

# **IMU**

**BULLETIN  
OF THE  
INTERNATIONAL MATHEMATICAL UNION**

**No. 31  
SPECIAL NUMBER  
ELEVENTH GENERAL ASSEMBLY 1990**

**SECRETARIAT**

**Department of Mathematics  
University of Helsinki  
Hallituskatu 15  
SF-00100 Helsinki  
Finland**

## List of Abbreviations

IMU	International Mathematical Union
- ICMI	International Commission on Mathematical Instruction
- CDE	Commission on Development and Exchange
- ICHM	(Joint) International Commission on the History of Mathematics
IUHPS	International Union of the History and Philosophy of Science
ICSU	International Council of Scientific Unions
- COSPAR	Committee on Space Research
- COSTED	Committee on Science and Technology in Developing Countries
- CTS	Committee on the Teaching of Science

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**International Mathematical Union**

**Executive Committee**

January 1, 1987–December 31, 1990

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



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**Eleventh General Assembly  
of the  
International Mathematical Union**

Kobe Convention Center, Kobe, Japan, August 18–20, 1990

(Opening session at 10 a.m.)

**Agenda**

1. Opening of the Assembly
2. Address by the President
3. Appointment of Committees
  - (i) Credentials Committee
  - (ii) Resolutions Committee
  - (iii) Tellers
  - (iv) Committee for Finance and Dues
    - (i) Nominating Committee
4. Members
  1. New applications
  2. Dues arrears
5. Review of the activities of the Union:
  - A: (i) Symposia and conferences, (ii) IMU lectures, (iii) ICMI, (iv) CDE, (v) ICHM
  - B: (i) IMU Bulletin; (ii) World Directory of Mathematicians
6. Finance and dues:
  - A: Financial reports for the years 1986–1989
  - B: Budget for the years 1991–1994
7. Elections:
  - (i) Executive Committee of IMU
  - (ii) Executive Committee of ICMI
  - (iii) CDE
  - (iv) ICHM
  - (v) Representatives of IMU to ICSU, COSPAR, CTS, COSTED
8. Site of ICM-94
9. Adoption of resolutions
10. Next meeting of the General Assembly
11. Any other item with the permission of the President

## Report of the Executive Committee to the Eleventh General Assembly

This report covers the period June 1, 1986, to May 31, 1990.

### Members

The Union has 52 members: Ivory Coast was admitted to the Union at the tenth General Assembly while Malaysia withdrew from the Union on January 1, 1987.

The group of adherence of Spain was raised from II to III, following a ballot, on 1 May, 1989.

The members of the Union, as of January 1, 1990, were as follows:

- I: Cameroon, Chile, Cuba, Egypt, Greece, Hong Kong, Iceland, Iran, Ivory Coast, Democratic Republic of Korea, Republic of Korea, Mexico, New Zealand, Nigeria, Norway, Philippines, Portugal, Singapore, Turkey, Vietnam.
- II: Argentina, Austria, Bulgaria, Denmark, Finland, Ireland, Israel, Pakistan, Romania, South Africa, Yugoslavia.
- III: Australia, Belgium, Brazil, Czechoslovakia, Democratic Republic of Germany, Hungary, India, Netherlands, Poland, Spain, Sweden, Switzerland.
- IV: Canada, Italy.
- V: China, France, Federal Republic of Germany, Japan, United Kingdom, USA, USSR.

### Scientific activities of the Union

#### 1986:

The *International Congress of Mathematicians* 1986 was attended by almost 4000 participants from 85 countries.

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. Academician Ludwig D. Faddeev announced the winner of the Rolf Nevanlinna Prize, Leslie G. Valiant, and Professor Moser announced the winners of the Fields Medals, Simon K. Donaldson, Gerd Faltings, and Michael H. Freedman.

The scientific program included 16 invited plenary addresses and 148 invited 45-minute lectures. 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 found in the Proceedings. In addition, ICM-86 provided an opportunity for sessions sponsored by the International Commission on Mathematical Instruction and the Commission on Development and Exchange of the IMU. Also other groups took advantage of the Congress to organize independent sessions on their own.

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 the Congress. 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 in IMU Bulletin 26.

IMU also endorsed the 8th *Latin American School of Mathematics*, which was held in Rio de Janeiro, Brazil, on July 14–25, 1986. The theme of the School was partial differential equations, and the conference was attended by more than 200 participants from Brazil and other countries. The main speakers of the School were L. Hörmander, L. Nirenberg, H. Brézis, F. Trèves, E. Zehnder and P. Rabinowitz.—The IMU representatives were J.L. Lions and J. Palis Jr.

#### 1987:

*The International Symposium on Approximation and Optimization* was held in Habana, Cuba, on January 12–16, 1987. The meeting was attended by 45 mathematicians from Cuba and 50 from other countries.—IMU supported the Symposium with 5000 Swiss francs and ICSU with 7000 US dollars.—The IMU representatives were Z. Ciesielski and H. Wallin.

The conference *Potential Theory* was held in Prague, Czechoslovakia, on July 19–24, 1987. The conference was attended by 100 foreign participants from 25 countries and 36 participants from Czechoslovakia. It was one of a series of meetings devoted to potential theory and the topics covered a broad range from abstract theory to applications. The program consisted of plenary surveys and specialized lectures.—The IMU representatives were H. Bauer and E. Fabes.—IMU granted the conference 3000 Swiss francs.

*The International Symposium and Summerschool on K-Theory and its Applications* were held in Ibadan, Nigeria, on July 29–August 15, 1987. The summerschool consisted of two weeks of expository lectures on topological and algebraic  $K$ -theories. The summerschool was attended by some thirty participants and the symposium, which was held after the summerschool, by some forty participants, from 17 countries, ranging from specialists in the field to postgraduate students.—The IMU representative was J. Coates.—The IMU grant was 5000 Swiss francs.

*The 13th Rolf Nevanlinna Colloquium* was held in Joensuu, Finland, on August 10–13, 1987. The Colloquium was attended by 160 participants from 25 countries. The program concentrated on complex analysis and related topics and it was partly devoted to the scientific work of L.V. Ahlfors celebrating his 80th birthday.—The IMU representatives were L. Carleson and O. Lehto.—The IMU

grant was 7000 Swiss francs.

The *Second International Conference on Combinatorial Mathematics and Computing* was held in Canberra, Australia, on August 24–28, 1987. The approximately 80 participants came from 13 countries.—The IMU representative was J. Coates.—The IMU grant was 7000 Swiss francs.

The *International Conference on Computational Geometry and Topology and Computers in the Teaching of Mathematics* was held in Sevilla, Spain, on August 31–September 4, 1987. The main themes of the conference were the theoretical foundations of the computational techniques used in symbolic computation, development of computational techniques for mathematical applications and processing scientific text, the influence of computation sciences on the mathematics curricula and the development of tutorial systems for the teaching of mathematics using computers.—The IMU representative was J. Palis Jr.—The IMU grant was 5000 Swiss francs.

The *Workshop on Mathematical Physics* was held on September 28–October 10, 1987, in Bujumbura, Burundi. The meeting was attended by 36 participants from nine countries. The lectures concentrated on the latest developments in mathematical physics. During the meeting the Central African Association of Mathematics, Physics and Computer Science was established.—The IMU representative was J. Palis Jr.—The IMU grant was 5000 Swiss francs through CDE.

The *International Conference in Topology and its Applications* was held in Baku, U.S.S.R., on October 3–8, 1987. There were some 500 participants, about 180 from outside the U.S.S.R. The scientific program included not only the main topics in topology but also related topics in physics, algebra, geometry and differential equations.—The IMU representative was L.D. Faddeev.—The IMU grant was 5000 Swiss francs.

#### 1988:

The *Ramanujan Birth Centenary International Colloquium on Number Theory and Related Topics* was held at the Tata Institute of Fundamental Research in Bombay, India, on January 4–11, 1988. The colloquium highlighted recent developments in number theory and related topics, especially those related to the work of Srinivasa Ramanujan, for example the circle method, sieve methods and combinatorial methods in number theory, partition congruences, Rogers–Ramanujan identities, lacunarity of power series, hypergeometric series and special functions, modular forms and functions, complex multiplication, and Hecke theory. The meeting was organized by the Tata Institute with the support of IMU and Sir Dorabji Tata Trust.—The IMU representatives were Professors M.S. Narasimhan and C.S. Seshadri; IMU gave a grant of 10000 Swiss francs to the meeting.

The *IXth Congress of the International Association of Mathematical Physics*, was held in Swansea, United Kingdom, on July 17–27, 1988. The Congress was attended by 330 delegates from all around the world. The scientific activities consisted of plenary talks, specialist sessions, poster sessions and splinter groups

sessions. The speakers in the plenary sessions were eminent mathematicians and physicists, reviewing the most important recent results in the main areas of modern mathematical physics. The specialist sessions presented recent results pertaining to narrower fields. All sessions attracted large audiences. Proceedings of the Congress have been published.—The IMU representative was L.D. Faddeev. The IMU grant was 10000 Swiss francs.

*The 9th Latin American School of Mathematics, ELAM*, was held in Santiago, Chile, on July 20–31, 1988. About 200 participant from 14 countries attended the meeting covering algebraic geometry and related topics.—The IMU representative was Professor J. Palis Jr.—The IMU grant was 10000 Swiss francs.

*6th International Congress on Mathematical Education, ICME 6*, was held in Budapest, Hungary, on July 27–August 3, 1988. It was attended by more than 2000 participants and 500 accompanying members from 74 countries.—IMU contributed \$ 15000 to ICME.

*The Third Congress on Probability and Statistics*, was held in Montevideo, Uruguay, on September 19–28, 1988. About 80 members from 15 countries attended the meeting, which was organized by the Centro de Matemática de la Universidad de la República, the Latin-American Branch of the Bernoulli Society with financial support from IMU, UNESCO, and Universidad de la República and PEDECIBA.—The IMU representative was Professor J. Palis Jr.—The IMU grant was 7000 Swiss francs.

#### 1989:

*The International Conference on Ring Theory*, Israel, January 2–5, 1989, was planned in honor of S.A. Amitsur, but was limited to the focal topics of his research in ring theory. The meeting consisted of two parts: A workshop on division algebras from December 26, 1988, to January 2, 1989, at Hebrew University of Jerusalem, attended by about 15 invited participants, and an international symposium on January 2–5, 1989, at Bar-Ilan University in Ramat-Gan, Israel, attended by about 150 participants. The workshop's format was informal, consisting of 1-hour talks by most of the participants on finite dimensional algebras, followed by discussions. The symposium was more structured, including invited addresses as well as special interest groups in enveloping algebras, Noetherian rings, polynomial identity algebras, representation theory, and Hopf algebras.—In conjunction with the workshop and symposium, a volume was published as the first volume of the Israel Mathematical Conference Publications.—The IMU representatives were J. Coates and N. Jacobson.—The IMU contribution was 5000 Swiss francs.

The conference on *Approximation Theory and Numerical Linear Algebra* was held at Kent State University, Kent, Ohio, USA, from March 30 to April 1, 1989. It was organized by the Department of Mathematical Sciences and the Institute for Computational Mathematics there to honor Professor Richard S. Varga on the occasion of his 60th birthday. The Conference consisted of 21 invited talks and 30 contributed papers; it was attended by 150 people.—The IMU representative was

C. de Boor.

A *Special Event in Honor of Professor K. Chandrasekharan* was organized in Paris, France, on April 20, 1989, by the Executive Committee of IMU. Various aspects of Professor Chandrasekharan's work were described by J. Moser, L. Schwartz, O. Lehto, H. Cartan, A. Selberg and R. Narasimhan.—The IMU contribution was 7700 Swiss francs.

A *workshop on Automorphic Forms and Number Theory*, was held at Tel-Aviv University, Tel-Aviv, Israel, on May 14–19, 1989. Some thirty participants, leading scientists of the field, attended the workshop, reviewing the latest progress in their field. The lectures were also attended by faculty members from several institutions from the host country.—The IMU representative was J. Coates.—The IMU grant was 5000 Swiss francs.

The *International Conference on Geometry of Banach Spaces* was held in Linz, Austria, on June 12–17, 1989. More than 130 mathematicians from 27 countries attended the meeting. The scientific program consisted of 24 plenary and 47 specialized talks. The IMU representative was J. Lindenstrauss.—The IMU contribution was 3000 Swiss francs.

The *International Colloquium on Complex Analysis* was held in Bucharest, Romania, on June 5–8, 1989. About 140 participants from 18 countries attended this meeting. The mathematical program consisted of 14 plenary and more than a hundred section talks.—The IMU representative was O. Lehto.—The IMU contribution was 4000 Swiss francs.

The *International Symposium on Cauchy and French Mathematics* was held in connection with the Bicentennial of the French Revolution in Paris on July 27–29, 1989. The symposium was attended by 85 participants. There were 26 speakers, who described various aspects of the work of Cauchy.—The IMU contribution was 1500 Swiss francs.

*EQUADIFF 7*, the Seventh Czechoslovak Conference on Differential Equations and their Applications, was held in Prague, Czechoslovakia, on August 21–25, 1989. There were about 500 participants from 34 countries. The scientific program consisted of 11 plenary and 65 section lectures and many short communications and poster sessions.—The IMU representative was L. Hörmander.—The IMU grant was 7000 Swiss francs.

The *Third International Conference on the Theory of Groups and Related Topics* took place in Canberra, Australia, on September 25–29, 1989. There were over a hundred participants from 18 countries. The scientific program included 18 one-hour invited lectures and a small number of half-hour invited talks; these will appear in the proceedings, coming out in 1990. The occasion of the third conference in the series was also used to celebrate the eightieth birthday of the organizer of the two previous ones, Professor B.H. Neumann.—The IMU representative was W. Feit.—The IMU grant was 7000 Swiss francs.

*International Conference on Algebra*, Novosibirsk, August 21–25, 1989, com-



memorating the 80th birthday of A.I. Maltsev.—The IMU representative was L.D. Faddeev.—The IMU grant was 5000 Swiss francs.

### ICMI

In 1986, ICMI arranged a series of meetings in conjunction with ICM-86 and supported financially two regional meetings, in Singapore and the Dominican Republic, and two events organized by the Africal Mathematical Union, namely a conference on Computers in Mathematics Education (Ivory Coast) and the First Pan-African Mathematical Olympiad (Morocco). *School Mathematics in the 1990s*, one of the ICMI Study Series Books, came out with UNESCO support. UNESCO supported also a program committee meeting for the International Congress on Mathematical Education (1988).

In 1987, ICMI organized a symposium on the *Teaching of Mathematics as a Service Subject* in Udine, Italy, on 6–10, April. The meeting was attended by some 40 participants from 18 countries. The Proceedings, published by Cambridge University Press, came out in 1988. IMU granted this symposium 6000 Swiss francs. ICSU supported this ICMI study in 1987 with \$ 4000.

ICMI sponsored regional meeting in Singapore and Santo Domingo as well as a seminar organized by the African Mathematical Union. The 1987 International Mathematical Olympiad was held in Cuba with more than 40 countries participating.

The principal ICMI activity in 1988 was the holding of the Sixth International Congress on Mathematics Education in Budapest, Hungary. The number of participants, almost 2,500, was the largest ever attracted to an ICME and there was a very good representation from the Socialist countries. The Hungarian organization was outstandingly good and is perhaps best reflected in the fact that the Proceedings of the Congress (which contained not only texts of plenary talks but also reports of the work of all the discussion groups) was published before the end of the year. Financially, the meeting was a success and, thanks to grants from IMU, ICSU, UNESCO and others, ICMI was able to make travel grants to over 30 educators from developing countries. It is possible that the Hungarian organizers will reimburse ICMI for some of the IPC expenses. In addition ICMI may recoup some money through the sale of the Proceedings.

An International Program Committee for ICME 7 (Laval University, Quebec, 1992) was appointed and met for the first time in September, 1989.

Two volumes resulting from the 1987 Udine Seminar on 'Mathematics as a Service Subject' were published (Cambridge University Press and Springer-Verlag). An editorial meeting was held on the PME-group's study on *Cognition and Mathematics Education*. *School Mathematics in the 1990's* appeared in Japanese translation and was reprinted in English. Further translations are in preparation.

A discussion document on 'The Popularization of Mathematics' appeared prior to the seminar in Leeds, England, in September, 1989. Work began on a



study on 'Evaluation and Assessment' to be held in Spain in April, 1991.

Two *Bulletins* were published—one with the aid of a UNESCO grant.

The Executive Committee met in Budapest in July, 1988.

The work of ICMI switched, in the year following the four-yearly Congress, in emphasis to its studies. Nevertheless, a meeting of the International Program Committee for the International Congress of Mathematical Education 7, Quebec, 1992, was held in Ilkley, England, in September, and the Secretary, Professor Howson, visited Barcelona to receive a bid from Spain to host ICME 8 in 1996.

Work continued on the 'Mathematics and Cognition' study, carried out by an affiliated group and the study was published by Cambridge University Press in March 1990. Preliminary planning meetings were held in connection with two further studies, 'The Scientific and Mathematical Education of Elementary/Primary School Teachers'—carried out in cooperation with ICSU/CTS—and 'Assessment in Mathematics Education and its Effects' (an international seminar will be held in April 1991 in Spain).

The major event, however, was the seminar held in Leeds, England, in September 1989 on the 'Popularization of Mathematics'. This attracted 80 participants from 20 countries. Concurrent with the seminar, the Royal Society/Joint Mathematical Council mounted the 'Pop Maths Roadshow', probably the largest mathematical exhibition ever held. This received considerable media coverage and drew further attention to the work of ICMI. The Proceedings of the study will appear in 1990.

ICMI gave financial support to the Inter-American Committee on Mathematical Education, to the Southeast Asian Mathematical Society and to the African Mathematical Union.

ICMI published two *Bulletins*. A Japanese translation of the ICMI Study 'The Influence of Computers and Informatics on mathematics and its Teaching' appeared and arrangements have been made with UNESCO to prepare a second version of this publication.

A.G. Howson, Secretary

## CDE

The CDE elected in 1986 at the General Assembly, Oakland, (Chairman: Professor M.S. Narasimhan) started its activities on January 1, 1987. The members present in Berkeley held a brief meeting there. The officers of CDE were elected during a plenary session held on June 22, 1987, in Palaiseau (France). Professor P. Griffiths was elected treasurer, and Professor J.P. Bourguignon secretary. During this meeting, the committee agreed on lines of action. Members of the CDE have been regularly invited to give their opinions on the applications the CDE received.

Financial support for the CDE activities was given by the IMU (support for staff and programs). For the period 1988-1989, the CDE signed a contract

with UNESCO according to which UNESCO specifically supported the program for visiting mathematicians by a yearly grant of \$ 5000. For the period 1990-1991, this program will be renewed with larger support. A special grant in the amount of \$ 10000 came in 1989 from the IMU after it received a donation from the Royal Society (thanks to the intervention of Professor Coates). In 1989, the Mathematical Society of Japan also made a donation to CDE in the amount of \$ 1148. The CDE has pending an application to the ICSU which has been in principle approved and transmitted to the Program of the United Nations for Education and Development.

The management of the funds was for a while a difficult problem. It has been solved thanks to the help of Mrs Mäkeläinen in Helsinki who took care of the finances for two years, of Professor Fulbert Mignot, treasurer of the Comité National Français des Mathématiciens, of Dr Brownell and Mrs Dana George from the financial office of the American Mathematical Society. Our funds are presently managed by the A.M.S.

The program of visiting mathematicians was the main one that the CDE started. It was widely advertised through posters sent to all IMU correspondants. As mentioned in the document on the CDE lines of action, under this program, travel money (APEX fare) has been given only to colleagues from developing countries visiting research centers, or to colleagues from developed countries spending extended periods of teaching/research in a developing country provided their living expenses be covered by the host institutions. The CDE received about 40 applications in a 3-year period. A number of them could not be examined because they were incomplete.

We supported: Professor Yin WeiPing (Beijing, China) to visit the Tata Institute (Bombay, India), University of Poitiers (France) and the Mathematical Sciences Research Institute (Berkeley, USA); Professor M. Morales (Grenoble, France) to visit the University of Bahia (Brazil); Professor Alicia Dickenstein (Buenos Aires, Argentina) to visit the University of Utah (Salt Lake City, USA); Professor S.C. Coutinho (Recife, Brazil) to visit the University of Leeds (Great Britain); Professor Pham Huu Sach (Hanoi, Vietnam) to visit the University of Mannheim (Germany) and the Banach Center (Warsaw, Poland); Professor Yu Yanlin (China) to visit the Mathematical Institute in Oxford (Great Britain); Professor Haouba (Mauritania) to visit the INRIA (Nancy, France); Professor Kuku (Ibadan, Nigeria) to visit the University of Bielefeld (Germany).

Here is a list of conferences which were supported by the CDE during the period 1987-1990: The Mathematics of Computation (Ho Chi Minh City, Vietnam), April 88; IX. Escuela Latino Americana de Matematica: Algebra (Santiago de Chile (Chile), July 88; Workshop on Mathematical Analysis and Applications (Bujumbura, Burundi), September 88; College on Global Analysis (Cotonou, Benin), December 88; Instituto de Matematica: Algebraic Geometry (Mexico, Mexico), January 89; Sociedade Brasileira de Matematica: Dynamical Systems (Rio de

Janeiro), July 88; Contemporary Problems in Stochastic Analysis and its Applications (Ibadan, Nigeria), September 89; International Conference on Algebraic Groups and Applications (Hyderabad, India), December 89; Third Chilean Symposium of Mathematics (Concepcion, Chile), December 89.

Five other conferences to be held in 1990 are presently under consideration. Their support is proposed to the members of the CDE.

The only case where support to a conference has been denied is when a conference on the same topic organised at the same place by the same people has been asking for support for several years in a row.

A program of support for teams has been also created. The CDE decided to be extremely cautious about it. The only team that the CDE spotted, and decided to support, works in Lie group theory and differential geometry. It is located in Cordoba (Argentina) and presently directed by Professor Tirao. Support in the amount of \$ 3000 has been given to cover a 2-year period.

The CDE has been looking into the possibility of running an ambitious Regional Library program. Its main idea would be to create at carefully chosen places a library which, in exchange of a recurrent support to buy books, would accept to help mathematicians of its region have access to bibliographical information. To have any impact, this program requires obtaining a very substantial support which the CDE has not presently been able to gather.

We approached several colleagues (or societies) in order to launch a donation program. This is also in a preliminary stage.

One society (the American Mathematical Society) offered the possibility of a discount rate for a number of important libraries for countries with currency problems. Other contacts were also made, but none so far really conclusive.

J.P. Bourguignon, Secretary

## ICHM

The International Commission on the History of Mathematics (Division of History of the International Union of the History and Philosophy of Science) voted at its International Congress in Berkeley in 1985 in favor of establishing a Joint Commission with IMU on the History of Mathematics. The Executive Committee of IMU decided, at its meeting in May 1987, to recommend to its members the establishment of the joint commission. A postal ballot was conducted in the fall of 1987. All votes received in the ballot were in favor and so the Joint International Commission on the History of Mathematics has been functioning since the beginning of 1988. IMU appointed two members to the Executive Committee of the joint commission: Professors J. Dhombres and H. Edwards.

### *Four-Year Report Covering the Period 1986-1989*

Since the last International Congress for History and Philosophy of Science convened in Berkeley, California, USA, in the summer of 1985, the International

Commission on History of Mathematics has been active on multiple fronts, including the production of a variety of publications and sponsorship of a number of international symposia and conferences. The following report covers the major undertakings of the Commission.

At the general meeting of all members of the International Commission on History of Mathematics held during the Berkeley Congress, the following officers were elected to serve as members of the Commission's Executive Committee for four-year terms (to expire in 1989): Joseph W. Dauben (U.S.A.), Chairman; S.S. Demidov (U.S.S.R.) Vice Chairman; Kirsti Andersen (Denmark), Secretary; Christoph J. Scriba (FRG), Treasurer. Members: Kurt-R. Biermann (GDR), Umberto Bottazzini (Italy), Jean Dhombres (France), Ivor Grattan-Guinness (Great Britain), R.C. Gupta (India) and Lam Lay-Yong (Singapore). Ex officio: Eberhard Knobloch (Berlin), Editor of *Historia Mathematica*.

As in the past, the major undertaking of the Commission continues to be its quarterly journal, *Historia Mathematica*, published by Academic Press. Eberhard Knobloch was appointed as Editor, and Helena Pycior as Managing Editor of the journal, starting January 1, 1986. More recently, new editors have also been named for Book Reviews (David Rowe succeeding Judy Grabiner) and Abstracts (David E. Zitarelli succeeding Albert C. Lewis), beginning with volume 16 (1989). The journal is the official journal of the Canadian Society for History of Mathematics, and is offered as a special option to members of the British Society for History of Mathematics through an arrangement with Academic Press.

The British Society for History of Mathematics met in September, 1987, in part to commemorate the 300th anniversary of publication of Newton's *Principia* (1687), as well as anniversaries for Lagrange (1788) and Poincaré (1889). The meeting was jointly sponsored by the ICHM and the IUHPS, which supported the meeting with funds to help subvent a portion of its costs. A full report of the meeting appears in *Historia Mathematica*.

The ICHM, thanks to a grant from the IUHPS, co-sponsored a *Symposium on History of Mathematics in the 19th Century*, which convened at Vassar College, Poughkeepsie, New York, in the summer of 1988. Two volumes of proceedings of this meeting were published by Academic Press, Boston.

The XVIIIth International Congress of History of Science, which was held in Hamburg/Munich, August 1-9, 1989, was the first opportunity that the International Commission on History of Mathematics has had to meet at an International Congress since becoming a joint Commission of the IMU and IUHPS two years ago. The next opportunity will come in Kyoto and Tokyo this summer, 1990. During the Hamburg/Munich Congress, the Commission's first Kenneth O. May Prize was awarded for outstanding contributions to the History of Mathematics. The first May Prize, jointly sponsored by the Commission and the Institute for History and Philosophy of Science at the University of Toronto, was awarded to A. P. Youschkevitch and to Dirk J. Struik, both of whom were present in Hamburg to



receive their awards. Also recognized for their important contributions to the work of the International Commission were Christoph J. Scriba, for twelve year's of service to the Commission, eight as its Chairman and four as Treasurer; and Helena Pycior, for the term she has just completed as Managing Editor of *Historia Mathematica*. Beginning January 1, 1990, David Rowe (Pace University, New York) will assume the position of Managing Editor, with Karen Parshall (University of Virginia) taking on the responsibilities of Book Review Editor.

Prior to the XVIIIth International Congress the Commission was pleased to cosponsor with the Centre National de la Recherche Scientifique, the Ministère de la Recherche et de la Technologie, and the Délégation aux Célébrations Nationales, an International Symposium, "Cauchy et le monde mathématique français." This conference was held in Paris (July 27–29, 1989), and served as a Pre-Congress meeting prior to the XVIIIth International Congress of History of Science held in Hamburg and Munich (August 1–9). During the Congress, the Commission organized four special symposia and cosponsored a fifth: "Historiography and the History of Science," (organized by Serguei Demidov and Menso Folkerts); "Mathematics and the State," (organized by Herbert H. Mehrtens and Walter Purkert); "Mathematics and the French Revolution," (organized by Jean Dhombres and Ivor Grattan-Guinness); "A Commemorative Session on Charles Sanders Peirce," (organized by Joseph W. Dauben); the Symposium on "History, Theory and Practice of Perspective and Modes of Representation," was cosponsored along with the Centre National de Recherche Scientifique, the Centre A. Koyré (Paris), the Ecole d'Architecture Paris-Villemin and the Institute de Recherche sur l'Enseignement des Mathématiques de Caen et de Lille (organized by Kirsti Andersen, Rudolf Bkouche, Jean-Pierre Le Goff, Jeanne Peiffer and Rocco Sinisgalli).

In conjunction with production of a new *World Directory of Historians of Mathematics*, the International Commission also intends to compile a database to include both biographical information and photographs. The Executive Committee is continuing its discussion of the feasibility of collecting and maintaining an archive of photographs of mathematicians in conjunction with the collection already housed at Oberwolfach. The photo archive would include negatives, prints and slides, along with a catalogue of known pictures, including a brief description of each known representation, its provenance and availability. The Commission also hopes to produce an Album of Mathematicians, suitable for publication, featuring a selection of these pictures with commentary. The database would contain an alphabetic listing of mathematicians, each item describing a picture according to a standard format of catalogue entry. The first stage of this project will require identification of mathematicians of interest, after which it will be necessary to identify sources of pictures in national and private collections. In addition to standard photographs and slides, the types of materials used might include statues, medals, stamps, films and videotapes.

The Commission is moving ahead with its plans to compile a *Dictionary of*

*the History of Mathematics.*

During an open meeting of all members of the Commission attending the Congress (held on Thursday, August 3, 1989), the following list of officers and members (ex-officio) of the Executive Committee was approved, all to serve four-year terms beginning January 1, 1990:

Chairman	Joseph W. Dauben (New York)
Vice-Chairman	Serguei Demidov (Moscow)
Secretary	Kirsti Andersen (Aarhus)
Treasurer	Menso Folkerts (Munich)
Members	Umberto Bottazzini (Milan)
	Ubiratan D'Ambrosio (Campinas)
	Ivor Grattan-Guinness (London)
	Lam Lay-Yong (Singapore)
	Walter Purkert (Leipzig)
IMU Representatives (1990)	Jean Dhombres (Paris)
	H.M. Edwards (New York)
Ex Officio: Editor	Eberhard Knobloch (Berlin)
Chairman Emeritus	Christoph J. Scriba (Hamburg)

The Executive Committee of the International Union of the History and Philosophy of Science/ Division of History of Science has been generous in funding basic administrative costs of the Commission's operations each year, and the International Commission on History of Mathematics wishes to record its appreciation for this continuing support of the Commission's activities. Moreover, the Union has also been a strong supporter of a number of the Commission's special activities. Generous thanks is due to the IUHPS for helping to fund publication of the Commission's Toronto Workshop Proceedings, the Newton commemorative meeting of the British Society for History of Mathematics, the special symposium on History of Mathematics in the 19th Century, and the symposium on Cauchy.

Anyone wishing to receive copies of the Commission's annual Newsletter is invited to write to the Commission's Chairman, Joseph W. Dauben, Ph.D. Program in History, The Graduate Center, CUNY, 33 West 42nd Street, New York, New York 10036, USA; BIT- NET: JDX@CUNYVMS1; FAX: 1-212-642-1900.

J.W.Dauben, Chairman

**IMU Lectures**

Professor Enrico Bombieri gave a series of lectures, *Questions of effectivity in number theory*, as IMU lecturer at the ETH in Zürich, Switzerland, in June 1986.

Professor V.I. Arnold gave a series of lectures, *Contact geometry and wave propagation*, at the University of Oxford, England, in November and December 1988. His manuscript was published in *l'Enseignement Mathématique* as no. 34 (in 1989, 56 p.).

### Publications of the Union

Five issues of the IMU Bulletin have come out in the period of this report: No. 26 in December 1986, no. 27 in September 1987, no. 28 in September 1988, no. 29 in May 1988, and no. 30 in October 1989.

In addition to this Special Number Bulletin 31, no. 32 will come out later in 1990.

The 8th edition of the *World Directory of Mathematicians* came out in 1986. The compilation of material and printing were done by the American Mathematical Society with Professor G.D. Mostow as editor. The AMS is the sole distributor of the Directory. A sales report for this edition, as well as that of the 7th edition, is printed among the financial reports.

The 9th edition (editor: Professor W. Feit) is again produced by the American Mathematical Society. This edition is due in the summer 1990.

### Postal Ballots

The following postal ballots were conducted among the Adhering Organizations in the years 1986–1989:

*Number 23:* Establishment of a joint Commission on the History of Mathematics; October 14–December 31, 1987. All votes received, 56, were in favor.

*Number 24:* Change of Group of Spain from II to III; December 1, 1988–March 1, 1989. All votes received, 65, were in favor.

The following postal ballots were conducted among the Executive Committee in the years 1986–1989:

*Number 1/43:* Support of 5000 Swiss francs to a workshop in Bujumbura (1987) through CDE, granted; support of 7000 Swiss francs to a conference in Canberra (1987) granted; no grant was given for creation of an organization; decision to support two conferences was delayed; the application of IIASA to ICSU was endorsed; the application of AAST to ICSU was not endorsed; January–February, 1987.

*Number 2/44:* Change of Group of Spain from II to III; favored; mailing support for the Canberra Circular; favored; September–October, 1988.

*Number 3/45:* Organizing a symposium honoring K. Chandrasekharan; favored; October 1988.

*Number 4/46:* Support of 5000 Swiss francs to a workshop in Israel (1989); granted; November–December, 1988.

*Number 5/47:* Endorsement of a conference in Marseille (1990); endorsed; September–October, 1989.

### **Executive Committee Meetings**

The 51st meeting of the E.C. was held on May 22–23, 1987, at the Steklov Institute in Leningrad.

The 52nd meeting of the E.C. was held on April 15, 1988, at the Instituto Matematica Pura e Aplicada in Rio de Janeiro.

The 53rd meeting of the E.C. was held on April 21–22, 1989, at Collège de France, in Paris.

The 54th meeting of the E.C. was held on April 6–7, 1990, at St. Catherine's College, in Cambridge.

The Executive Committee expresses its gratitude to the U.S.S.R. Academy of Sciences, to the Instituto Matematica Pura e Aplicada and the London Mathematical Society for their hospitality during its meetings.

### **Union Representation at ICSU and Other Organizations**

Professor Olli Lehto, Secretary of IMU, represented IMU at the ICSU 21st General Assembly in Berne, 14–19 September, 1986. Ms. Tuulikki Mäkeläinen attended the ICSU General Committee meeting in Rome, 29–30 October, 1987. Professor Hikosaburo Komatsu represented IMU at the 22nd ICSU General Assembly in Beijing, 11–16 September, 1988. Professor Olli Lehto represented IMU at the ICSU General Committee meeting in Lisbon, 11–14, 1989.

Professor J.L. Lions represented IMU at COSPAR.

Professor M.S. Narasimhan represented IMU at COSTED.

Professor J.H. van Lint represented IMU at CTS.

### **Financial report for the years 1986–1989, in Swiss francs**

The audited accounts have been reproduced in the previous bulletins and copies of them are sent to the Adhering Organizations. The following is an unaudited budget comparison, prepared at the IMU Secretariat.



## An unaudited budget comparison for the years 1986-1989, in Swiss francs

Expenditure	Budget	1986	Budget	1987	1988	1989
Schedule A:	1986		1987-90			
Secretarial help, IMU office	15 000	4 327	17 500	7 985	3 249	10 360
Secretarial help, President	1 500	1 500	1 800	1 800	1 800	1 800
ICMI	4 000	4 000	9 000	9 000	9 000	9 000
CDE	3 000	3 000	5 000	5 000	5 000	5 000
CTS	900	719	900	606	580	650
Office expenses (including postage)	6 000	1 810	7 000	1 932	2 850	5 300
Travel expenses of the E.C.	19 000	40 623	22 500	11 342	22 500	16 230
President's and Secretary's expenses	1 500	2 397	1 800	-	-	2 540
Contribution to ICSU	3 000	2 545	4 000	2 803	3 466	4 500
IMU Bulletin	3 000	1 345	2 000	928	626	630
Audit fee	1 500	909	1 800	753	1 183	1 630
General Assembly 1990	2 600	2 600	3 000	3 000	3 000	3 000
World Directory of Mathematicians	10 000	38 456	15 000	15 000	15 000	15 000
Contingencies	3 000	3 000	2 000	-	-	220
Subtotal	73 000	107 231	93 300	60 149	68 254	75 860
Schedule B:						
ICMI scientific activities	-	-	15 000	15 000	25 275	18 250
CDE scientific activities	-	-	10 000	10 000	10 000	20 000
Symposia, conferences, IMU lectures	70 000	11 143	51 000	59 735	38 158	45 500
IMU Fellowship Fund	6 000	-	4 000	-	-	-
Program Committee for ICM 1990	4 000	-	5 000	5 000	9 860	6 100
Travel grants	10 000	26 416	8 000	-	-	-
Subvention to ICM 1990	18 750	18 750	22 000	22 000	22 000	22 000
Subtotal	103 000	56 309	115 000	111 735	105 293	111 850
Total	176 000	163 540	208 000	171 884	173 547	187 710
Income:						
Membership dues (163 × 1000)	136 000	134 240	163 000	145 731	158 778	139 700
ICSU subvention	25 000	36 514	20 000	28 359	21 172	15 900
Sales of W.D.M.	7 000	4 072	15 000	10 651	16 972	8 100
Special Development Fund	8 000	3 235	8 000	3 401	25 893	22 100
Interest on bank accounts	-	9 931	2 300	7 005	9 494	18 000
Total	176 000	187 992	208 000	195 147	232 309	203 800

**Balances of the Union's Bank Accounts at the End of the Fiscal Year**  
1986-1989, in Swiss Francs

Bank	1986		1987		1988		1989	
	Currency	CHF	Currency	CHF	Currency	CHF	Currency	CHF
Schweizerische Kreditanstalt, Switzerland:								
Current account, CHF		83 881		115 797		131 961		107 241
Kansallis-Osake-Pankki, Finland:								
Current account, FIM	10 750	3 687	5 860	1 946	67 267	23 611	70 316	26 650
Current account, USD	1 450	2 436	4 221	5 741	5 458	7 860	16 342	26 311
Current account, CHF		82 762		29 318		47 264		55 894
Long term, CHF		93 402		66 375		68 223		72 131
Reserve, CHF		92 914		190 842		196 156		207 391
Colonial Bank, U.S.A.:								
Current account, USD	3 561	5 982						
Bank of Boston, U.S.A.:								
Current account, USD			5 266	7 162	17 919	25 803	24 437	39 344
Total, CHF		365 064		417 181		500 878		534 962

**Subventions from ICSU**

Subventions from the International Council of Scientific Union in 1986-1989, in Swiss francs.

1986:	Basic allocation	13 647	
	Travel grants	16 800	
	ICMI	3 360	33 807
1987:	Basic allocation	10 084	
	Seminar in Cuba	9 520	
	ICMI	5 440	25 044
1988:	Basic allocation	10 243	
	ICMI	10 080	20 323
1989:	Basic allocation:	12 461	
	ICMI	3 220	15 681
Total for 1986-1989			94 855
Budget for 1986-1989			85 000

IMU received \$ 5125 from UNESCO for travel grants to ICM-86. In addition, ICSU has granted \$ 10 000 to IMU for travel grants to ICM-90.

### Special Development Fund

The following contributions have been received since ICM-86 (1986-1990):

Swedish Mathematical Society, Sweden	76
Finnish Mathematical Society, Finland	323
1987:	
Norwegian Mathematical Society, Norway	1079
London Mathematical Society, United Kingdom	2245
1988:	
American Mathematical Society, USA	6917
Instit. Mat. Pura e Apl., Brazil	7500
The Royal Society, United Kingdom	11476
1989:	
American Mathematical Society, USA	17265
London Mathematical Society, United Kingdom	2750
Wiskundig Genootschap, The Netherlands	1700
Swiss mathematicians	331
1990:	
American Mathematical Society, USA	23955
The Royal Society, United Kingdom	10698
Swiss mathematicians	290
Finnish Mathematical Society, Finland	1282
Interest 1986-1990	2586
Total	90473

In addition, the Mathematical Society of Japan has donated \$ 1148 to CDE.

### Membership Dues Paid in the Years 1986-1989

In Swiss Francs

Group of adherence	I	II	III	IV	V
Units of dues	1	2	3	7	10
Unit: 850 Sw. frs. in 1986, 1000 Sw. frs. in 1987-1989.					
	1986	1987	1988	1989	
Argentina II	1700	-	4000	-	
Australia III	3400	4000	4000	4000	
Austria II	1700	2000	2000	2000	
Belgium III	3400	3400	4000	4000	
Brazil III	3400	4000	4000	4000	
Bulgaria II	1700	2000	2000	2000	
Cameroon I	-	1850	950	1000	
Canada IV	5950	7000	7000	7000	
Chile I	-	-	-	1620	

China V				
- Chinese Math. Soc. III		-	8000	4000
- Math. Soc. located in Taipei, China II	2000		2000	2000
Cuba I	850	850	1150	1000
Czechoslovakia III	3400	4000	4000	4000
Denmark II	1700	2000	2000	2000
Egypt, Arab R. I	-	850	2000	-
Finland II	1700	2000	2000	2000
France V	8200	10115	9985	10010
German D.R. III	3400	4000	4000	4000
Germany, F.R. V	8500	10000	10000	10000
Greece I	1700	-	2000	-
Hong Kong I	-	-	1850	-
Hungary III	3400	3400	4600	4000
Iceland I	850	850	-	1000
India III	3400	4000	4000	4000
Iran I	850	1000	1000	1000
Ireland II	1700	2000	2000	2000
Israel II	1700	2000	2000	2000
Italy IV	5950	7000	7000	7000
Ivory Coast I		1000	1000	-
Japan V	8500	10000	10000	10000
Korea, D.P.R. I	850	-	1000	2000
Korea, R. I	850	1000	1000	1000
Mexico I	850	1000	-	-
Netherlands III	3400	4000	4000	4000
New Zealand I	850	1000	1000	1000
Nigeria I	-	-	-	2260
Norway I	1700	1000	1000	1000
Pakistan II	-	-	-	-
Philippines I	850	850	-	1860
Poland III	3400	4000	-	-
Portugal I	1700	250	1750	1000
Romania II	-	-	-	-
Singapore I	1850		2000	1000
South Africa II	1700	2000	2000	2000
Spain II, III	1700	2000	-	2000
Sweden III	3400	4000	4000	4000
Switzerland III	3400	4000	4000	-
Turkey I	850	850	-	2 000
United Kingdom V	8500	10000	10000	10000
U.S.A. V	8500	10000	10000	10000

U.S.S.R. V	8500	8500	8500	8500
Vietnam I	1700	-	-	-
Yugoslavia II	-	-	-	-
Total	131600	145765	158785	149250
Budget	136000	163000	163000	163000

*Dues Arrears on December 31, 1989:*

Argentina: 2000 CHF (1989); Belgium: 4000 CHF (1989); Chile: 232 (1987), 1000 (1988), 1000 (1989) = 2232 CHF; Egypt: 1000 CHF (1989); France: 175 CHF (part 87, part 88); Greece: 1000 CHF (1989); Hong Kong: 1000 (1988), 1000 (1989) = 2000 CHF; Iceland: 1000 (1988), 1000 (1989) = 2000 CHF; Ivory Coast: 1000 CHF (1989); (Malaysia: 850 CHF (1986)); Mexico: 1000 (1988), 1000 (1989) = 2000 CHF; Nigeria: 590 (1985), 850 (1986), 1000 (1987), 1000 (1988) = 3440 CHF; Pakistan: 1700 (1983), 1700 (1984), 1700 (1985), 1700 (1986), 2000 (1987), 2000 (1988), 2000 (1989) = 12800 CHF; Philippines: 140 (1987), 1000 (1988) = 1140 CHF; Poland: 4000 (1988), 4000 (1989) = 8000 CHF; Romania: 1200 (1982), 1700 (1983), 1700 (1984), 1700 (1985), 1700 (1986), 2000 (1987), 2000 (1988), 2000 (1989) = 14000 CHF; Spain: 2000 CHF (1989); Switzerland: 4000 CHF (1989); Turkey: 600 (1978), 600 (1979), 600 (1980), 600 (1981), 600 (1982), 850 (1983), 1000 (1987) = 4850 CHF; U.S.S.R.: 1500 (1987), 1500 (1988), 1500 (1989) = 4500 CHF; Viet Nam: 850 (1986), 1000 (1987), 1000 (1988), 1000 (1989) = 3850 CHF; Yugoslavia: 1700 (1986), 2000 (1987), 2000 (1988), 2000 (1989) = 7700 CHF.

The following countries have paid arrears by May 15, 1990:

Belgium 4000 (1989); Egypt 1000 (1989); Greece 1000 (1989); Iceland 2000 (1988, 1989); Ivory Coast 1000 (1989); Spain 2000 (1989); Switzerland 4000 (1989), Turkey 600 (1978); Yugoslavia 1700 (1986).

**World Directory of Mathematicians**  
Financial Reports and Sales for the 7th and 8th Editions

1987-02-19  
latest revision 1990-01-31

WORLD DIRECTORY OF MATHEMATICIANS, 7th Edition

Financial report for the years 1983-1989:

The account at Dai-Ichi Kangyo Bank was closed at the end of the year 1985 and its balance was transferred to Colonial Bank, New Haven.

Colonial Bank, New Haven	USD	
Balance 1.1.1983	0	
A.M.S. 1983	5 284	
North-Holland 1983	3 000	
A.M.S. 1984	5 398.51	
North-Holland 1984	1 125	
Interest 1984	1 329.44	
 Balance 31.12.1984		 16 136.95
A.M.S. 1985	3 244	
North-Holland 1985	540	
Dai-Ichi Kangyo, transfer	3 702.24	
Interest 1985	1 375.99	
 Balance 31.12.1985		 24 999.18
A.M.S. 1986	2 015	
North-Holland 1986	225	
Interest 1986	1 321.43	
 Total		 28 560.61
North-Holland 1987		1 065
A.M.S. 1987		78
North-Holland 1988		75
A.M.S. 1988		78
A.M.S. 1989		18
Total income for the 7th edition		29 874.61
 Cost of the edition		 24 054
 Gain on the edition		 5 820.61

7th edition, continued:

AMS sales (1090 copies):

1982:	283	copies		5	284
1983:	295	copies		5	398.51
1984:	170	copies		3	244
1985:	85	copies		1	528
1986:	27	copies			487
1987:	4	copies			78
1988:	4	copies			78
1989:	1	copy			18
Total copies sold	869			16	115.51
Given, damaged etc.	70				
Returned	15				
Left	166				

North-Holland sales (500 copies):

1982:	60	copies			900
1983:	275	copies		4	125
1984:	36	copies			540
1985:	15	copies			225
1986:	11	copies			165
1987:	5	copies			75
Total copies sold	402			6	030
Left	98				

Kinokunya and Kyoto bureau sales (450 copies):

1982-1984:	195	copies sold	Y	630	826
1985:	35	copies sold	Y	122	100
		interest	Y	5	072
Total copies sold	230		Y	757	998
Left	220			3	702.24

Total sales:				25	847.75
Interest at Colonial Bank				4	026.86
Total				29	874.61

Total copies sold (31.12.1989):				1	501
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tm 31.1.1990

## WORLD DIRECTORY OF MATHEMATICIANS, 8th Edition:

## Sales (American Mathematical Society):

1986: 272 copies @ 30.00	8 160	
6 copies @ 0.00	0	
AMS service fee 278 @ 8.00	- 2 224	
1986 income		5 936
1987: 532 copies @ 30.00	15 960	
19 copies @ 0.00	0	
AMS service fee 551 @ 8.00	- 4 408	
1987 income		11 552
1988: 229 copies		
1988 income		4 888
1989: 97 copies @ 30	2 910	
20 copies @ 15	300	
30 copies @ 0		
AMS service fee 147 @ 8	- 3 210	
1989 income		2 034
Total income:		24 410
Total copies printed	2 050	
Advance copies	77	
Damaged	36	
Returned	- 9	
1986 sales	278	
1987 sales	551	
1988 sales	229	
1989 sales	147	
Copies on hand December 31, 1987	741	

Cost of edition: USD 30 525.17 (total cost to AMS: USD 49 655.82)



Colonial Bank, New Haven	USD
Balance 1.1.1983	0
A.M.S. 1983	5 284
North-Holland 1983	3 000
A.M.S. 1984	5 398.51
North-Holland 1984	1 125
Interest 1984	1 329.44
Balance 31.12.1984	16 136.95
A.M.S. 1985	3 244
North-Holland 1985	540
Dai-Ichi Kangyo, transfer	3 702.24
Interest 1985	1 375.99
Balance 31.12.1985	24 999.18
A.M.S. 1986	2 015
North-Holland 1986	225
Interest 1986	1 321.43
Total	28 560.61
Payment to A.M.S. for the 8th edition	25 000.00
Balance 31.12.1986	3 560.61
A.M.S. for 1986 sales of 8th edition	410.-
Balance March 31, 1987	3 970.61
Interest	142.90
Balance	4 013.51
transferred to	
Bank of Boston account:	
Balance March 31, 1987	0
Transfer from Colonial Bank	4 013.51
North-Holland, sales in 1986 of 7th edition	165.-
North-Holland, sales in 1982 of 7th edition	900.-
Interest less charges	187.14
Balance December 31, 1987	5 265.65
AMS sales in 1987 of 7th edition	78.-
A.M.S. sales in 1987 of 8th edition	11 552.-
North-Holland sales in 1987 of 7th edition	75.-
Interest	948.40
Balance December 31, 1988	17 919.05
A.M.S. sales in 1988 of 8th ed.	4 888.-
of 7th ed.	78.-
Interest in 1989	1 552.46
Balance December 31, 1989	24 437.51
Due: AMS for sales in 1989 for 7th ed.	18
8th ed.	2 034

**ICMI Financial Report**  
For the Years 1986-1989

Accounts 1986

Dollar Account

<u>Income</u>		<u>Expenditure</u>	
Balance at 8 Jan. 1986	11,856	Service Study	185
IMU for ICM 1986	2,500	ICM 1986	2,500
IMU for Regional Meeting	257	ICME 6	265
ICSU for ICOMIDC	3,623	EC	1,150
Interest (less charges)	296	Due to ICOMIDC	3,623
	<u>18,532</u>	Balance at 9 Sept.1986	10,809
			<u>18,532</u>

Sterling Account

<u>Income</u>		<u>Expenditure</u>	
Balance at 8 Jan. 1986	9,017	Bulletin 19	153
IMU (Schedule A)	2,312	Service Study	256
Royal Society Grant	500	EC	250
CUP Royalties for 1985	21	Soton Univ.	500
Interest (less charges)	495	1990s Report	213
	<u>12,345</u>	ICME 6	256
		IMOSC	125
		Balance at 9 Sept.1986	10,592
			<u>12,345</u>

French Francs Account

<u>Income</u>		<u>Expenditure</u>	
Balance at 8 Jan. 1986	18,865	EC	2,000
Transfer from Fondation de France	7,757	ICME 6	3,254
Interest (less charges)	630	Balance at 9 Sept.1986	21,998
	<u>27,252</u>		<u>27,252</u>

Dollar AccountIncome

Balance at 7 Jan. 1987	16,027
ICSU (Udine)	4,000
Trans. Rights (Spain)	295
Interest less fees	345
	<hr/>
	20,667

Expenditure

Executive Committee	530
SEAMS	1,300
African Math Union	980
IACME	1,300
Udine (Service Study)	7,255
Transfer to Sterling Acc.	5,000
Balance at 31 Dec. 1987	4,302

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20,667
Swiss Franc Account (New in 1987)Income

IMU (Admin. & Sci. Act.)	19,000
IMU (Udine)	6,000
Interest less charges	124
	<hr/>
	25,124

Expenditure

Transfer to Sterling Acc.	10,000
Balance at 31 Dec. 1987	15,124
	<hr/>
	25,124

Fondation de France AccountIncome

Balance at 31 Dec. 1986	13,802
	<hr/>
	13,802

Expenditure

Udine Meeting	13,802
	<hr/>
	13,802

Account closed

French Franc AccountIncome

Balance at 7 Jan. 1987	22,607
Interest	1,176
	<hr/>
	23,783

Expenditure

Balance at 31 Dec. 1987	23,783
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Sterling AccountIncome

Balance at 7 Jan. 1987	9,776
UNESCO (Comp. Study)	649
UNESCO (Udine)	3,089
CUP (Royalties)	496
University of Southampton	70
Transfer from Dollar account	3,052
Transfer from SF account	4,002
CUP (Advertisement)	50
Interest less fees	1,065
	<hr/>
	22,249

Expenditure

ICME 6	1,694
Udine	2,592
Bulletin 22	200
University of Southampton	750
Balance at 31 Dec. 1987	17,003
	<hr/>
	22,249

Accounts 1 January - 31 December 1988French Francs AccountIncome

Balance at 1 Jan 1988	23,783
Interest	997
	<u>24,780</u>

Expenditure

Transfer to HRD account	24,780
Balance at 31 Dec 1988	0
	<u>24,780</u>

Account closed

Swiss Francs AccountIncome

Balance at 1 Jan 1988	15,124
IMU (Admin & Sci Act)	29,000
Interest less charges	13
	<u>44,137</u>

Expenditure

Transfer to HRD account	41,000
Balance at 31 Dec 1988	3,137
	<u>44,137</u>

US Dollar AccountIncome

Balance at 1 Jan 1988	4,302
Foreign Rights (Japan)	900
UNESCO (Bulletins)	2,000
ICSU (ICME 6)	7,000
UNESCO (ICME 6)	4,000
Transfer	5,110
Interest less charges	231
	<u>23,543</u>

Expenditure

PME (Studies)	2,100
ICME 6 (Grants)	15,750
Balance at 31 Dec 1988	5,693
	<u>23,543</u>

Sterling AccountIncome

Balance at 1 Jan 1988	17,003
UNESCO (Studies)	1,068
CUP (Royalties less chgs)	160
Anonymous gifts (ICME 6)	750
Transfers from other accounts	
Swiss	16,192
French	2,280
Interest less charges	1,862
	<u>39,315</u>

Expenditure

Bulletin 23	220
Bulletin 24	250
Bulletin 25	220
University of Soton (1987 2nd)	800
University of Soton (1988)	1,800
CUP (distn. of Studies)	1,166
Ex Committee	253
ICME 6	3,000
ICME 6 (Grants)	2,161
Popularisation Study	555
Inland Revenue (inc arrears)	1,180
Transfer to dollar account	3,000
Balance at 31 Dec 1988	24,710
	<u>39,315</u>

Accounts 1 January - 31 December, 1989Swiss Franc Account

<u>Income</u>		<u>Expenditure</u>	
Balance at 1 Jan 1988	3,137	Transfer to other accounts	25,000
IMU (Admin and Sc.Act)	<u>24,000</u>	Charges less interest	1
	<u>27,137</u>	Balance at 31 Dec 1989	<u>2,136</u>
			<u>27,137</u>

Dollar account

<u>Income</u>		<u>Expenditure</u>	
Balance at 1 Jan 1988	5,693	Regional Meetings	
Transfers	25,079	SEAMS	1,500
ICME 6	5,000	Spain	1,500
ICSU (Leeds)	2,000	AMU	1,500
MAA (ICME 6 Proc)	5,000	PME Conference	1,000
UNESCO (Leeds/Comp)	7,000	China Studies	1,000
Interest less charges	<u>1,083</u>	Leeds Study	882
	<u>50,855</u>	Balance at 31 Dec 1989	<u>43,473</u>
			<u>50,855</u>

Sterling account

<u>Income</u>		<u>Expenditure</u>	
Balance at 1 Jan 1988	24,709	E.C.	535
Transfer from Swiss Franc	3,589	Transfer to Dollar	10,000
ICME 6 (Repayment)	566	ICSU Study	150
CUP Royalties	384	Studies (not Leeds)	183
ICME 6 (Proc)	327	IMOSC	11
Nemetz Fund	302	IPC for ICME 7	3,336
UNESCO (Bulln, Leeds)	635	Leeds Study	2,310
Leeds University Mathematics	100	Soton University	
Interest less charges	<u>2,964</u>	Bulletins (2)	450
	<u>33,576</u>	Postage (Proc)	79
		Services	2,150
		Balance at 31 Dec 1989	<u>14,372</u>
			<u>33,576</u>

Notes

1. There are outstanding bills of the order of £2,500 in connection with the Popularisation study.
2. £302 (to which interest must be added) is held in connection with the Tibor Nemetz Fund.
3. There may be a claim for Income Tax on interest received (possibly for £1000).

*A. J. Hanson*  
16.1.90

**CDE Financial Report**  
For the Years 1986-1989

## Expenditure

Date	Object	Swiss francs
June/87	CDE meeting	4383
1987	Secretarial expenses	264
3/16/88	Conference in Vietnam	1432
9/5/88	Professor Shabani (Bujumbura)	4010
9/9588	GIRAGA in Cotonou (Benin)	4510
9/5/88	Professor Yi WeiPing (Chine-France)	2254
1/6/89	Instituto de Mathematica (Brazil)	4756
5/16/89	Alicia Dickenstein (Argentina-USA)	1642
6/23/89	Wire to Coutinho (Brazil-UK)	2544
7/17/89	Sociedade Brasileira de Mathematica	4830
11/27/89	Universidad de Santiago de Chile	3220
11/29/89	Wire to University Hyderabad	4870
01/15/90	Prof. Ekhaguere (Nigeria)	4846
03/07/90	Pham Huu Sach Mannheim (Vietnam-FRG)	1650
03/08/90	Facultad National de Cordoba (team)	2431
03/30/90	CNFM Societè Generale	4124
04/11/90	Ahmedou Haouba (Mauritania-France)	1353
Total		53119

## Income

Date	Object	Swiss francs
1987-89	Paid by IMU	16853
12/14/88	Wire transfer from UNESCO	7200
2/16/89	Deposit Math Society of Japan	1848
6/5/89	Wire Transfer from IMU/CDE	40212
02/07/90	IMU CDE Contribution 90	10000
04/04/90	1989 UNESCO Support	8050
Total		84163

Our present balance on the AMS account is \$ 20,319.99, equalling about 32715 Swiss francs, giving an interest and gain on exchange equal to 1671 Swiss francs.

J.P. Bourguignon

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