IMU

B U L L E T I N

OF THE

INTERNATIONAL MATHEMATICAL UNION

No. 16
OCTOBER 1980

INTERNATIONAL   MATHEMATICAL   UNION

EXECUTIVE   COMMITTEE

(January 1, 1979 - December 31, 1982)

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President :   Professor Lennart Carleson

Vice-Presidents : Professor M. Nagata
                   Professor J.V. Prokhorov

Secretary :   Professor J.L. Lions

Members :   Professor E. Bombieri
                     Professor J.W.S. Cassels
                     Professor M. Kneser
                     Professor O. Lehto
                     Professor C. Olech

Past President :   Professor Deane Montgomery

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Professor Rolf NEVANLINNA

Professor Rolf NEVANLINNA died on the 28th of May 1980 in
Helsinki at the age of 84.

In the 1920's he did fundamental research in the theory of
meromorphic functions. He was Professor at the University of
Helsinki in 1926 to 1947, member of the Academy of Finland
from 1948 until his retirement in 1965, Professor and Honorary
Professor at the University of Zürich in 1946 to 1963.

For a long time he was on the forefront of the world mathema-
tical community. He was President of the IMU in 1959 to 1962,
President of the ICM in 1962 in Stockholm, chairman of the
Consultative Committee of the ICM '66 in Moscow, and Honorary
President of the ICM '78 in Helsinki.

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1.   MEMBERS OF THE UNION

The members of the Union are the following at the date of 1.1.1979 :

Group I   Argentina, Cameroon, Cuba, Arab Republic of Egypt,
             Democratic People's Republic of Korea, Greece, Iceland,
             Mexico, New-Zealand, Nigeria, Norway, Philippines,
             Portugal, Singapore, China-Taïwan, Turkey.

Group II   Austria, Brazil, Bulgaria, Denmark, Finland, Iran,
             Ireland, Israël, Rumania, South-Africa, Spain,
             Yugoslavia.

Group III   Australia, Belgium, Canada, Czechoslovakia, Democratic
             Republic of Germany, Hungary, India, The Netherlands,
             Sweden Swtizerland.

Group IV   Italy, Poland.

Group V   Federal Republic of Germany, France, Japan, United
             Kingdom, U.S.A., U.S.S.R.

ARGENTINA asked for a change in its group of adherence, from I to II.
By postal ballot, the members of the Union agreed on this change,
effective from 1.1.1979.

Recently, IRAN asked for a change in its group of adherence, decrea-
sing from II to I.
Due to circumstances, the Executive Committee, regretfully, gave a
positive recommendation. This change will be effective from 1.1.1981.

2.   REPORT ON THE MEETING OF THE EXECUTIVE COMMITTEE OF IMU.

The 41st meeting of the Executive Committee of IMU met in Paris, at the Collège de France, on April 8 and 9, 1980.

The following members were present at the meeting :

Professors L. Carleson (President), D. Montgomery (Past President), J.L. Lions (secretary), E. Bombieri, J.W.S. Cassels, O. Lehto, C. Olech (members).

Professors M. Kneser, M. Nagata and J.V. Prokhorov were not able to attend the meeting.

Professor Nagata had sent the yearly account for the WORLD DIRECTORY OF MATHEMATICIANS (VIth Edition).

The following items of the Agenda were examined :

- Financial matters.
- Scientific activities supported by the Union :
    . Report on 1979 activities,
    . Applications for 1980 and 1981,
    . IMU lecturers.
- Fields Medals.
- Preparation of I.C.M. 1982 and of the General Assembly of IMU.
- Commissions of the Union :
    . I.C.M.I.
    . C.D.E. (Commission on Development and Exchange).
- Members of the Union.
- Relations with Unions and Federations in areas connected with Applied Mathematics.
- Next General Assembly of IC.S.U. (Amsterdam), September 1980.

REPORT ON FINANCIAL MATTERS

The audited accounts for 1979 were approved by the Executive Committee.
The detailed figures are shown at the end of this Bulletin, in Appendix I.

SPECIAL DEVELOPMENT FUND

The appeal was sent immediately after the 40th meeting of the Executive Committee in 1979, simultaneously to the National Adhering Organizations of IMU and to the Secretaries of National Committees.

Although several countries took positive steps in view of achieving this purpose, only three countries contributed this year to the Development Fund, intended to help the C.D.E. to fulfill its mission.

A generous donation from the Federal Republic of Germany, another from the United Kingdom and one from Yugoslavia made a total income of US Dollars 3,062.00 for 1979.

Let these members find here the warm thanks of the Executive Committee.

> *The E.C. would like to attract the attention of the members of the Union on this Fund that should, among other things, play a fundamental role in helping mathematicians from developing countries in attending the next International Congress of Mathematicians in Warsaw in August 1982.*

Members nations can send their contribution, especially earmarked

"IMU SPECIAL DEVELOPMENT FUND"

when sending their annual dues to the Union.

WORLD DIRECTORY OF MATHEMATICIANS

Sixth Edition (1979)

It is published under the auspices of the International Mathematical Union, with the cooperation of the National Committees of Mathematics

The Directory contains about 20,000 names and addresses of Mathematicians from all over the world.

IF YOU ARE INTERESTED IN PURCHASING COPIES OF THE DIRECTORY

you are advised to order as follows :

    outside Japan : IMU - WORLD DIRECTORY ACCOUNT
                   N° 0862/656205-82 in US Dollars
                   SCHWEIZERISCHE KREDITANSTALT
                       Zürich-Rigiplatz
                  Universitätstrasse 105- 8033 ZÜRICH
                         (Switzerland)

    inside Japan : BUREAU OF THE WORLD DIRECTORY OF MATHEMATICIANS

                   Mathematics Department
                   Faculty of Sciences
                   KYOTO UNIVERSITY
                   KYOTO 606 - Japan

Copies may be sent upon receipt of :

US Dollars : 20.00 per copy

REPORT ON SCIENTIFIC ACTIVITIES OF THE UNION.

1979 :

Four meetings were directly sponsored by the Union during the year
1979 :

1. - *Colloquium on Automorphic Forms, Representation Theory and Arithmetic.*
   Bombay (India), January 8-15, 1979.

An International Colloquium on "Automorphic Forms, Representation
Theory and Arithmetic" was held at the Tata Institute of Fundamental
Research, Bombay, from January 8 to 15, 1979.

The purpose of the Colloquium was to discuss recent achievements in
the theory of automorphic forms of one and several variables, repre-
sentation theory with special reference to the interplay between
these and number theory, e.g. arithmetic automorphic forms, Hecke
theory, representation of GL_2 and GL_n in general, class fields,
L-functions, p-adic automorphic forms and p^n-adic functions.

The Colloquium was jointly sponsored by the IMU and the Tata Instit-
ute of Fundamental Research, and was financially supported by them
and the Sir Dorabji Tata Trust.

An Organizing Committee consisting of Professors P. Deligne, M. Kneser,
M.S. Narasimhan, S. Raghavan, M.S. Raghunathan and C.S. Seshadri,
was in charge of the scientific programme. Professors P. Deligne and
M. Kneser acted as representatives of the International Mathematical
Union on the Organizing Committee.

2. - *International Conference on Mathematical Physics.*
   Lausanne (Switzerland), August 20-25, 1979.

This Conference is in a two-years series (Moscow 1973, Kyoto 1975,
Rome 1977) and was organized by the International Association of
Mathematics and Physics (IAMP) and co-sponsored by the IMU.

Review lectures were delivered on the following topics by invited speakers :

- Schrödinger operators   (W. Hunziker, Zürich ; J.M. Combes, Toulon)
- Statistical Mechanics   (E. Lieb, Princeton ; O.E. Landford, Berkeley)
- Quantum Field Theory   (J. Bros, Saclay ; A. Jaffe, Harvard)
- Gauge Theory   (I.M. Singer, Berkeley ; D. Olive, London).

Other half-day sessions were devoted to :

- Super-symmetry and Group theory,
- Dynamical systems,
- C - Algebras.

All seven sessions were respectively organized by B. Simon, E. Brezin, J. Frölich, H. Trautman, J. Scherk, D. Ruelle, H. Araki. Professors I.M. Singer and D. Ruelle were IMU representatives.

3. - *Symposium on Trends in Applications of Pure Mathematics to Mechanics.*
   Edinburgh, September 9-13, 1979.

The symposium, organized under the auspices of the International Society for the Interaction of Mechanics and Mathematics and with financial assistance from the International Mathematical Union, was devoted to non-linear partial differential equations. The meeting extended over four days and was attended by approximately 100 people. Each day consisted of four or five lectures arranged to allow ample opportunity for extended informal discussions. The majority of lectures were by invitation and these were presented in single session. Contributed lectures were also included in the programme but were held in parallel session on one afternoon. The topics covered during the meeting can be broadly classified into the following groups : fluid and solid mechanics, quantum mechanics, nonlinear conservation laws, bifurcation theory, solitons and phase transitions. The lectures mainly took the form of expert surveys but frequently included announcements of new and previously unpublished results. All lectures were of uniformly high standard and admirably combined mathematics with applications in a totally uncontrived manner.

The opportunity for informal discussion was always regarded by the

organizers as an essential part of the meeting and in the event this aspect was fully realized. The many distinguished mathematicians present mixed freely with other participants and valuable discussions ensued.

Participants came from a large variety of countries with a good representation from Europe and the United States. Applications were received right up until the start of the meeting, so that final numbers were greater than anticipated and provided an additional and valuable source of extra income. This, plus some grants donated from other sources, was used to defray part of the subsistence costs of certain members.

The proceedings of the symposium for which some advance publicity is made, will be published in about a year's time by Pitmans of London.

All in all, the conference must be considered an outstanding success and the Organizing Committee wishes to offer sincere thanks to the International Mathematical Union for very generous support of this meeting. The assistance not only benefited the aims of the International Society for the Interaction of Mechanics and Mathematics but also created the unique opportunity of bringing together several distinguished mathematicians from interrelated fields.

4. - *International Conference on Topology and its Applications*
   Moscow, June 25-29, 1979.

This Conference was dedicated to Professor Alexandroff and was an important contribution to the international scientific cooperation in the field of Topology.

Professor Bing was IMU representative and acted in the Organizing Committee. The Proceedings of the Conference are intended to be published in the Ouspechi Mat. Nauk.

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1980 :

Decision for support was taken for the following meetings :

1. - *Symposium on Logic and Algorithmic,*
   Zürich, February 5-11, 1980, supported with $ 1,500.

2. - *Conference on "Functions, Series, Operators",*
   Budapest, August 4-5, 1980, supported with $ 2,500.

3. - *International Conference on Generalized Functions and their*
   Applications in Mathematical Physics,
   Moscow, November 24-28, 1980, supported with $ 2,000.
   Professors Mikusinski and Sato will be the Union's representa-
   tives at this meeting.

4. - *I.C.M.E. IV (International Conference on Mathematical Education)*
   Berkeley, August 10-16, 1980.
   The E.C. of IMU decided to support ICME IV with the sum of
   $ 6,000 to help mathematical teachers from developing countries
   attending the Conference.
   The E.C. unanimously agreed on the great interest of the ICMI's
   efforts and of I.C.M.E.

   The E.C. also resolved that the IMU contribution to ICMI admi-
nistrative expenses be highered to $ 1,000 per year instead of $ 500.

1981 :

Applications for 1981 for IMU support to Conferences :
At the date of the E.C. meeting, the following applications were
received::

1. - *International Conference in Algebra* :
   Singapore, June 1st to 13th, 1981.
   This application is presented by the Singapore Mathematical Sty
   and SEAMS. An agreement for support has already been reached
   between the E.C. members by postal ballot. It amounts to US.
   $ 2,000.

2. - *VIth International Conference in Mathematical Physics,*
Berlin, August 11 - 21, 1981, to continue the preceding meetings
in Moscow, Kyoto, Rome and Lausanne.
Professors Araki and Seiler are respectively chairman and secre-
tary of the Organizing Committee. A support of $ 3,000 is voted.
The E.C. proposes as IMU representatives, Professors M. Atiyah
and J. Moser.

3. - *Vth Prague Topological Symposium,*
Prague, August 24-29, 1981, is also in a series and will present
and discuss recent research results in general topology and its
applications.
The papers contributed for this Symposium are expected to be
published in the Proceedings.
Professor J. Novák is chairman of the Organizing Committee.
The E.C. decided that IMU sponsorship would be given to this
Symposium with a financial support of $ 2,000.

4. - *International Conference on Combinatorics,*
Marseille-Luminy, June 15-20, 1981.
This application was received after the closing of the E.C. mee-
ting and the agreement of the E.C. members was reached by postal
ballot for a sponsorship to this meeting with a financial sup-
port of $ 1,000.
Professor Claude Berge is chairman of the Organizing Committee.

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COMMISSION ON DEVELOPMENT AND EXCHANGE

The I.M.U. "Commission on Development and Exchange", the chairman
of which is Professor Hogbe-Nlend, President of the African Mathema-
tical Union, supported the following meetings in developing countries :

1979 :
In South-East Asia :

> *Symposium on Operational Research and Graph Theory*
> Singapore, May 14-June 2nd, 1979
>
> This Conference was the first activity of the SEAMS Regional
> Mathematical Center created at the end of 1978.
> This course attracted many young mathematicians, from Hong-
> Kong, the Philippines, Kuala-Lumpur and Penang.
> Financial allowances for air-fares and living expenses were
> granted through ICSU/IMU special UNESCO contract up to US.
> $ 1,500.

In Africa :

> *Colloquium on Functional Analysis and Applications.*
> Kumasi, Ghana, August 15-22, 1979.
>
> This one-week colloquium was held under the African Mathemati-
> cal Union sponsorship and with the help of the same UNESCO con-
> tract.
> About sixty mathematicians from twelve African countries and
> from Europe, U.S.A. and Brazil met. The interest shown in the
> sets of lectures was strenghtened by the exchange of views and
> ideas and also by possible further collaboration between parti-
> cipants.

In Latin America :

> *The XIIth Brasilian Colloquium of Mathematics*
> Poços de Caldas, August 1979.
>
> It consisted of five elementary courses, five advanced courses

and six special sections ; lectures and courses were given by Brasilian, Latin-American and visiting mathematicians in the following topics :

Algebra, Analysis, Geometry, Applied Mathematics and Statistics, Differential Equations, Ergodic Theory, Dynamical Systems, etc..

About 600 mathematicians and students participated in the courses and lectures of the Colloquium. The manucripts for all these courses were presented three months in advance and constitute a very good contribution to the mathematical literature in Brazil.

A very helpful contribution was given by UNESCO under a special IMU/UNESCO contract amounting US.$ 4,000 for this meeting.

1980 : the new ICSU policy is to contribute a basic allocation and special contracts to Unions' scientific activities for development. For this year, three proposals were considered for a total amount of US $ 8,000.

1. - *First African Seminar on Applied Mathematics and Economics*, Dakar, April 28-May 7, 1980.

2. - *ELAM Vth (Fifth Latin-American School of Mathematics)*, Mar-del-Plata (Argentina), July-August 1980.

3. - *Recent Advances in Finite Element Methods in Mechanics and Engineering*, Penang, Malaysia, November 10-17, 1980.

C.D.E.'s program of support to Mathematical Libraries in Developing Countries :

This program started in 1979 by sending a circular letter to each National Committee of IMU.
UNESCO Regional Offices are associated to this program.
Secretariat and logistic support is left to the C.I.M.P.A (I.C.P.A.M.) (International Center for Pure and Applied Mathematics) recently created in Nice (France).
The aim of this project, that has been discussed at the General Assembly of IMU in 1978, is to collect by way of donations from mathetical Societies, Institutes and scientific libraries, books, reviews,

and mathematical publications and literature, and to send them, via I.C.P.A.M., to developing countries with priority list to regional or sub-regional centers.

The C.D.E. asked IMU for a support of its publications during 1979 and 1980.: Afrika Matematica and SEAMS Bulletin.
The E.C. members agreed in 1979 in giving a sum of $ 2,000 for these publications and another similar sum for 1980. This is the second and last help given to these publications.
A special help for administrative expenses has also been given to C.D.E. for this period, amounting to $ 1,000.

Travel Grants :

Two grants of respectively $ 300 and $ 500 have been given to Drs. Musili and Ramadas, from India, to help paying their travel expenses, the first one to Orsay University near Paris, the second one to the Cargèse Summer School, in Corsica (France).

IMU Lecturers :

1980 : Professor Harry Furstenberg has been IMU lecturer for 1980. He has been the I.H.E.S. guest, from January to June 1980 and gave there a series of lectures on "Les frontières de groupes et leurs applications".

Professor Furstenberg's manuscript will be published in the review "L'Enseignement Mathématique", Lausanne, Switzerland.

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PRELIMINARY ANNOUNCEMENT

GENERAL ASSEMBLY OF IMU

THE NEXT GENERAL ASSEMBLY OF THE INTERNATIONAL MATHEMATICAL UNION
WILL BE HELD IN WARSAW (POLAND), ON AUGUST 1982,
(BEFORE THE INTERNATIONAL CONGRESS OF MATHEMATICIANS).

Some detailed information will appear in the next issue of the
IMU Bulletin (IMU Bulletin Nb. 17),to appear in early 1981.

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INTERNATIONAL CONGRESS OF MATHEMATICIANS
CONGRES INTERNATIONAL DES MATHEMATICIENS
INTERNATIONALER MATHEMATIKERKONGRESS
МЕЖДУНАРОДНЫЙ КОНГРЕСС МАТЕМАТИКОВ

SHORT NOTE :

The next International Congress of Mathematicians will be held in Warsaw, Poland and will open August 11, 1982.

The host institution is the Institute of Mathematics of the Polish Academy of Sciences. The chairman of the Organizing Committee is Professor Czeslaw Olech.

The first announcement containing more detailed information will appear in summer 1981.

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Chers Collègues,

   Nous vous prions de bien vouloir faire circuler parmi les mathé -
maticiens de votre pays, autant qu'il vous sera possible, l'information
preliminaire ci-incluse en la faisant insérer dans les publications
adéquates ou distribuer aux centres d'activité mathématique.

   Le Premier Avis contenant des renseignements détaillés sur le Congrès
vous sera envoyé en été 1981 et nous vous demanderons alors d'en distri-
buer les copies à tous les eventuels participants de votre pays.
Nous vous serions obligés de nous faire savoir, en nous retournant le
formulaire ci-joint avant fin décembre 1980, si vous pouvez vous charger
vous-même de cette distribution ou si vous estimez qu'il vaudrait mieux
adresser le Premier Avis à d'autres personnes ou instituts. Nous vous
serions également gré de nous indiquer le nombre approximatif
d'exemplaires dont vous aurez besoin.

   Veuillez agréer, Chers Collègues, nos cordiales salutations.

   Czesław Olech

   Président du Comité Organisateur, ICM 82

Уважаемые Коллеги,

   Мы будем весьма признательны, если Вы распространите как можно
шире среди математиков Вашей страны приложенное предварительное
извещение о Международном Конгрессе математиков-82. Вы можете это

сделать, поместив его в соответствующие журналы или путем рассылки
экземпляров объявления в центры математического исследования.

   Первое официальное извещение с подробной информацией о Международном
Конгрессе математиков-82 будет направлено Вам летом 1981 года с просьь-
бой разослать его всем потенциальным участникам в Вашей стране.Проеим
вернуть к концу декабря 1980 года приложенный запрос, в котором Вы осве-
домите нас о том, можете ли Вы принять на себя труд по распространению
извещения о Конгрессе или нам следует направить его по каким-нибудь дру-
гим адресам. Будем Вам очень благодарны, если Вы сообщите также о при-
близительном количестве экземпляров извещения, нужных Вам.

   Чеслав Олех, Председатель Организационного Комитета, **ICM 82**

Liebe Kollegen,

Wir wären Ihnen dankbar, wenn Sie die beiliegende Vorankündigung des Internationalen Mathematikerkongresses 1982 möglichst vielen

Mathematikern in Ihrem Land zur Kenntnis bringen möchten - vielleicht durch Abdruck in einer einschlägigen Veröffentlichung und versenden von Kopien der Vorankündigung an die Mathematisches Institute.

Die erste Ankündigung des Kongresses mit detaillierten Informationen über ICM 82 wollen wir Ihnen im Sommer 1981 mit der Bitte zusenden, Exemplare dieser ersten Ankündigung möglichst an alle potentiellen Teilnehmer in Ihrem Land zu verteilen. Wir bitten Sie zu jezt, uns das beiliegende Formular bis Ende Dezember 1980 ausgefüllt zurückzusenden dammit wir darüber informiert sind, ob Sie die Weiterleitung der ersten Ankündigung übernehmen wollen oder an wen wir uns deshalb wenden sollen Könnten Sie uns bitte ausserdem die Anzahl der Exemplare der ersten Ankündigung mitteilen, die wir Ihnen senden sollen?

Mit freundlichem Gruss

Czesław Olech

Vorsitzender des Organisationkomitees, ICM 82

Dear Colleagues,

We would appreciate if you could give the enclosed preliminary announcement as wide a circulation as possible among the mathematicians in your country by inserting it in appropriate publications and distributing copies to centres of mathematical activity.

The First Announcement containing detailed information about the ICM 82 will be sent to you in the summer 1981, with the request that you distribute a copy of it to all potential participants in your count Please return the enclosed form by the end of December 1980 to inform u whether you will undertake this distribution or whether the First Announcement should better be sent to a different address or addresses. We would also appreciate your giving an approximate number of copies needed.

Czesław Olech

Chairman of the Organizing Committee, ICM 82

International Congress of Mathematicians, ICM 82
Institute of Mathematics
Polish Academy of Sciences
Sniadeckich 8, P.O.BOX 137,
00-950 Warszawa, Poland

1. The First Announcement can be sent to the same address as the preliminary announcement.

   YES ▢

2. Copies of the First Announcement should be addressed to

   _____

   _____

   _____

   _____

   Number of copies   Signature

   ▢   _____

   Please print

Congrès International des Mathematiciens, ICM 82
Institut des Mathématiques
Académie Polonaise des Sciences
Sniadeckich 8, B.P. 137,
00-950 Warszawa, Pologne

1. Le premier avis pourra être envoyé à la même adresse que l'information préliminaire.

   OUI ▢

2. Nous vous prions d'adresser les copies du premier avis à

   _____

   _____

   _____

   _____

   Nombre des copies   Signature

   ▢   _____

   Ecrire en lettres majuscules

Internationaler Mathematikerkongress, ICM 82
Matematisches Institut
Polnische Akademie des Wissenschaften
Sniadeckich 8, P.O.BOX 137
00-950 Warszawa, Polen

1. Die erste Ankündigung kann an die gleiche Anschrift wie die
   Vorankündigung gesand werden.

   JA ☐

2. Die Exemplare der ersten Ankündigung sollten zur Weiterleitung
   gesand werden an

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   Anzahl der Exemplare   Unterschrift

   ☐   _____

   Bitte in druckstaben

Instytut Matematyczny
Polska Akademia Nauk
ul.Sniadeckich `8, skr.poczt.137
00-950 Warszawa , Полша

I. Первое официальное изведение о ICM82 можно направить по
   тому же адресу, что и предварительное извещение.

   ДА ☐

2. Экземпляры первого официального извещения просим адресовать

   _____

   _____

   _____

   _____

   Количество экземпляров   Подпис

   ☐   _____

   Напечатйте, пожауйста

FIELDS   MEDALS

FIELDS MEDALLISTS

International medals for outstanding discoveries in Mathematics are
been awarded at successive International Mathematical Congresses for
outstanding achievemcnts in Mathematics to young mathematicians.

The awards are opened to the whole world and are made by an Interna-
tional Committee. It is understood that in making the awards while
it is in recognition of work already done, it is at the same time
intended to be an encouragement for further achievement on the part
of the recipients, and a stimulus to renewed effort on the part of
the others.

The fund for the funding of the medals is constituted by a balance
left after the Toronto Congress of Mathematicians, in 1924, under
Professor J.C. Fields suggestion. The International Mathematical
Union has decided to award no less than two and not more than four
medals at each International Congress of Mathematicians. The presen-
tation of the medals always constitute a special feature at some
general meeting of these International Congresses.

Medals were awarded in the past to the following :

1936 :	L. Ahlfors, J. Douglas
1950 :	L. Schwartz, A. Selberg
1954 :	K. Kodaira, J.P. Serre
1958 :	K. Roth, R. Thom
1962 :	L. Hörmander, J. Milnor
1966 :	M.F. Atiyah, P. Cohen, A.Grothendieck, S. Smale,
1970 :	A. Baker, H. Hironaka, S. Novikov, J.C. Thompson
1974 :	E. Bombieri, D. Mumford
1978 :	P. Deligne, Ch. Fefferman, G.A.Margulis, D. Quillen.

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TO

THE NATIONAL COMMITTEES IN MATHEMATICS

At the International Congress of Mathematicians in Warsaw 1982, the IMU expects to be able to award Fields medals in mathematics, as has been a tradition since 1936. The medals should be awarded for outstanding achievements in mathematics and the medallist should be at most 40 years old in 1982. It should be emphasized that mathematics should be interpreted in a wide sense and also include applied areas.

The decision on recipients of the awards is taken by a committee where I, as president of the Union, am chairman. The composition of the committee is confidential until the Congress 1982. In order to ensure complete coverage of all possible candidates, the Executive Committee of the IMU has decided to invite all National Committees to suggest candidates. The suggestions should contain complete bibliographies and short motivations. They should reach me no later than JANUARY 1, 1981, and be sent under the address :

> Institut Mittag-Leffler
> Auravägen 17
> 182 62 DJURSHOLM
> SWEDEN

> Djursholm, April 25, 1980

> Lennart Carleson
> President of IMU

APPENDIX I

FINANCIAL REPORT

for the period 1.1.1979 to 31.12. 1979

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I N C O M E :

The Union had the following sources of income during the year :

      A) - Dues from member nations

      B) - Special Development Fund

      C) - ICSU/UNESCO contributions

      D) - Grants

      E) - World Directory of Mathematicians

      F) - Interests on Bank Accounts

      G) - Exchange Difference.

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FINANCIAL MATTERS :   D U E S   1 9 7 9

A) - During the financial year 1979, dues were paid to the Union at the :

1.   CHASE MANHATTAN BANK

CANADA	III	1979
INDIA	III	1978
IRELAND	II	1979
SWEDEN	III	1979
U.S.A.	V	1979

US $.   7,018.40

2.   SWISS CREDIT BANK

ARGENTINA	I	1979
AUSTRALIA	III	1979
AUSTRIA	II	1979
BELGIUM	III	1978
CHINA-TAIWAN	I	1979
DENMARK	II	1979
ARAB REP. EGYPT	I	1979 (13/08)and 1980 (22/10)
FINLAND	II	1979
D.R. GERMANY	III	1979
FED. R. GERM.	V	1979
GREECE	I	1979
HUNGARY	III	1979
ICELAND	I	1979
INDIA	III	1979
IRAN	II	1979
ISRAEL	II	1979
ITALY	IV	1978
		1979

SWISS CREDIT BANK (continued) :

JAPAN	V	1979
PHILIPPINES	I	1978
		1979
NEW-ZEALAND	I	1979
NORWAY	I	1979
RUMANIA	II	1978
SINGAPORE	I	1979
SOUTH AFRICA	II	1979
SPAIN	II	1979
SWITZERLAND	III	1979
UNITED KINGDOM	V	1979
U.S.S.R.	V	1979
YUGOSLAVIA	II	1979
BULGARIA	II	1979

US.$ 41,503.28

3.- SOCIETE GENERALE :

CAMEROON	I	1978
CUBA	I	1979
FRANCE	V	1979
THE NETHERLANDS	III	1979

US.$ 6,162,11

DUES :   TOTAL OF INCOME   US.$ 54,683.79

INTERNATIONAL MATHEMATICAL UNION : DUES

Dues paid to the Union in the early 1980

	Group	Swiss Credit Bank	Chase M.	Société Générale
BELGIUM	III	announced		
BULGARIA	II	paid 17/12/79		
CAMEROON	I			FF. 1.524--
PORTUGAL	I	S.F. 1.200 (78 & 79)		

Unpaid :	Group	Year	Amount(in S.Frs.)	
BRAZIL	II	79	1.200	
CZECHOSLOVAKIA	III	79	2.400	
MEXICO	I	76-77-78-79	2.400	(i.e.600S.F x 4)
NIGERIA	I	78-79	1.200	(i.e.600 S.F x 2)
RUMANIA	II	79	1.200	
TURKEY	I	78-79	1.200	(i.e.600 S.F x 2)

B) - <u>SPECIAL DEVELOPMENT FUND</u>

        Contributions were made by :

                Federal Republic of Germany
                United Kingdom
                Yugoslavia

                           TOTAL :   US $ 3,062.-
                                        =============

C) - <u>ICSU/UNESCO Subvention</u>

      a) - Basic Allocation for 1979 : US.$ 13,000-

      b) - Special UNESCO Contract :   US.$ 3,000-

          . Assistance to IMU's
            Commission on Development
            and Exchange :
          - *Symposium May 1979, on :*
            "Operational Research and
            Graph Theory", Singapore
            Symposium August 1979, on :
            "Functional Analysis and
            Applications", Ghana ..

                                    US.$ 15,500
                                    =============
            Final payment in January 1980   US.$ 500
                                    =============

D) - <u>GRANTS</u>

      a) - Grant from COSTED : unpaid in 1978   US.$ 2,000-
          (subvention for Travel grants   =============
          to young mathematicians for ICM '78)

      b) - Special UNESCO Contract No. 250.476

          . Assistance to the Commission on
            Development and Exchange
          - *XIIth. Latin-American Colloquium*
            on Analysis and Applied Mathematics
            Pocos de Calda (Brazil), July 1979   US.$. 4,000-
                                       =============

E) - <u>WORLD DIRECTORY OF MATHEMATICIANS</u> (see separate accoun).

F) - <u>INTERESTS</u> on Bank accounts : US $ 759.00
         less Bank charges :   US $ 396.00

                                    US.$ 363.-
                                    =============

G) - <u>EXCHANGE DIFFERENCE</u>   US.$ 7,332--
                                    =============

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                    I N C O M E
                    _____

                                              ┌─────────┐
                                              │  US.$   │
                                              ├─────────┤
  A) - Membership dues                        │  54,684 │
                                              │         │
  B) - Contributions for Special             │         │
       Development Fund                        │   3,062 │
                                              │         │
  C) - ICSU/UNESCO contributions              │  13,000 │
       ICSU/UNESCO special contract for C.D.E.│   2,500 │
                                              │         │
  D) - Grants :                               │         │
       COSTED (left from 1978)                │   2,000 │
       UNESCO for C.D.E., special contract    │   4,000 │
                                              │         │
  E) - World Directory of Mathematicians (*)  │   7,764 │
                                              │         │
  F) - Interests on Bank Accounts             │     363 │
                                              │         │
  G) - Exchange Difference (gain)             │   6,462 │
                                              └─────────┘

          TOTAL OF INCOME           US.$   93,835
                                          ===============
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             S U M M A R Y    :
             _____


     TOTAL OF INCOME FOR 1979   .........   US.$   93,835

     TOTAL OF EXPENDITURE FOR 1979:
            under SCHEDULE  A   ............   US.$   41,702
            under SCHEDULE  B   ............   US.$   34,674
                                             US.$   76,376
     EXCESS OF INCOME OVER EXPENDITURE :     US.$   17,459
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(*) see separate account, enclosed.

E X P E N D I T U R E

SCHEDULE A	Authorized		Actual
	Sw. Frs.	US.$	US.$
1. a) Secretarial help (IMU office)	11.700	7.313	6,054
b) Secretarial help (President)	1.300	812	--
c) I.C.M.I.	900	563	500
d) C.T.S.	900	563	300
2. Office expenses	5.200	3,250	168
3. Travel expenses at Union's meetings.	18.200	11,375	5,158
4. President's & Secretary' expenses	1.850	1,156	436
5. Contribution to ICSU (2,5% on dues)	2.500	1,562	1,190
6. Publication and dissemination of the Bulletin	2.600	1,625	1,060
7. Audit fee	1.000	625	1,645
8. General Assembly 1982 (provision)	2.600	1,625	1,625
9. World Directory of Mathematicians (transfer of 4-years provision for the VIth edition 1979)	10.000	6,250	23,566
10. Contingencies	2.500	1,562	--
	61.250	38,281	41,702
	======	======	======

SCHEDULE B	Sw. Frs.	US.$	US.$
1. Scientific Activities :			
Symposia & Conferences		37,500	10,096
IMU Lectures			
I.C.M.I.	60.000		
Commission on Development			
and Exchange (C.D.E.)			12,060
2. IMU Fellowship Fund	6.000	3,750	799
3. Consultative Committee ICM '82 (provision for next meeting)	4.000	2,500	
4. IMU Development Fund	10.000	6,250	
5. Subvention ICM '82 (including Travel Grants for young mathematicians)	18.750	11,719	11,719
	98.750	61,719	34,674
	======	======	======
TOTAL OF EXPENDITURE :			76,376
			=======

.FINANCIAL STATEMENT FOR THE PERIOD JANUARY 1, 1979 TO DECEMBER 31, 1979.

1) INCOME	US.$	Sw. Frs Current a/c & P.a/c	Frs.Frs.	B.Frs.	S. Krs	S. Krs P. a/c	Frs.Frs. cash	US $ W.D.M	Yens W.D.M
a) Bank Balance in current a/c on 1/1/1979	15,450	60.478	195	13.314	786	22.484	0	---	---
b) Bank Balance in private a/c on 1/1/1979		/77.654/						---	---
Add: Receipts 1979									
0. Sales of WDM								6,386	299.502
1. Membership dues	7,018	69.918	26.586						
2. Special appeal for IMU Develop.t Fund		5.112							
3. ICSU/UNESCO	16,000								
4. Grants	6,000								
5. Interests/ bank charges		/1.213/		13					
6. Exchange differ.									
7. Inter-bank transfers	500	8.883	37.975				35.000		
8. Sundries		4.234	6.240						
		148.625 /78.867/	70.996	13.327	786	22.484	35.000	6,386	299.502
2) EXPENDITURE									
Schedule A.									
1. a) secret.help	-						23.400		
b) " President									
c) I.C.M.I.	800								
d) C.T.S.	300								
2. Office expenses	58			2.332			127		
3. Travel expenses EC	1,690		4.808				10.000		
4. Presid.t & Secr.exp.			1.873						
5. Contributin to ICSU	1,190								
6. Public. Bulletin	2,773								
7. Audit fee	1,351								
8. General Assembly									
9. W.D.M.		40.000						280	5 060 810
10. Bank charges	79	70 /436/	5						
11. Inter-bank transf.		15.000	35.000		786	22.484	4,500		
12. Sundries		4.246							
Schedule B.									
1. Scientif. activit.	5,500		2.512						
2. Fellowship Fund	500								
3. Consult.Committee									
4. IMU Develop.t Fund									
5. Subvention ICM '82									
6. C.D.E.	10.000								
7. Travel Grants	500								
	.24,741	59.316	44.198	2.332	786	22.484	34.827	4,780	5 060 810
BALANCE c/c	19727	89.309	26.798	10.995	0	0	173	1.606	1 244 493
priv.a/c.		/78.431/		closed 1.25.1980	closed 1.13.1980	closed			

<u>W D M</u>   at the end of 1979

Swiss Account

Income - charge $6,385.80
circular (printing & postage) $279.70
transfer to Japanese account $4,500.00

Balance $1,606.10

Japanese Account

Income - charge + interest ¥299.502 ⎫
SF40.000.   ¥4,935,801 ⎬ ¥5,235,303

WDM (print. & bind.)   ¥4,300,000 ⎫
WDM (secretary works)   ¥230.000 ⎬ ¥5,060,810
postage (incl. telex)   ¥520,080 ⎬
printing, etc.   ¥10,730 ⎭

Balance   ¥174,493
Transfer from Suiss Account   ¥1,070,000
Total   ¥1,244,493

Copies made: 2,000   ⎰ Kyoto: 1,500.
                                      ⎱ Kinokuniya   500. (offered for sale)

Copies kept in Kyoto

Gifts   58   ⎧ Kyoto Univ. (incl. proof readers) 10
                      ⎨ IMU president   1
                      ⎩ National committees   47

Sold   499   ⎰ In Japan   96
                      ⎱ Out of Japan   403

Remaining 943

Copies offered to Kinokuniya: no report yet.