed to draw the attention of the assembly to the Special Development Fund (8000 unchanged), to which the LMS contributed 3589 in 1985. This Fund is used as Travel grants to young mathematicians from developing countries to ICM's, and hopefully in the future, to other mathematical activities. The E.C. has tried hard, without much success, to raise more money for this Fund; it has received requests from many well-qualified applicants for ICM 86.

(k) The WDM, which ran at a deficit for its 6th and 7th editions, is expected to break even with the 8th edition. Actually AMS may run a small deficit by under-estimating the production cost; but this deficit is not to be charged to IMU.

(l) Higher revenue in interests in 1985 came from the transfer of bank accounts from Switzerland to Finland at a convenient moment. However interest rates are now going down.

(m) The committee felt that the Secretary made reasonable efforts to collect dues arrears as reported on pp. 21-22 of the Bull. and that the situation is quite healthy .

(n) The IMU sponsorship and minimal seed money granted to ICMI and CDE projects allowed both commissions to draw grants from UNESCO, ICSU and other agencies, as reported on pp. 26-30 of the Bull. (A grant of $50 000 CND to the Yamoussoukro-Monastir symposium, from CIDA through ICSU, IMU and ICMI, due to exceptional circumstances, has been reported directly to ICSU which reported it to CIDA).

Finally the committee expressed its warm appreciation to Prof. LEHTO and Mrs. MÄKELÄINEN for their full cooperation with the committee and their patience in answering all queries.

Rémi VAILLANCOURT, chm., August 1986.

APPENDIX 4.

International Mathematical Union

Budget for the years 1987-1990

The tenth General Assembly of IMU accepted the following budget for each of the years 1987-1990, on the understanding that transfers are permitted from one item to another, and from one year to another, provided that no appropriation from Schedule B is allowed to augment the provision made in Schedule A.

Authorized annual expenditure for the period 1987-1990 in Swiss francs:

Expenditure:	1987-1990
Schedule A:	
Secretarial help, IMU office	17 500
Secretarial help, President	1 800
ICMI	9 000
CDE	5 000
CTS	900
Office expenses (including postage)	7 000
Travel expenses of the E.C.	22 500
President's and Secretary's expenses	1 800
Contribution to ICSU	4 000
IMU Bulletin	2 000
Audit fee	1 800
General Assembly 1990	3 000
World Directory of Mathematicians	15 000
Contingencies	2 000
	93 300

Schedule B:	
Scientific activities	
ICMI	15 000
CDE	10 000
Symposia, conferences, IMU lectures	51 000
IMU Fellowship Fund	4 000
Program Committee for ICM 1990	5 000
Travel Grants	8 000
Subvention to ICM 1990	22 000
	115 000

Income:	
Membership dues (163 x 1000)	163 000
ICSU subvention	20 000
Sales of W.D.M.	15 000
Special Development Fund	8 000
Interest on bank accounts	2 300
	208 300

RESOLUTION 1

One of the principal objectives of the IMU is to promote interna-
tional cooperation for the advancement of mathematics. It is
therefore of fundamental importance that adhering organizations
support the basic policy of non-discrimination including freedom
of access to higher education, publication in international jour-
nals, and participation in mathematical meetings, as expressed in
the ICSU Statute, Article 5:

"Article 5. In pursuing these objectives, ICSU shall observe
the basic policy of non-discrimination and affirm the rights
of scientists throughout the world to adhere to or to asso-
ciate with international scientific activity without regard
to race, religion, political philosophy, ethnic origin,
citizenship, language, or sex. ICSU shall recognize and
respect the independence of the internal scientific planning
of its national Members."

The General Assembly of the IMU supports the ICSU resolution in
full and appeals to all adhering organizations to follow it.

RESOLUTION 2

Amendment of terms of reference of CDE
(See IMU Bulletin No. 23, page 10)

In analogy with the terms of reference of ICMI and in light of
experience with the CDE, we propose the following change of the
first paragraph line 1, of the terms of reference of CDE.

1. The Commission shall consist of a Chairman and ten other mem-
bers 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.

This resolution will take effect on the first day of the 1990
meeting of the General Assembly. However the COSTED repre-
sentative is to be appointed and added to the CDE immediately.

RESOLUTION 3

The General Assembly resolves that the next meeting of the
General Assembly be held at a time and place conveniently linked
to the International Congress of Mathematicians in 1990.

RESOLUTION 4

The Executive Committee is instructed to make known to the adher-
ing organizations and the committees for mathematics operating
under the adhering organizations its slate of candidates for the
Executive Committees of the IMU and the ICMI and for the CDE at
least two months before the meeting of the IMU General Assembly.

RESOLUTION 5

The General Assembly resolves that the Scientific Program of the 1990 International Congress of Mathematicians (i.e. the invited addresses and the general arrangements of the mathematical program) be decided by a Program Committee consisting of nine members.

The Executive Committee shall determine the number of members to be appointed by the Organizing Committee of the Congress; this number shall be at least two and at most four. The remaining members of the Program Committee shall be appointed by the Executive Committee, except that its chairman shall be appointed by the President of the Union.

RESOLUTION 6

The General Assembly resolves that the recommendation for the location of the 1994 Congress be made by a Site Committee appointed by the Executive Committee of the Union and having on it at least two representatives of the Organizing Committee of the 1990 Congress. The report should be set forth for approval at the 11th General Assembly.

RESOLUTION 7

The tenth General Assembly gives especially warm thanks to the Executive Committee and the President of IMU for their work during the period 1983-1986 which included the successful resolution of some very delicate problems.

RESOLUTION 8

The General Assembly gives thanks to the University of Helsinki and the Finnish Ministry of Education for their generous support of the IMU secretariat.

RESOLUTION 9

The General Assembly expresses gratitude to the Organizing Committee of the 1986 Congress for its hospitable reception and excellent arrangements for this meeting of the General Assembly.

Appendix 6.

List of participants:

Executive Committee:

Jürgen Moser
Ludwig D. Faddeev
J-P. Serre
Olli Lehto
Sigeru Mizohata
G.D. Mostow
M.S. Narasimhan
Czeslaw Olech
Jacob Palis Jr.

Secretary of the meeting: Tuulikki Mäkeläinen

Delegates:

Country	Group	Delegates present
Argentina	II	–
Australia	III	B.H. Neumann
		M.F. Newman
		G.E. Wall
Austria	II	Siegfried K. Grosser
Belgium	III	Jean Mawhin
		L. Vanhecke
Brazil	III	César Camacho
		Artur Lopes
		Aron Simis
Bulgaria	II	P. Kenderov
		B. Sendov
Cameroon	I	H. Hogbe—Nlend
Canada	IV	D. Borwein
		Carl Herz
		J.G. Timourian
		Rémi Vaillancourt
Chile	I	R. Bamón
China—Taiwan	I	Hang—Chin Lai
Cuba	I	–
Czechoslovakia	III	Miroslav Fiedler
		A. Kufner
Denmark	II	Christian Berg
		Leif Kristensen
Egypt, Arab Rep.	I	A.A. Ashour
Finland	II	Olli Martio
		Seppo Rickman
France	V	M. Broué
		J.-L. Colliot-Thelene
		C. Houzel
		J.F. Mela
		R. Temam

German Dem. Rep.	III	Gerd Lassner
		Klaus Matthes
Germany, Fed. Rep.	V	G. Fischer
		F. Hirzebruch
		O.H. Kegel
		W. Schwarz
		Wolfgang Walter
Greece	I	–
Hong Kong	I	Alan J. Ellis
Hungary	III	E. Fried
		Laszló Lovász
Iceland	I	Ragnar Sigurdsson
India	III	Phoolan Prasad
		M.S. Raghunathan
Iran	I	–
Ireland	II	Thomas J. Laffey
Israel	II	S.A. Amitsur
		M. Magidor
Italy	IV	Carlo Ciliberto
		A. Figà-Talamanca
		Vinicio Villani
		Carlo Pucci
Japan	V	Huzihiro Araki
		K. Ito
		H. Komatsu
		Masayoshi Nagata
		Tadashi Ueno
Korea, D.P.R.	I	–
Korea, Rep.	I	Tae Geun Cho
Malaysia	I	Chong Keang Lim
Mexico	I	Ernesto Lacomba
Netherlands	III	R. Goldbach
		J. Korevaar
		J.H. van Lint
New Zealand	I	Ivan L. Reilly
Nigeria	I	S.O. Ale
Norway	I	Sverre Smalo
Pakistan	II	–
Philippines	I	–
Poland	III	B. Bojarski
		Z. Ciesielski
		K. Urbanik
Portugal	I	F. Dias-Agudo
Romania	II	V. Barbu
Singapore, Rep.	I	Peng Tsu Ann
South Africa	II	R. I. Becker
		H.S.P. Grässer
Spain	II	Claudi Alsina
		Juan Margalef Roig
Sweden	III	L.I. Hedberg
		Lars Hörmander
		Jaak Peetre

Switzerland	III	S.D. Chatterji
Turkey	I	–
United Kingdom	V	J.M. Ball
		P.M. Cohn
		Elmer Rees
		C.A. Rogers
		E.C. Zeeman
U.S.A.	V	J.W. Addison
		Robert Phelps
		Mary Ellen Rudin
		Hans F. Weinberger
		R.O. Wells
U.S.S.R.	V	N.S. Bakhvalov
		S. Godunov
		A.A. Gonchar
		A.B. Jijtchenko
		V.S. Vladimirov
Vietnam	I	Phan Dinh Dieu
Yugoslavia	II	–

Observers:

People's Republic of China	Lo Yang
	Wu Wen-Tsün
Uruguay	José Massera

Travel grants

There were 105 applications. The travel grants committee, consisting of Professors M.S. Narasimhan (chairman), H. Hogbe-Nlend, O. Lehto and J. Palis (members), met on April 2, 1986, in Collège de France and recommended names for travel and subsistence grants. Informal meetings were also held in Berkeley during the ICM. The ICM-86 provided subsistence grants to all IMU grantees and waived their registration fee. In all, support was provided to 34 mathematicians. The following grants were given:

	$	
J.O. Adeyeye, Nigeria	1560	
S. Aizicovici, Romania	600	
M.O. Ajetunmobi, Nigeria	1800	
Y. Alemu, Ethiopia	2180	
J.L. Arocha, Cuba	949	
R. Bamón, Chile	1058	
Z. Bartosiewicz, Poland	1230	
N.L. Bassily, Egypt	1620	
M. Clapp, Mexico	560	
G. Corach, Argentina	1655	
Dao T.T., Vietnam	2426	
G.R. Dargahi-Noubary, Iran	600	
P. Drábek, Czechoslovakia	1160	
S. Duyos, Cuba	869	
J.L. Gómez-Larranaga, Mexico	680	
N. Isik, Turkey	894	
M.G. Jenda, Botswana	2424	
L. Kérchy, Hungary		subsistence
P. Komjáth, Hungary		subsistence
R. Labarca, Chile	1277	
P.-F.F. Leung, Singapore	970	
A. Lopes, Brazil	1563	
S.L. Ma, Hong Kong	820	
L. Montejano, Mexico	680	
H.K. Mukerjee, India		subsistence
N. Nitsure, India	1372	
A. Ranjan, India	1372	
J.-F. Rodrigues, Portugal		subsistence
P.R.G. Sad, Brazil	1250	
L. Stojanov, Bulgaria	1535	
C. Tomei, Brazil	1478	
Tran D.V., Vietnam	2426	
L.A. Williams, Nicaragua	163	(registration fee)
K. Wojciechowski, Poland	1230	
Total	38401	

SALMI, VIRKKUNEN & HELENIUS KY

CERTIFIED PUBLIC ACCOUNTANTS

International Mathematical Union
University of Helsinki
Department of Mathematics
Hallituskatu 15
00100 HELSINKI FINLAND

Address: Keskuskatu 3
SF-00100 HELSINKI
Phone: 358-0-658 044
Telex: 12-2812 svh sf

Helsinki, March 12, 1986

AUDITORS' REPORT

We have audited the Financial Statements of the International Mathematical
Union (IMU), prepared by the Executive Secretary of IMU, for the year ended
December 31, 1985.   The Statement of Income and Expenditure was prepared in
accordance with the instructions given by the International Council of
Scientific Unions in a letter dated November 13, 1985.   The Balance Sheet and
the accounting principles are similar to those of the previous years.

Principles and comments:

1. Currency

The Financial Statements are expressed in US dollars. Balances in other
currencies have been translated into US dollars by applying the UNESCO
standard average rates of exchange based on December 1985.

Income and expenditure for each month was translated into US dollars at the
UNESCO average rate for the month.

SALMI, VIRKKUNEN & HELENIUS KY

2. Income

The contributions from national members have been recorded on a cash basis. From the total amount of the contributions from national members due but not paid in 1985, USD 8.136 is for the year 1985 and USD 6.555 for the previous years (the list of dues unpaid is attached to the financial statements).

The income from the sale of the 7th edition of the World Directory of Mathematicians is based on the final report of Professor M. Nagata, Kyoto University, Japan. The income of the sale (years 1984-85) and the interests are included into the bank accounts of Colonial Bank, USA and the financial report by Professor G. Mostow, Yale University, USA. Professor Mostow confirms the transfer of the WDM-account Japan and the receiving of the income from the sale of AMS (American Mathematical Society) and North Holland Publishing Co.

3. Expenditure

Expenditure is recorded on accruals basis. The Statement of Income and Expenditure includes gain on exchange USD 24.152,08 and loss of exchange USD 2.155,32.

4. Stock of the World Directory of Mathematicians

According to the Japanese report their stock of directories at December 31, 1985 was 220 copies. AMS has 214 copies, North Holland Publishing Co has not informed their stock. The Japanese report that they do not expect to sell any more copies.

5. Bank Accounts

We have not been in position to confirm the accounts of Colonial Bank, USA, balance USD 24.999,19, at December 31, 1985.

SALMI, VIRKKUNEN & HELENIUS KY

6. Funds and Prepayments

To cover the future expenses on the IMU budget USD 28.915 was set aside as a reserve in the financial statements of 1985.

In our opinion, with reservation of the comments above, the Balance Sheet and the Statement of Income and Expenditure give a true and fair view of the financial state of the International Mathematical Union at December 31, 1985.

Antti Helenius   Annikki Rasilainen

INTERNATIONAL MATHEMATICAL UNION

Statement of Income and Expenditure
for the Year Ended 31 December 1985

NOTES

1.	INCOME		US dollars
	Allocation from Unesco Subvention to ICSU		19.606,-
	Contributions from National Members	1.	56.007,30
	Sale of publications		4.312,80
	Bank interest and gain on exchange		30.939,32
	Other income		2.000,-
			112.865,42

II.	EXPENDITURE		
	a. Scientific Activities		
	Conferences		19.918,60
	Grants to Individuals/Organizations	2.	7.521,83
	b. Routine Meetings		
	Bureau/Executive Committee		6.491,10
	Other		6.249,36
	c. Publications	3.	5.017,71
	d. Administrative Expenses		
	General Office Expenses		1.756,21
	Audit fees		600,-
	Bank charges and loss on exchange		2.502,87
			50.057,68
	Excess of Income Over Expenditure		62.807,74
	Accumulated Balance at 1 January 1985		98.725,70
	Accumulated Balance at 31 December 1985		161.533,44

Balance Sheet at December 31, 1985

	Notes	1985		1984	
ASSETS					
Bank accounts and cash	4				
Current accounts		130.002		68.200	
Deposit accounts		63.105	193.107	49.851	118.051
Prepayments	5		500		1.000
TOTAL ASSETS			193.607		119.051
BALANCE DUE					
Interest of deposit account			−		202
LESS: LIABILITIES	6				
Creditors and accruals			3.158		7.474
			190.449		111.779
			=======		=======
ACCUMULATED FUNDS					
General fund	7				
Balance at December 31, 1984		98.726		102.358	
Excess of income over expenditure		62.808		(3.632)	
Balance at December 31, 1985			161.534		98.726
		Transfer	161.534		98.726

		Transfer	161.534		98.726
Special Appeal fund	7				
Balance at December 31, 1984		1.433		1.433	
Interest		177			
Donations		6.786		–	
Balance at December 31, 1985			8.396		1.433
General Assembly fund					
Balance at December 31, 1984		2.233		1.193	
General Assembly 1986		1.244		1.040	
Balance at December 31, 1985			3.477		2.233
World Directory of Mathematicians fund					
Balance at December 31, 1984		4.587			
World Directory, VIII ed.		4.785		4.587	
Balance at December 31, 1985			9.372		4.587
IMU Development fund					
Balance at December 31, 1984		4.800			
Travel grants 1986		2.870		4.800	
Balance at December 31, 1985			7.670		4.800
			190.449		111.779
			=======		=======

INTERNATIONAL MATHEMATICAL UNION

1. STATEMENT OF CONTRIBUTIONS RECEIVED FROM MEMBERS DURING THE YEAR
ENDED DECEMBER 31, 1985

PAYMENT CONCERNING THE YEAR

MEMBER	PRE 1985	1985	1986	TOTAL
Argentina	857	806		
Australia		1201		
Austria		644		
Belgium	1288			
Brazil		1346		
Bulgaria		813		
Cameroon		400		
Canada		1318		
Chile		425		
China-Taiwan		329	407	
Cuba		329		
Denmark		739		
Egypt	300	397		
Finland		736		
France	619	3696		
Germany, D.R.		1627		
Germany, F.R.		3220		
Hong Kong	370	370		
Hungary		1273		
Iceland	329			
India		1589		
Iran		328		
Ireland		667		
Israel		659		
Italy		2254		
Japan		3881		
Korea, D.P.R.	329	370		
Korea, R.		370		
Malaysia		322		
Mexico		322		
Netherlands	1318	1333		
New Zealand		300		
Nigeria	250			
Philippines	318			
Poland		1273		
Portugal	329			
Singapore		322		
South Africa		601		
Spain		644		
Sweden		1333		
Switzerland		1333		
United Kingdom		3220		
U.S.A.		3282		
U.S.S.R.		3004		
Yugoslavia	1478	739		
	7785	47815	407	56007

2. GRANTS TO INDIVIDUALS/ORGANIZATIONS

I.C.M.I	1.550
C.D.E	1.163
C.T.S	400
I.C.S.U	1.539
Travel grants	2.870
	7.522

3. PUBLICATIONS

Publications expenditure is made up as follows:

	1985	1984
I.M.U bulletin	233	201
World Directory of Mathematicians, VIII ed.	4.785	-
	5.018	201
	=====	====

NOTES TO BE READ IN CONNECTION WITH THE FINANCIAL STATEMENT
OTHER NOTES

			1985		1984	
4. Banks and cash						
The amount held with banks is made up as follows			Currency	USD	Currency	USD
Credit Swiss	SWITZERLAND					
- Current account		FS	116.134	55.566	50.636	20.255
- Deposit account (RESERVE)		FS	-	-	84.628	33.851
Kansallis-Osake-Pankki	FINLAND	FIM	4.049	743	12.215	1.924
Kansallis-Osake-Pankki	FINLAND	USD	-	27.676	-	13.975
Kansallis-Osake-Pankki	FINLAND	FS	43.927	21.018	33.064	13.226
Kansallis-Osake-Pankki	FINLAND					
- Deposit account (RESERVE)		FS	42.940	20.546	40.000	16.000
- Deposit account (RESERVE)		FS	88.949	42.559	-	-
Colonial Bank	USA	USD	-	24.999	-	16.137
Dai-Ichi Kangyo	JAPAN	YEN	-	-	630.826	2.683
			=======	-------	=======	-------
				193.107		118.051
				=======		=======

5. PREPAYMENTS

Advance payment to Symposium
ICOMIDC, to be held in 1986   500

                                     500
                                     ===

6. CREDITORS AND ACCRUALS

I.M.U lectures	1.884
Audit	1.274

	3.158
	=====

7. FUNDS

These funds represent the amounts set aside to cover the following

Provided in year ended	1985 General fund	1985 General Assembly	1985 World Directory	1985 Special Appeal fund	1985 IMU Development fund
General fund					
Balance 31.12.1985	98.726				
Transfer from the excess of income over expenditure	62.808				
Special Appeal fund					
Balance 31.12.1985				1.433	
Interest				177	
Donations				6.786	
General Assembly fund					
Balance 31.12.1985		2.233			
General Assembly 1986		1.244			
World Directory of Mathematicians fund					
Balance 31.12.1985			4.587		
World Directory, VIII ed.			4.785		
IMU Development fund					
Balance 31.12.1985					4.800
Travel grants					2.870
	161.534	3.477	9.372	8.396	7.670

STATEMENT OF INCOME AND EXPENDITURE:
FINANCIAL YEARS 1984 AND 1985 COMPARED

INCOME	1985		1984	
Allocation from Unesco grant to ICSU	19.606		16.596	
Contributions from National Members	56.007		61.546	
Sale of publications	4.313		394	
Bank interest	6.787		2.492	
Next exchange (loss) / gain	21.997		(10.436)	
Other income	2.000		−	
		110.710		70.592
EXPENDITURE				
A. MEETINGS				
Representation at meetings	6.690		9.244	
Program Committee	3.843		3.863	
General Assembly	1.244		1.040	
		11.777		14.147
B. PUBLICATIONS		5.018		201
C. SCIENTIFIC ACTIVITIES				
Colloquia	5.651		27.003	
Other activities				
ICM 1986	7.267		8.371	
I.C.M.I	2.000		7.000	
CDE	5.000		5.000	
IMU lectures	−	19.918	800	48.174

D. ADMINISTRATIVE EXPENSES

Grant to C.T.S.	400		402	
Grant to I.C.M.I.	1.550		1.783	
Grant to C.D.E.	1.163		1.200	
Contribution to I.C.S.U	1.539		1.375	
Travel grants	2.870		4.800	
Audit fees	600		600	
General office expenses	2.719		1.329	
Bank charges	348		213	
		11.189		11.702
		47.902		74.224
		======		======
		62.808		(3.632)

EXCESS OF INCOME OVER EXPENDITURE
   Allocated to:

General fund	62.808		(3.632)	
		62.808		(3.632)
		======		=======

INTERNATIONAL MATHEMATICAL UNION

The following countries have not paid their dues for the year 1985:

Country	Dues CHF	USD
Belgium	3 400	1 627
Czechoslovakia	3 400	1 627
Greece	850	407
Iceland	850	407
Nigeria	850	407
Norway	850	407
Pakistan	1 700	813
Philippines	850	407
Portugal	850	407
Romania	1 700	813
Turkey	850	407
Viet Nam	850	407
		8 136

The following countries have earlier dues unpaid as follows:

Country	Sum CHF	USD	Years
Nigeria	1 000	478	1983–84
Pakistan	3 400	1 627	1983–84
Romania	4 600	2 201	1982–84
Turkey	3 850	1 842	1978–83
Viet Nam	850	407	1984
		6 555	

TOTAL   14 691

==============

1 USD = 2,090 SFR = December 31, 1985

WORLD DIRECTORY OF MATHEMATICIANS, VIIIth EDITION

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