## Bulletins of the International Mathematical Union



## Bulletin of the IMU, No. 55 (2007)

#### **Bulletin of the International Mathematical Union**

Bulletins of the International Mathematical Union, No. 55, 86 pp. (2007)

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DOI: [The DOI will be assigned later]

## **IMU**

## **BULLETIN OF THE**

## INTERNATIONAL MATHEMATICAL UNION

No. 55

December 2007

## **Secretariat:**

c/o Konrad-Zuse-Zentrum Takustr. 7 D-14195 Berlin, Germany

http://www.mathunion.org

#### **List of Abbreviations**

**CDC** Committee for Developing Countries

**CDE** Commission on Development and Exchange

**CEIC** Committee on Electronic Information and Communication

**DCSG** Developing Countries Strategy Group

**ICHM** International Commission on the History of Mathematics

ICMI International Commission on Mathematical Instruction

ICSU International Council for Science

**IUHPS** International Union of the History and Philosophy of Science

Dear Members of the International Mathematical Union,

Since January 2007, the Secretariat of the IMU has a new home. The newly elected Secretary has his "headquarters" at Konrad-Zuse-Zentrum, Berlin, Germany, consequently the Secretariat has moved from Princeton to Berlin. It took some months to put everything in its place but meanwhile things are working well.

In the year 2007, there have been some changes in the structure of the Adhering Organizations. Republic of Korea upgraded from groupt II to group IV and Iran upgraded from group II to group III. After the 2006 General Assembly has decided to establish the member category of IMU Associate Membership, Ecuador and Kyrgyzstan were the first candidates in 2007 to become Associate Members of IMU.

The Chair and all other members of the ICM 2010 Program Committee have duly been appointed. The Program Committee has defined the program structure of ICM 2010 and decided on the number/descriptions of sections and the number of lectures and is continuing this work. The Adhering Organizations are invited to submit proposals and comments to the Program Committee. The Executive Committee has endorsed the revised version of the PC/OC guidelines.

The Executive Committee has endorsed slight editorial changes of the Statutes. The currently valid version is that of September 7, 2007.

Following the recommendation of Resolution 11 adopted by the 2006 General Assembly, the Executive Committee has initiated the process of considering the establishment of a stable IMU office. All Adhering Organizations, the mathematical societies and institutions have been invited to make proposals/bids to host such a permanent office. The process of discussion and decision making will continue until 2010. The decision about this issue will be finalized by the 2010 General Assembly.

The interim CDC (Commission for Developing Countries) has been installed. It is supposed to decide on the division of funds between CDE and DCSG who are currently mainly responsible for IMU's commitment to mathematics in the developing world. Also, the CDC will come up with a suggestion for the structure of the future Commission for Developing Countries, to be voted on by the 2010 General Assembly.

The IMU homepage has intensely been worked on, the software format has been changed to Typo3. Great efforts have been made to compile a database of all ICM plenary and invited speakers since 1950 and to display it on IMU's homepage.

The IMU Executive Committee has approved to set up a joint IMU/ICIAM/IMS committee on "quantitative assessment of research" and to ask this committee to come up with a report about its findings.

This bulletin contains the corrected version of the approved IMU budget 2007-2010. The budget approved by the 2006 General Assembly was approved subject to some corrections that had to be made later on. This corrected budget is considered to be the approved IMU 2007-2010 budget.

The present report does not contain a comparison of Income and Expenditure of the Financial Years 2007 and 2006. Different account currencies, US dollars in 2006 and Euros in 2007, and different/varying terms for income and expenditure items as a consequence of the particular national auditing systems make it impossible to really compare the figures.

With respect to 2007 IMU dues payment it has to be reported that the great majority of the Adhering Organizations has paid their dues. Seven countries are in arrears for 2007, one country is in arrears for 2006/2005.

Martin Grötschel

M. Gröthhel

IMU Secretary

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#### 1. Executive Committee 2007-2010

#### INTERNATIONAL MATHEMATICAL UNION

#### **Executive Committee**

January 1, 2007 – December 31, 2010

**President:** László Lovász (Hungary)

Vice-Presidents: Zhi-Ming Ma (China)

Claudio Procesi (Italy)

Secretary: Martin Grötschel (Germany)

Members-at-Large: M. Salah Baouendi (USA)

Manuel de León (Spain)
Ragni Piene (Norway)
Cheryl E. Praeger (Australia)
Victor A. Vassiliev (Russia)
Marcelo Viana (Brazil)

Ex-officio Member (Past President)

John M. Ball

(United Kingdom)

#### **Meetings of the Executive Committee in 2007:**

76<sup>th</sup> EC Meeting, Oslo, Norway, May 20/21, 2007

## 2. Members of the Union

The following 69 countries were members of IMU through December 31, 2007:

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

#### 3. IMU Officers 2007 - 2010

#### COMMISSION ON DEVELOPMENT AND EXCHANGES (CDE)

January 1, 2007 - December 31, 2010

President: S. Dani (India)

Secretary: G. Gonzalez-Sprinberg (France)

Members at Large: G. Boente (Argentina)

P. Cordaro (Brazil)
J-P. Gossez (Belgium)
M. T. Niane (Sénégal)
M. Sanz-Solé (Spain)
J. Zhang (China)

# INTERNATIONAL COMMISSION ON THE HISTORY OF MATHEMATICS (ICHM)

January 1, 2007 - December 31, 2010

IMU Representative C. Houzel (France)
IMU Representative P. M. Neumann (UK)

# INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION (ICMI)

January 1, 2007 - December 31, 2009

President: M. Artigue (France)
Vice Presidents: J. Adler (South Africa)

B. Barton (New Zealand)

Secretary-General: B. Hodgson (Canada)

Members at Large: M. Bartolini Bussi (Italy)

J. Carvalho e Silva (Portugal)

C. Hoyles (UK)

S. Kumaresan (India)

F. Koon-shing Leung (Hong Kong)

A. Semenov (Russia)

# COMMITTEE ON ELECTRONIC INFORMATION AND COMMUNICATION (CEIC)

January 1, 2007 - December 31, 2010

Committee Members: Jonathan M. Borwein, Chair (Canada)

Michael Doob (Canada) David Eisenbud (USA) John Ewing (USA)

Ulf Rehmann (Germany)

Alf van der Poorten (Australia)

The CEIC membership term of J. M. Borwein, J. Ewing and A. van der Poorten ends at the end of 2008.

## 4. Approved membership dues 2007 – 2010

International Mathematical Union					
Approved membership dues 2007 – 2010 (Swiss Francs)					
Group	2007	2008	2009	2010	
I	1386	1455	1528	1605	
II	2772	2910	3056	3210	
III	5544	5820	6112	6420	
IV	11088	11640	12224	12840	
V	16632	17460	18336	19260	

## 5. Corrected version of the approved IMU budget 2007-2010

International Mathematical Union						
Approv	Approved Budget for 2007-2010 (Swiss Francs)					
Expenses	Approved Budged for	5% Dues increase	5% Dues increase	5% Dues increase	5% Dues increase	
Schedule A:	2003-2006	2007	2008	2009	2010	
Secretarial help, IMU office	22.000	22.660	22.660	22.660	22.660	
Secretarial help, President	5.000	5.150	5.150	5.150	5.150	
Accountant	9.000	9.270	9.270	9.270	9.270	
ICMI	11.000	15.450	15.450	15.450	15.450	
CDE	6.000	6.180	6.180	6.180	6.180	
Office expenses (including postage)	16.000	16.480	16.480	16.480	16.480	
Travel expenses of the EC	30.000	30.900	30.900	30.900	30.900	
President's and Secretary's expenses	4.000	4.120	4.120	4.120	4.120	
Contribution to ICSU	9.500	9.785	9.785	9.785	9.785	
IMU Bulletin	5.000	1.500	1.500	1.500	1.500	
Audit fee	8.500	8.755	8.755	8.755	8.755	
General Assembly	4.000	4.120	4.120	4.120	4.120	
World Directory of Mathematicians	20.000	0	0	0	0	
Contingencies	2.000	2.060	2.060	2.060	2.060	
Subtotal of Schedule A	152.000	136.430	136.430	136,430	136,430	
Subtotal of Schedule A	132.000	130.430	130.430	130.430	130.430	
Schedule B:						
IMU non-CDE conference support	90.000	20.000	20.000	20.000	20.000	
ICMI scientific activities	29.000	27.810	27.810	27.810	27.810	
CDE scientific activities	40.000	115.000	115.000	115.000	115.000	
CDE support staff		56.000	56.000	56.000	56.000	
CEIC scientific activities	15.000	25.000	25.000	25.000	25.000	
Website support		6.253	6.253	6.253	6.253	
ICM Site Committee		2.000	2.000	2.000	2.000	
Program Committee for ICM	8.000	8.240	8.240	8.240	8.240	
Subvention to ICM	28.000	28.840	28.840	28.840	28.840	
Prize Committees (subvention)		11.100	11.100	11.100	11.100	
Travel grants (young & senior)	40.000	61.000	61.000	61.000	61.000	
Media Relations		3.500	3.500	3.500	3.500	
Subtotal of Schedule B	210.000	364.743	364.743	364.743	364.743	
Total Expenses (A & B)	362.000	501.173	501.173	501.173	501.173	
	102.000	3311110	2011110	23	2370	
Income						
Membership dues	279.840	336.798	353.565	371.304	390.015	
ICSU Grant	10.500	0	0	0	0	
Special Development Fund	60.000	32.000	32.000	32.000	32.000	
Interest on bank accounts	39.000	16.000	16.000	16.000	16.000	
Abel Fund		59.220	59.220	59.220	59.220	
Draw from Reserves		57.155	40.388	22.649	3.938	
Return to Reserves		0	0	0	0	
Total Income	389.340	501.173	501.173	501.173	501.173	
Income less Expenses	+	0	0	0	0	

#### **Corrections:**

Schedule A: ICMI - 11.330 changed into 15.450.

Schedule B: ICMI scientific activities - 29.870 changed into 27.810.

Schedule B: CEIC scientific activities - 15.450 changed into 25.000.

Having changed the varying draw from, and return to Reserves, the total Expenditure/Income of the approved 2007-2010 Budget is amended to 501.173 CHF.

### 6. Circular Letters of the IMU Secretary to the Adhering Organizations

#### **IMU AO Circular Letter 1/2007**

#### International Mathematical Union

March 30, 2007 IMU AO Circular Letter 1/2007

To: Adhering Organizations

From: Martin Grötschel, IMU Secretary

Postal Ballot 01/07 Change of Group of Adherence of Republic of Korea

Republic of Korea has requested a change from Group II to Group IV. The Executive Committee of the IMU recommends this change. Enclosed is the letter of request from the Korean Mathematical Society including some statistics "Mathematics in Korea at a Glance" as well as "The List of Journals in which Publications with at least One Author Based at a Korean Institution appeared within the period 1992-2005".

Please vote on the request through the enclosed postal ballot and return the ballot by mail or fax

by May 11, 2007

to the address indicated on the ballot form.

Sincerely yours,

Martin Grötschel Secretary

#### IMU AO Circular Letter 2/2007

#### **International Mathematical Union**

July 13, 2007

**IMU AO Circular Letter 2/2007** 

To: Adhering Organizations

From: Martin Grötschel, IMU Secretary

- Republic of Korea changed from Group II to Group IV
- Postal Ballot 02/07 Ecuador's Application for Associate Membership
- Postal Ballot 03/07 Kyrgyzstan's Application for Associate Membership
- The vote on Republic of Korea's request to change from Group II to Group IV yielded a positive result. As of June 2007, Korea adheres to Group IV.
- Ecudaor has applied for associate membership of the IMU. The Executive Committee of the IMU recommends to favor the application. The enclosed document gives a survey of the mathematical activities (history, universities and education, research) in Ecuador.
- Kyrgyzstan has applied for associate membership of the IMU. The Executive Committee of the IMU recommends to favor the application. The enclosed document gives evidence of the mathematical activities (universities, publications) in Kyrgyzstan.

Please vote on the requests of Ecuador and Kyrgyzstan through the enclosed postal ballots and return the ballots by mail or fax

#### by September 30, 2007

to the address indicated on the ballot form.

Sincerely yours,

Martin Grötschel IMU Secretary

#### **IMU AO Circular Letter 3/2007**

#### **International Mathematical Union**

September 12, 2007 IMU AO Circular Letter 3/2007

To: Adhering Organizations

From: Martin Grötschel, IMU Secretary

#### ICM 2010 program structure

The next International Congress of Mathematicians will take place in Hyderabad, India from August 19-27, 2010. The IMU President László Lovász has appointed Hendrik Lenstra (Leiden, the Netherlands) as chair of the Program Committee (PC) and the IMU Executive Committee has chosen all other members of the PC. The Program Committee will meet in early October, 2007 in order to define the program structure of ICM 2010.

All Adhering Organizations of IMU are invited to make suggestions concerning the program structure (number and names of sections, definitions of sections, etc.).

According to the PC/OC Guidelines, see

http://www.mathunion.org/ICM/PC/PC-OC-Guidelines-070521.pdf,

the PC is responsible for the ICM structure but is advised to use the programs of previous ICMs as rough guidelines. Innovations, of course, are not ruled out, and some Adhering Organizations may have good ideas for changes of the program structure.

The programs of previous ICMs can be found in the respective proceedings. As the last three ICM Web sites are still available on the Internet, the program structure of ICM 2006, 2002, and 1998 can easily be looked up online. Here are the respective URLs:

Madrid, Spain (2006): Beijing, China (2002): Berlin, Germany (1998): http://www.icm2006.org/ http://www.icm2002.org.cn/ http://elib.zib.de/ICM98/

If you have suggestions for the Program Committee, please contact Hendrik Lenstra via the following e-mail address:

#### hwlicm@math.leidenuniv.nl

before October 1, 2007 so that your suggestions can be considered by the ICM 2010 Program Committee.

Sincerely

Martin Grötschel IMU Secretary

#### **IMU AO Circular Letter 4/2007**

#### **International Mathematical Union**

September 14, 2007 IMU AO Circular Letter 4/2007

To: Adhering Organizations

From: Martin Grötschel, IMU Secretary

- IMU Statutes 2006
- Postal Ballot 04/07 Change of Group of Adherence of Iran
- The current version of the IMU Statutes 2006 is electronically available at <a href="http://www.mathunion.org/Organization/Statutes2006.pdf">http://www.mathunion.org/Organization/Statutes2006.pdf</a> after the IMU Executive Committee endorsed editorial changes on September 7, 2007.
- Iran has requested a change from Group II to Group III. The Executive Committee
  of the IMU recommends this change. Enclosed is the letter of request from the
  Iranian Mathematical Society including a short overview of improvement of
  mathematics in Iran during the last 30 years.

Please vote on the request of Iran through the enclosed postal ballot and return the ballot

by mail or fax

by November 30, 2007

to the address indicated on the ballot form.

Sincerely yours,

Martin Grötschel IMU Secretary

#### **IMU AO Circular Letter 5/2007**

#### International Mathematical Union

October 11, 2007 IMU AO Circular Letter 5/2007

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

- Postal Ballot 02/07 Ecuador's Application for Associate Membership
- Postal Ballot 03/07 Kyrgyzstan's Application for Associate Membership

Dear colleagues,

- The vote on Ecuador's application for Associate Membership yielded a positive result. As of October 2007, Ecuador is an Associate Member of the IMU. For more information on Ecuador's Adhering Organization see <a href="http://www.mathunion.org/Members/america/ecuador.html">http://www.mathunion.org/Members/america/ecuador.html</a>.
- The vote on Kyrgyzstan's application for Associate Membership yielded a positive result. As of October 2007, Kyrgyzstan is an Associate Member of the IMU. For more information on Kyrgyzstan's Adhering Organization see <a href="http://www.mathunion.org/Members/asia/kyrgyzstan.html">http://www.mathunion.org/Members/asia/kyrgyzstan.html</a>.

Sincerely,

Martin Grötschel IMU Secretary

#### IMU AO Circular Letter 6/2007

#### **International Mathematical Union**

October 14, 2007 IMU AO Circular Letter 6/2007

To: IMU Adhering Organizations

Major Mathematical Societies and Institutions

From: Martin Grötschel, IMU Secretary

#### IMU stable administrative structure

Dear colleagues,

The 15th IMU General Assembly recommended in Santiago de Compostela (see resolution 11 in the GA report) that the incoming Executive Committee of the IMU

"studies the establishment of stable administrative structure and funding mechanisms, including possible fund raising, for the support of the expanding IMU activities, and reports to the 2010 General Assembly with concrete proposals."

The IMU Executive Committee would like to find a sustainable location with associated suitable infrastructure at which the IMU secretarial staff could reside for a (long) period of time, and at which the costs of running the IMU operations is either low or covered by some long term grant/subsidy or the like. The purpose of this letter is to solicit from all Adhering Organizations and major mathematical societies and institutions offers or suggestions for the location of such an office.

Since the creation of the (current) IMU in 1951 the legal domicile of IMU moved with the IMU Secretary. This means that the IMU office has resided in Berlin, Princeton, Rio de Janeiro, Helsinki, Paris, Zurich, Rome, and Copenhagen during these 56 years.

Because the IMU activity has considerably increased in recent years, "transition costs" have become a significant factor. Particularly important are knowledge transfer and the many legal problems that go along with moving bank accounts, obtaining non-profit status in a new host country, etc. It would be desirable that there be some place in the world where knowledge about IMU, its activities, and its history were sustained, and that routine activities become really routine and do not have to be learned anew with the change of the IMU officers.

It is apparent to the Executive Committee, that no member country can immediately come up with a solution of IMU's "stability problem", but there may be some countries who see a possibility to establish an infrastructure that serves IMU's needs and who are willing to bear a significant part of the costs for running the IMU office. The IMU EC is currently reluctant to make a comprehensive list of all aspects that have to be considered, since these may vary with time and location. In the attachment, though, some items are listed that need consideration.

The IMU Executive Committee asks all Adhering Organizations to check out possibilities to host the IMU office starting at some point in time after 2010. Those countries interested in serving IMU in this respect are requested to contact the IMU Secretary for more detailed consultation and information.

There is no decisive deadline for a response, but the IMU EC plans to start discussing proposals from interested Adhering Organizations, mathematical societies or institutions in February 2008, so proposals arriving by the end of January 2008 will be considered in the first round.

Sincerely,

Martin Grötschel IMU Secretary

#### Attachment to IMU AO Circular Letter 6/2007 of October 14, 2007

The infrastructure details for the IMU office will certainly depend on the country and the institution at which it is located. Some of the issues that need to be considered are as follows:

- An administrative structure that keeps track of all IMU members and handles standard correspondence with the Adhering Organizations, other organizations and individuals who are in contact with IMU. At present, this amounts to work that can be done by an experienced, English speaking staff person (called IMU Administrator) on a half-time position. In the year of an International Congress, the amount of work will increase so that manpower of about a full-time position may be necessary.
- IT infrastructure for the office of the Secretary and the Administrator are necessary as well as printing devices, etc. that are usual for a secretariat.
- Financial transactions amount to more work than might be expected since many transactions to people living in developing countries or countries with poor banking infrastructure have to be handled and lots of searching and book-keeping needs to be done. Moreover, the IMU assets have to be managed. This requires support from staff experienced in this kind of work. Traditionally, such service has been provided by the institution hosting the IMU secretariat either by contributions in kind or work contracts.
- The IMU Web server has to be maintained and developed. Due to the increase of IMU's activities, this work, despite modern IT tools, does amount to a half-time position of a technician who is able to maintain the server, keep it online and run all the backup, updating and protection processes.
- The IMU archive is currently at the University of Helsinki. Since occasionally, often at a point in time of important decision making, the IMU Secretary needs to look up old files (and since someone knowledgeable about IMU matters is necessary to help curate the archive) it might be advisable to keep the IMU archive at a location close to the site of the office and not at some remote place.
- IMU's activities for developing countries are currently managed by the CDE and DCSG, and this work is supported by an administrative assistant (with a half-time position), located at the ICTP in Trieste. There would be advantages in merging this office with the IMU Secretariat.
- The International Commission on Mathematical Instruction (ICMI) is also experiencing a considerable increase in its "daily business", and it would therefore be helpful if administrative support for the ICMI Secretary General would be provided by the IMU Secretariat.
- A non-negligible aspect is the fact that "back-up support" has to be provided in case the persons normally working for IMU become ill, pregnant, etc. That is why it might be a good idea to "embed" the IMU secretariat into a mathematical institution of a reasonable size (as has been done in the past) so that replacement could be easier to solve.

The costs for such an operation can't be easily estimated in general, since they strongly depend on the location and on the local infrastructure.

#### IMU AO Circular Letter 7/2007

#### **International Mathematical Union**

October 24, 2007

**IMU AO Circular Letter 7/2007** 

To: IMU Adhering Organizations

Major Mathematical Societies and Institutions

From: Martin Grötschel, IMU Secretary

#### ICM 2010: Section descriptions

The Program Committee of the next International Congress of Mathematicians (Hyderabad, India, August 19-27, 2010) has - based on the scientific programs of former ICMs and suggestions from mathematicians the world over - decided on the structure of the scientific program of ICM 2010. This includes the descriptions and definitions of the sections, as well as the number of lectures to be given in each section.

Attached to this circular letter, please find the list of sections, their descriptions and the distribution of lectures to the sections. The Program Committee will finalize the descriptions in the spring of 2008 and invites comments on the section descriptions from the Adhering Organizations and mathematicians interested in helping make the ICM 2010 program as attractive as possible.

All Adhering Organizations and interested individuals are invited to submit proposals for changes to Hendrik Lenstra, chair of the ICM 2010 Program Committee, by the end of January 2008. Please mail your suggestions to the following e-mail address:

#### hwlicm@math.leidenuniv.nl

Sincerely,

Martin Grötschel IMU Secretary

#### Attachment to IMU AO Circular Letter 7/2007 of October 24, 2007

## Structure of the program of the ICM 2010, as decided by the Program Committee at its October 2007 meeting.

- 1. The total number of one hour plenary lectures will be 18-20, plus at most 7 lectures by the winners of the Fields medals, the Rolf Nevanlinna prize, the Gauss prize, and the Chern medal.
- 2. The number of 45 minutes invited lectures will be approximately 160, distributed over 20 sections (defined below). In addition there will be the Emmy Noether lecture.
- 3. There is the possibility of shared lectures among sections.
- 4. The Organizing Committee is encouraged to arrange for the possibility of short communications, poster sessions, as well as less formal scientific events of broad interest during the congress. The latter could address ICM participants and/or the general public.
- 5. The Organizing Committee is requested to facilitate, in consultation with the AWM (Association for Women in Mathematics), an activity regarding women. It should be scheduled either the day before or the day after the Noether lecture with not too many parallel events.

## Description and definitions of the sections, as well as the number of lectures to be given in each section.

Total number of lectures (including panel discussions): 150-176.

#### 1. Logic and foundations (4-5 lectures)

Model theory. Set theory. Recursion theory. Proof theory. Applications. Connections with sections 2, 3, 14, 15.

#### 2. Algebra (6-7 lectures)

Groups and their representations (except as specified in 5 and 7). Rings, algebras and modules (except as specified in 7). Algebraic K-theory. Category theory. Computational algebra and applications.

Connections with sections 1, 3, 4, 5, 6, 7, 14, 15.

#### **3. Number theory** (10-12 lectures)

Analytic and algebraic number theory. Local and global fields and their Galois groups. Zeta and L-functions. Diophantine equations. Arithmetic on algebraic varieties. Diophantine approximation, transcendental number theory and geometry of numbers. Modular and automorphic forms, modular curves and Shimura varieties. Langlands program. p-adic analysis. Number theory and physics. Computational number theory and applications, notably to cryptography.

Connections with sections 1, 2, 4, 7, 12, 14, 15.

#### 4. Algebraic and complex geometry (9-11 lectures)

Algebraic varieties, their cycles, cohomologies and motives (including positive characteristics). Schemes. Commutative algebra. Low dimensional varieties. Singularities and classification. Birational geometry. Moduli spaces. Abelian varieties and p-divisible groups. Derived categories. Transcendental methods, topology of algebraic varieties. Complex differential geometry, Kahler manifolds and Hodge theory. Relations with mathematical physics and representation theory. Real algebraic and analytic sets. Rigid and p-adic analytic spaces. Tropical geometry.

Connections with sections 2, 3, 5, 6, 7, 8, 14, 15.

#### **5. Geometry** (10-12 lectures)

Local and global differential geometry. Geometric PDE and geometric flows. Geometric structures on manifolds. Riemannian and metric geometry. Geometric aspects of group theory. Convex geometry. Discrete geometry. Geometric rigidity.

Connections with sections 2, 4, 6, 7, 8, 9, 10, 11, 12.

#### **6. Topology** (10-12 lectures)

Algebraic, differential and geometric topology. Floer and gauge theories. Low-dimensional including knot theory and connections with Kleinian groups and Teichmüller theory. Symplectic and contact manifolds. Topological quantum field theories.

Connections with sections 2, 4, 5, 7, 8, 9, 12.

#### 7. Lie theory and generalizations (8-10 lectures)

Algebraic and arithmetic groups. Structure, geometry and representations of Lie groups and Lie algebras. Related geometric and algebraic objects, e.g. symmetric spaces, buildings, vertex operator algebras, quantum groups. Noncommutative harmonic analysis. Geometric methods in representation theory. Discrete subgroups of Lie groups. Lie groups and dynamics, including applications to number theory.

Connections with sections 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14.

#### **8. Analysis** (7-8 lectures)

Classical analysis. Special functions. Harmonic analysis. Complex analysis in one and several variables, potential theory, geometric function theory (including quasi-conformal mappings), geometric measure theory. Applications. Connections with sections 5, 6, 7, 9, 10, 11, 12, 16.

#### **9. Functional analysis and applications** (5-6 lectures)

Operator algebras. Non-commutative geometry, spectra of random matrices. K-theory of C\*-algebras, structure of factors and their automorphism groups, operator-algebraic aspects of quantum field theory, linear and non-linear functional analysis, geometry of Banach spaces, Asymptotic geometric analysis. Connections to ergodic theory.

Connections with sections 5, 6, 7, 8, 10, 11, 12, 13.

#### **10. Dynamical systems and ordinary differential equations** (9-11 lectures)

Topological and symbolic dynamics. Geometric and qualitative theory of ODE and smooth dynamical systems, bifurcations and singularities. Hamiltonian systems and dynamical systems of geometric origin. One-dimensional and holomorphic dynamics. Multidimensional actions and rigidity in dynamics. Ergodic theory including applications to combinatorics and combinatorial number theory.

Connections with sections 5, 7, 8, 9, 11, 12, 13, 14, 16, 17.

#### **11. Partial differential equations** (9-10 lectures)

Solvability, regularity, stability and other qualitative properties of linear and nonlinear equations and systems. Asymptotics. Spectral theory, scattering, inverse problems. Variational methods and calculus of variations. Optimal transportation. Homogenization and multiscale problems. Relations to continuous media and control. Modeling through PDEs. Connections with sections 5, 8, 9, 10, 12, 16, 17, 18.

#### **12. Mathematical physics** (10-12 lectures)

Quantum mechanics. Quantum field theory. General relativity. Statistical mechanics and random media. Integrable systems. Electromagnetism, String theory, condensed matter, fluid dynamics, multifield physics (e.g. fluid/waves, fluid/solids, etc.).

Connections with sections 4, 5, 6, 7, 8, 9, 10, 11, 13.

#### 13. Probability and Statistics (12-13 lectures)

Classical probability theory, limit theorems and large deviations. Combinatorial probability. Random walks. Interacting particle systems. Stochastic networks. Stochastic geometry. Stochastic analysis. Random fields. Random matrices and free probability. Statistical inference. High-dimensional data analysis. Sequential methods. Spatial statistics. Applications.

Connections with sections 3, 5, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18.

#### **14. Combinatorics** (7-8 lectures)

Combinatorial structures. Enumeration: exact and asymptotic. Graph theory. Probabilistic and extremal combinatorics. Designs and finite geometries. Relations with linear algebra, representation theory and commutative algebra. Topological and analytical techniques in combinatorics. Combinatorial geometry. Combinatorial number theory. Polyhedral combinatorics and combinatorial optimization.

Connections with sections 1, 2, 3, 4, 7, 10, 13, 15.

#### **15. Mathematical aspects of computer science** (6-7 lectures)

Complexity theory and design and analysis of algorithms. Formal languages. Computational learning. Algorithmic game theory. Cryptography. Coding theory. Semantics and verification of programs. Symbolic computation. Quantum computing. Computational geometry, computer vision.

Connections with sections 1, 2, 3, 4, 13, 14, 16.

#### 16. Numerical analysis and scientific computing (5-6 lectures)

Design of numerical algorithms and analysis of their accuracy, stability and complexity. Approximation theory. Applied and computational aspects of harmonic analysis. Numerical solution of algebraic, functional, differential, and integral equations. Grid generation and adaptivity.

Connections with sections 8, 10, 11, 13, 15, 17, 18.

#### **17. Control theory and optimization** (6-7 lectures)

Minimization problems. Controllability, observability, stability. Robotics. Stochastic systems and control. Optimal control. Optimal design, shape design. Linear, non-linear, integer, and stochastic programming. Applications. Connections with sections 10, 11, 13, 16, 18.

#### 18. Mathematics in science and technology (8-10 lectures)

Mathematics applied to the physical sciences, engineering sciences, life sciences, social and economic sciences, and technology. Bioinformatics. Mathematics in interdisciplinary research. The interplay of mathematical modeling, mathematical analysis and scientific computation, and its impact on the understanding of scientific phenomena and on the solution of real life problems.

Connections with sections 11, 13, 16, 17.

#### 19. Mathematics education and popularization of mathematics

(3 lectures + 3 panel discussions)

All aspects of mathematics education, from elementary school to higher education. Mathematical literacy and popularization of mathematics. Ethnomathematics.

#### **20. History of Mathematics** (3 lectures)

Historical studies of all of the mathematical sciences in all periods and cultural settings.

#### **IMU AO Circular Letter 8/2007**

#### **International Mathematical Union**

November 9, 2007 IMU AO Circular Letter 8/2007

To: IMU Adhering Organizations

(Adhering Organizations of Associate Members receive this letter for information)

From: Martin Grötschel, IMU Secretary

#### Postal Ballot 05/07 Colombia's Application for IMU Membership

Colombia has applied for full membership of the IMU. The Executive Committee of the IMU recommends to favor the application. The enclosed document gives a survey of the level of research and activities in mathematics which have been done in Colombia the last couple of years (research at Colombian universities, training of mathematical researchers, organization of events, mathematical education).

Please vote on the request of Colombia through the enclosed postal ballot and return the ballot by mail or fax

by December 31, 2007

to the address indicated on the ballot form.

Sincerely yours,

Martin Grötschel IMU Secretary

#### **IMU AO Circular Letter 9/2007**

#### **International Mathematical Union**

December 6, 2007 IMU AO Circular Letter 9/2007

To: IMU Adhering Organizations

(Adhering Organizations of Associate Members receive this letter for information)

From: Martin Grötschel, IMU Secretary

- Iran changed from Group II to Group III
- Postal Ballot 06/07 Change of Group of Adherence of Norway
- The vote on Iran's request to change from Group II to Group III yielded a positive result. As of December 2007, Iran adheres to Group III.
- Norway has requested a change from Group II to Group III. The Executive Committee of the IMU recommends this change. Enclosed is the letter of request from the board of the Norwegian Academy of Science and Letters including a Documentation of Mathematical Activity in Norway 2002-2006.

Please vote on the request of Norway through the enclosed postal ballot and return the ballot by mail or fax

by January 31, 2008

to the address indicated on the ballot form.

Sincerely yours,

Martin Grötschel IMU Secretary

## 7. International Commission on Mathematical Instruction (ICMI) <a href="http://www.mathunion.org/icmi/">http://www.mathunion.org/icmi/</a>

# Report on ICMI activities in 2007 prepared by Bernard R. Hodgson, Secretary-General

#### 1. Organisation

The 2007-2009 Executive Committee (EC) of the International Commission on Mathematical Instruction (ICMI) took charge as of January 1, 2007. It had its first meeting at the London Knowledge Lab (London, UK) on June 13-16, 2007, with the participation of the newly elected President of the International Mathematical Union (IMU), László Lovász. As this was the first face-to-face session of all the members of this EC, the meeting was launched by a discussion of the mission of ICMI. Themes that were mentioned included: the importance of retaining strong links with the mother organisation of ICMI, the IMU; the international nature of ICMI and a recognition of different challenges in different countries; the importance of the "Pipeline" project (see item 6 below); the need to work on a regional basis; the value of ICMI Studies; and the need to establish sound administrative and financial foundations for the organisation. Besides this meeting, the work of the EC during 2007 was conducted by electronic communication under the direction of the President and the Secretary-General. As the workload incumbent to the Executive has considerably increased in recent years, the EC has made substantial efforts concerning personal responsibilities of its members and towards a greater sharing of the duties among the committee.

As part of the decisions concerning the distribution of responsibilities among its members, the new Executive Committee of IMU appointed two of its members, Cheryl Praeger and Victor Vassiliev, to be the IMU representatives for ICMI. But the President and Secretary of IMU remain *ex officio* members of the ICMI Executive.

Ecuador and Kyrgyzstan have acquired in 2007 the newly created status of "Associate members" of IMU. The number of **countries members of ICMI** at the end of 2007 was thus 83, including 14 countries that are not members of IMU. Contacts with the two Associate members have been established and they were invited to appoint a Representative to ICMI. During 2007, as a consequence of the end of the union between the republics of Serbia and of Montenegro, the corresponding membership in the IMU (and thus in ICMI) was changed from *Serbia and Montenegro* to *Serbia*.

During 2007, a total of nineteen collective e-mail messages were sent by the Secretary-General to the ICMI Representatives, most of these asking for the collaboration of the Representatives in dissemination of information about ICMI and its activities.

As a sequel to the change in the procedure for the election of the ICMI Executive Committee adopted by the IMU General Assembly held in Santiago de Compostela, Spain, in August

2006, the **Terms of Reference of ICMI** have been amended. The new Terms, adopted by the IMU Executive Committee in February 2007, have been modified so the reflect the fact that the ICMI EC is henceforth elected by the ICMI General Assembly (instead of the IMU GA). Moreover, adopting an IMU tradition, the term as President of ICMI is becoming non-renewable.

Due to the short delay between the adoption of the new election rules for the ICMI EC at the 2006 IMU GA and the deadlines for submission of candidatures, the invitation to the IMU Adhering Organisations, Committees for Mathematics, and ICMI Representatives, to **nominate candidates** to the ICMI Nominating Committee and to the 2010-2012 ICMI Executive Committee, was exceptionally made in the same email call, sent in January 2007. This ICMI Nominating Committee was originally composed of Jeremy Kilpatrick (USA), chair, Michèle Artigue (France), László Lovász (Hungary), Attia Ashour (Egypt), Lee Peng Yee (Singapore), Elon Lima (Brazil) and Evgenia Sendova (Bulgaria). But Elon Lima later withdrew from the Committee.

Throughout the year, the President and Secretary-General of ICMI have been in regular email contact with the President and Secretary of IMU on various issues related to ICMI.

#### 2. ICMEs

The International Programme Committee (IPC) of the 11th International Congress on Mathematical Education, **ICME-11**, to be held in Monterrey, México, from July 6-13, 2008, had its second and final meeting in Monterrey on January 27-30, 2007. The IPC is chaired by Marcela Santillán and the Local Organising Committee, by Carlos Signoret. Up to date information about the congress is available on the website

http://icme11.org/

As reported earlier, three official bids have been received following the call for proposals to host ICME-12, namely from China (Shanghai), Korea (Seoul) and South Africa (Durban). The Executive Committee has organised site visits to the three countries early in 2007, the ICMI visiting committee being composed of President Michèle Artigue, Vice-President Bill Barton and Secretary-General Bernard R. Hodgson. The visits took place in March 2007 (Shanghai and Seoul) and May 2007 (Durban) and allowed the Executive Committee to appreciate the quality of the local infrastructure, the support the project was receiving in the country as well as the expertise of the organising team. The bids were thoroughly discussed by the ICMI EC at its meeting in London in June 2007, which led to requests for additional pieces of information from the bidding countries. The final decision was made through an email discussion that took place between October and December 2007. The high quality of the three proposed bids made the EC decision task especially difficult.

The ICMI Executive Committee announced by the end of 2007 its decision of accepting the invitation from Korea to host ICME-12 in 2012. The congress is expected to take place in the COEX Convention Centre, in Seoul, on July 8-15, 2012. A Korean delegation will be present at ICME-11 to provide information on the 2012 ICME.

The ICMI Executive Committee has expressed its deepest gratitude to the mathematics education and mathematics communities in the three bidding countries, and especially to the three persons who chaired the committees that prepared the bids, namely Professors Jianpan Wang (China), Sung Je Cho (Korea) and Renuka Vithal (South Africa).

The ICMI EC also made it known that since two its members are from one of bidding countries — namely Vice-President Jill Adler (South Africa) and Member-at-Large Frederick Leung (China / Hong Kong) —, they have taken no part in the discussion or decision-making about ICME-12, nor have they had access to the competing bids.

#### 3. ICMI Studies

No new ICMI Study was launched in 2007 and no Study conference took place. But the EC has explored at its June meeting the possible launching of two new Studies, on issues of the teaching and learning of mathematics in multilingual contexts, and on the educational links between mathematics and the industry.

One Study volume appeared in 2007 in the **New ICMI Study Series**: that of ICMI Study 14 on *Applications and Modelling in Mathematics Education* under the editorship of Werner Blum, Peter Galbraith, Hans-Wolfgang Hehn and Mogens Niss. (NISS 10) Volumes for Study 15 (*The Professional Education and Development of Teachers of Mathematics*), for Study 16 (*Challenging Mathematics in and beyond the Classroom*) and Study 17 (*Digital Technologies and Mathematics Teaching and Learning: Rethinking the Terrain*) are under preparation. (Respectively NISS volumes 11, 12 and 13)

The Conference for **Study 18** on *Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education* is under preparation. This Study is organised jointly with the International Association for Statistical Education (IASE), and its International Programme Committee is chaired by Carmen Batanero. The Study Conference, which is merged with an IASE Round Table Conference, will take place on June 30-July 4, 2008, at the Instituto Tecnológico y de Estudios Superiores, in Monterrey, México, as a satellite conference to ICME-11.

The International Programme Committee for the **19th ICMI Study** on *The Role of Mathematical Reasoning and Proving in Mathematics Education* is co-chaired by Gila Hanna and Michael de Villiers. The appointment of the IPC was finalised early in 2007 and the Committee met at the Universität Duisburg-Essen in November 2007. The Discussion Document for this Study was disseminated by the end of 2007.

At its June 2007 meeting, the Executive Committee decided to launch a round of negotiation with Springer so to reach a new agreement as regards the **contract for the NISS series**. Among the objectives to achieve in this new contract is an increase in the royalties (currently at 6 %). But more important is the issue of obtaining permission to post the content of the NISS volumes freely accessible on ICMI website after a delay of a certain number of years after the publication of the book. This is becoming even more important in the context of the ICMI Digital Library reported below (item 8).

#### 4. ICMI Regional Conferences

Three ICMI Regional Conferences were held in 2007.

• **AFRICME 2** (the *Second Africa Regional Congress of ICMI on Mathematical Education*) took place at the Catholic University of Eastern Africa, Nairobi, Kenya, on May 23-26,

2007. It is the second in this series that aims at offering a forum for mathematics educators throughout Africa, the previous one having been held in Johannesburg, South Africa, in 2005. AFRICME 2 gathered 87 participants from 14 different countries, including the following African countries: Botswana, Burkina Faso, Kenya, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Uganda and Zimbabwe. A report on AFRICME 2 appears in the *ICMI Bulletin* 60 (June 2007).

- ICMI-EARCOME-4 (the Fourth ICMI East Asia Regional Conference in Mathematics Education) was held in Penang, Malaysia, on June 16-22, 2007. It was organised by the Universiti Sains Malaysia and attracted a total of 409 participants, including 156 foreign participants from 22 countries, 169 local mathematics educators and teachers, and 25 foreign and 28 local postgraduate students. A report on EARCOME-4 appears in the ICMI Bulletin 61 (December 2007).
- XII CIAEM (the Twelfth Inter-American Conference on Mathematical Education Conferencia interamericana de educación matemática) took place in Querétaro, México, on July 15-18, 2007. The congress, whose main theme was Educación matemática: historia y prospective, was attended by more than 600 participants. A report appears in the ICMI Bulletin 61 (December 2007).

In addition to **EMF 2009** (Dakar, Senegal, April 6-10, 2009), already announced, the ICMI EC has granted in 2007 the status of an ICMI Regional Conference to another conference in the AFRICME series: the *Third Africa Regional Congress of ICMI on Mathematical Education* (AFRICME 3) will be hosted by the University of Botwasna in Gaborone, Botwasna, around May 2010. The ICMI EC is represented on the International Programme Committee of this conference by Vice-President Jill Adler.

#### 5. Other Activities

The Commission will celebrate its one hundredth anniversary in 2008 and the preparation of the **centennial symposium**, which will take place early March at the Accademia dei Lincei in Rome, is now well under way. The International Programme Committee for this symposium is chaired by Ferdinando Arzarello and the Local Organising Committee, by Marta Menghini. More information can be obtained from the website

www.unige.ch/math/EnsMath/Rome2008/

Over the last years, ICMI has been sponsoring, jointly with UNESCO and other bodies, the development of a mathematical exhibition entitled "Experiencing mathematics", whose aim is to improve the image of mathematics among the general public. Three copies of the exhibition are now available and are being circulated internationally under UNESCO and ICMI auspices. The 2007 programme of travel included Cambodia (4 cities), Singapore (35 000 visitors), Viet Nam (two cities), Santiago de Chile, Lebanon (Beirut and Saida), India (Dehli, Kolkata, Bangalore, Mumbai), France, Portugal, Poland (Warsaw and Kraków) and Switzerland (Basel) in connection with the celebration of the 300th anniversary of Euler. The current plans for 2008 include Colombia (Bogotá), México (Monterrey, including the period of ICME-11), Paraguay (Asunción) and Argentina (Buenos Aires) in Latin America, India, Pakistan and the Philippines in Asia, and Portugal. The development of a virtual exhibition in four different languages, connected to the one existing physically and aimed at secondary school mathematics teachers, was pursued in 2007. The official opening of this additional component has taken place in March 2008.

ICMI has maintained in 2007 its actions for developing countries, in particular in collaboration with the IMU. At its June meeting, the ICMI EC decided that Vice-President Jill Adler would replace Michèle Artigue as the ICMI representative on the IMU Developing Countries Strategy Group (DCSG) and later, once created, on the new IMU structure, namely the Committee for Developing Countries (CDC). The CDC brings together the work of the DCSG and the Commission for Development of Exchange (CDE), and will act as an interim committee until 2010 when it will be formally approved by the IMU General Assembly as an IMU Commission merging the work of the DCSG and CDE. Activities related to ICMI action have received financial support from IMU, through the CDE, in 2007. The ICMI Regional Conference AFRICME 2, held in Nairobi, Kenya, was given 4000 USD. The presentation of the mathematical exhibition "Experiencing Mathematics" in Latin America was supported by a grant of 3000 USD, and its travel to Cambodia, by a grant of 1500 USD (this support was for the organization of a one-day workshop on the theme "The Usefulness of Mathematics", to take place in Battambang, on 9 March 2007; the request for such support was directly sent to IMU by Chan Roath, who organized the travel of the exhibition in Cambodia, and not by ICMI). Two Vietnamese teachers who had taken part in the ICMI Study 17 Conference in Hanoi, in December 2006, were invited to the 2007 International Seminar of the Park City Mathematics Institute hosted by the Institute for Advanced Study (Princeton USA). The theme of the 2007 PCMI International Seminar on Mathematics Education was "Bridging Policy and Practice: Mathematics Education Around the World". (Former participants at the PCMI International Seminars will gather at ICME-11 and a presentation will be made in the context of Discussion Group 6 on "The nature and roles of international cooperation in mathematics education".) The project of a joint collaboration between PCMI, the Centre international de mathématiques pures et appliquées (CIMPA) and ICMI for a "PCMI-like" seminar planned for Cambodia in 2010 is under progress.

The ICMI EC has pursued the reflection started by the previous Executive about the assessment of the quality of research in mathematics education as reflected in the inclusion (or non-inclusion) of mathematics education research journals in **scientific indexes** such as the SSCI (Social Sciences Citation Index) of ISI Thompson, the index most widely in use. As regards the specific case of the position of the journal Educational Studies in Mathematics (ESM) in the SSCI, the current ICMI EC is fully supportive of the position taken on that account by the previous EC. The Committee feels that it is obliged to draw to the attention of those in charge of the evaluation of research in mathematics education, the scientific bias in the current situation. Moreover the EC is much sensitive to the potential risks for the field of an abusive use of such citation indexes in the assessing the quality of scientific research. The EC of ICMI is in no doubt that the SSCI of ISI Thompson cannot be considered as an appropriate means for appreciating and assessing the quality of research in mathematics education. Because of the potentially harmful effects on our field of the use of this metric, the ICMI EC expressed its willingness to collaborate with ISI or other agencies in their efforts to achieve an improved representation and evaluation of research in mathematics education. At the ICMI EC meeting in June 2007, it was decided to set up a subcommittee specifically for this purpose, to include as members, the past ICMI President, Hyman Bass, the current President Michèle Artigue, the vice-President Jill Adler and Celia Hoyles. A position statement of the ICMI EC on this issue was posted on the ICMI website in October 2007.

#### 6. IMU Concerns about Mathematics Students

Reflections have been pursued in 2007 about the so-called "Pipeline Project", launched jointly by IMU and ICMI in reaction to the decline in the numbers and quality of students who are choosing to pursue mathematics study at the university level, as well as the inadequate supply of mathematically qualified students choosing to become mathematics teachers in the schools. The task force already appointed to run this project, chaired by ICMI EC member Frederick Leung, had a meeting in April 2007 at the Headquarters of the American Mathematics Society (AMS) in Providence, US, so to formulate more exactly the questions to be answered, to develop a finer design of the data that needs to be gathered to answer these questions — to the extent possible from existing sources —, and finally to consider how it can be synthesized meaningfully across different cultural settings. There were also reflections on identifying some major professional organisations that would collaborate to this project. The work on the Pipeline project has also been connected to that of the Survey Team for ICME-11, chaired by Derek Holton (New Zealand), on the topic of "Recruitment, entrance and retention of students to university mathematical studies in different countries". The Pipeline project was one item on the agenda of the June 2007 meeting of the ICMI EC. A letter was later sent to a set of countries (Australia, Finland, France, New Zealand, Portugal, Singapore, and USA) inviting them to participate in the project and asking them to indicate whether some specific relevant statistical data were readily available, and if not, whether they were easy to gather. Countries were also asked to provide information about their education system. The project receives a strong support from the mathematical societies in the participating countries and is run is close collaboration with them.

#### 7. ICMI Affiliated Study Groups

ICMI continues to have five Affiliated Study Groups, namely (in the chronological order of their affiliation to ICMI) **HPM** (The International Study Group on the Relations Between the History and Pedagogy of Mathematics) and **PME** (The International Group for the Psychology of Mathematics Education) — 1976, **IOWME** (The International Organization of Women and Mathematics Education) — 1987, **WFNMC** (The World Federation of National Mathematics Competitions) — 1994 and **ICTMA** (The International Study Group for Mathematical Modelling and Applications) — 2003.

All the ICMI ASGs will appear on the programme of ICME-11 in the Affiliated Study Groups slots. Moreover, two of them will hold conferences as satellite meetings of ICME-11. HPM 2008 will take place in the Centro Cultural del México Contemporáneo, Mexico City, México, on July 14-18, while PME 32 will be held jointly with PME-NA XXX in Morelia, México, on July 17-21.

#### 8. IMU/ICMI Digitisation Programme

In the context of IMU programme of open access to IMU publications, ICMI was offered by the IMU EC to receive support from the IMU Committee on Electronic Information and Communication (CEIC) for a similar project as regards ICMI publications. As ICMI had been contemplating for a long time making widely available on its website the various documents connected to and resulting from its activities, this offer was most timely. The aim is that the **ICMI Digital Library** would eventually make available freely online all the ICMI material. In a first step, besides the issues of the *ICMI Bulletin* from its very beginning, the priority in digitising material is given to past Proceedings of all the ICME congresses and to

the ICMI Study volumes. The ICMI EC is grateful to IMU for its exceptional support in this endeavour.

#### 9. Information and Communication

At its June meeting, the ICMI EC finalised the decision to launch an electronic newsletter. This project of establishing a means of prompt, efficient and brief communication had been under discussion for a certain time and the first issue of ICMI News has finally appeared in December 2007. The aim of this newsletter is to improve communication between ICMI and the worldwide community interested in mathematics education by regularly providing information about actions and recommendations of ICMI, highlighting issues that are under discussion and reporting about ongoing activities. In addition, *ICMI News* reports on major activities by the ICMI Affiliated Study Groups (HPM, PME, IOWME, WFNMC and ICTMA), on major international events related to mathematics education, and on other topics of interest to the international mathematics education community. The Editor of *ICMI News* is Jaime Carvalho e Silva, member of the ICMI Executive Committee. The ICMI EC is grateful to the IMU EC for the logistic support provided to the publication and dissemination of the ICMI e-newsletter, in particular as regards online subscription. *ICMI News* will appear every two months, alternating with IMU own electronic newsletter, *IMU-Net* (www.mathunion.org/ Publications/Newsletter/).

The project of redesigning and updating the **ICMI website** has progressed in 2007, albeit more slowly than expected. The new website, which will still be hosted on the IMU server, is planned to be launched early in 2008. ICMI has adopted the recent policy of IMU to use a Content Management System (CMS) as the environment for the website, which will allow for easier maintenance and updating of the content of the website, as several persons (with a proper access authorisation) will be entitled to edit the contents of the site separately and independently from the webmaster. The CMS used by IMU is the open source system TYPO3

The two issues of the *ICMI Bulletin* for the year 2007 underwent delays in publication.

ICMI Financial Report 2007 prepared by Bernard R. Hodgson, Secretary-General

## **ACCOUNTS**

For the year ended December 31, 2007

## **ICMI Accounts 2007**

## 1 January – 31 December

#### **BALANCE AS OF JANUARY 1:**

ICMI  Canadian Dollars  US Dollars  Euros  1)	76 059,79 48 102,71 0,00
Solidarity Fund (US Dollars)	36 888,99
Canadian Dollars Account:	
Incomo	
Income: balance 2006	76 059,79
interest	3 937,97
total	70 007 76
total	<u>79 997,76</u>
Expenditure:	2 (27 41
ICMI Study 19: IPC meeting, Essen (November 2007) <sup>2)</sup>	2 637,41
ICMI EC meeting, London (June 2007)	9 750,58
ICMI Centennial: interviews	2 941,42
ICME-11: meeting of IPC, Monterrey (January 2007) site visits for ICME-12 <sup>3)</sup>	1 073,50
	5 298,54
EMF 2009: IPC meeting, Orléans, travel of Secretary-General and local expenses AFRICME 2, Nairobi, travel of Secretary-General and local expenses	2 319,71 1 154,93
edition of documents for the ICMI website	318,00
	87,55
postage secretariat expenses	1 185,43
bank charges (checks and foreign transfers)	45,20
bank charges (checks and foreign transfers)	43,20
ICMI balance 2007 (CAD account)	53 185,49

### **US Dollars Account:**

total

79 997,76

Income:	
ICMI balance 2006	48 102,71
grant from IMU: "Pipeline" Study 4)	10 000,00
grant from IMU: ICME-11 5)	9 000,00
grant from IMU: ICMI Centennial Symposium	8 000,00
ICMI interest	1 836,37
TCIVII interest	1 050,57
Solidarity Fund balance 2006 6)	36 888,99
Solidarity Fund interest	1 286,27
	,,
total	115 114,34
E	
Expenditure:	1 155 51
ICMI Study 19: IPC meeting, Essen (November 2007) <sup>2)</sup>	1 155,51
"Pipeline" Study: Committee meeting, Providence (April 2007)	1 078,00
ICMI EC meeting, London (June 2007)	3 949,00
transfer to ICMI Centennial of IMU grant	8 000,00
grant and loan to ICMI Centennial <sup>7)</sup>	10 000,00
transfer to EUR account (corresponding to 7 265,00 EUR) 4)	10 000,00
bank charges (foreign transfers)	16,36
outilit charges (10101gh transfers)	10,50
ICMI balance 2007 (USD account)	42 740,21
Solidarity Fund balance 2007 (USD account)	38 175,26
total	115 114,34
total	113 114,34
Euros Account:	
Income:	
balance 2006	0,00
IMU (Schedule A: Administration — 15 450,00 CHF) <sup>8)</sup>	9 444,64
IMIL (Schodule D. Scientific Activities 27,910,00 CHF)	,
IMU (Schedule B: Scientific Activities — 27 810,00 CHF) 8)	17 000,36
transfer from USD account (corresponding to 10 000,00 USD) 4)	7 265,00
interest	221,15
total	33 931,15
	<u>55 751,15</u>
Expenditure:	0,00
ICMI balance 2007 (EUR account)	33 931,15
,	= = = = = = = = = = = = = = = = = = = =

total <u>33 931,15</u>

Average exchange rate, 2007 1 USD = 1.07 CAD= 0.73 EUR

#### **Notes:**

- 1. Considering the ICMI assets already available in Canadian and US dollars and the important fluctuation of various currencies, it was felt appropriate to have the 2007 annual grant of IMU transferred to ICMI in euros. A EUR bank account was opened during 2007 at the HSBC Bank of Canada (2795 boul. Laurier, Québec, account no. 23-0126-X). The CAD and USD bank accounts of ICMI remain at the Caisse Populaire de l'Université Laval (Cité universitaire, Québec, accounts nos. 68033 and 800394).
- **2.** The International Programme Committee for the nineteenth ICMI Study on *Proof and proving in mathematics education* met at the Campus Essen of the Universität Duisburg-Essen in November 2007. The costs of this meeting were substantially reduced by a generous grant of 3860 € from the Fachbereich Mathematik, Universität Duisburg-Essen to cover local accommodations, meals and meeting rooms.
- **3.** The Executive Committee has organised site visits to the three countries that submitted a bid to host ICME-12: China, Korea and South Africa. The ICMI EC was represented on each occasion by three of its members. These visits were supported by the host countries as regards the local expenses of the visitors, and travel as well in the case of the visit to South Africa.
- **4.** The financial support of 10 000 USD from IMU for the so-called "Pipeline" Study (devoted to the decline of mathematics students) was transferred to ICMI in totality in 2007. The amount was received in euros, thus corresponding to a transfer between the USD and the EUR accounts.
- **5.** The grant of IMU to ICME-11 was received in 2007 but transferred to the Mexican organisers at the beginning of 2008. It will appear in the expenditure for the financial year 2008.
- **6.** The assets of the **ICMI Solidarity Fund**, established in 1992, are kept, on the ICMI accounts, separately from ICMI's general resources.
- 7. Financial support to the organisation of the ICMI Centennial Symposium in Rome (March 2008): grant of 5 000 USD and interest-free loan of 5 000 USD.
- **8.** At the General Assembly of the International Mathematical Union held in Santiago de Compostela in August 2006, it was voted to increase by 3 % the annual support given by IMU to ICMI for the period 2007-2010. The previous amounts were respectively 15 000 CHF for Schedule A and 27 000 CHF for Schedule B.
- **9.** This annual financial report provides information on the assets of ICMI, as well as on the income and expenditure of the Commission during the year 2007 as reflected in its bank

accounts. But it does not represent the whole financial situation of ICMI. As indicated above, in addition to the IMU annual grant, other substantial supports for specific activities were received from IMU and, on one occasion, from the Fachbereich Mathematik of the Universität Duisburg-Essen (see Note 2). But the ICMI Executive Committee wishes to stress other sources of "invisible" support which are essential to the financial health of the Commission and without which it could not face its duties. In particular the Secretary-General's home institution, Université Laval, has contributed in 2007 a substantial support to ICMI's work of the order of 11 500 USD (e.g. through telephone and fax, email facilities, postage, the printing and distribution of the *ICMI Bulletin*, occasional secretarial help, plus a partially reduced teaching load for the Secretary-General).

Substantial external support was also obtained on an individual basis by other members of the Executive Committee as well as by many individuals involved in the programme committees of ICMI activities, their home institutions (partially) covering the expenses related to their participation in organisational meetings so that they did not need to claim full reimbursement from ICMI. For example, during the year 2007, the following events and actions greatly benefited from an important support received from the many institutions to which the members of the committees belong (the amounts are approximate and in USD):

•	ICMI Executive Committee meeting, London, June 2007	
	travel of six EC members	5000,00
	accommodations for four members	2000,00
•	Centennial interviews	
	travel and accommodations	1500,00
•	EMF 2009 IPC meeting, Orléans, September 2007	
	travel of ten EC members	5500,00
	accommodations and meals for eleven members	1550,00
•	ICMI Study IPC meeting, Essen, November 2007	
	travel of eight EC members	6500,00

The soundness of the financial situation of ICMI depends to a large extent on this external "invisible" support to the individuals involved in the organisational work of the Commission. But the difficult financial situation of several higher education institutions around the world makes this type of support rather fragile.

# **8.** Commission on Development and Exchanges (CDE) http://users.ictp.it/~cde/

# Report on CDE activities in 2007 prepared by Sharon Laurenti, Administrative Secretary IMU/CDE

During the interval 1 January - 31 December 2007, CDE received a total of **60 applications for financial support**, in the three exisiting categories:

- (i) conferences in developing countries<sup>1</sup>
- (ii) conferences in developed countries<sup>2</sup>
- (iii) individual research travel support

After initial routine screening by the Administrative Secretary to ensure that requests fell within IMU programme guidelines, a total of 54 applications were circulated to the Commission for review during the year.

During the interval 1 January<sup>3</sup> - 31 December, a total of 53 awards<sup>4</sup> were made, for a total value of US\$ 46,730

Partial support was granted in **31 cases** for conferences taking place in the following **developing countries**:

Country N	Io. awards	Total value of awards (US\$)
Armenia	1	1,000
Argentina	1	1,000
Brazil	2	2,000
Burkina Faso	1	1,000
Cambodia	1	1,500
Cameroon	1	1,000
China	2	2,000
Colombia	2	2,000
India	3	3,000
Madagascar	1	1,000
Morocco	4	4,000
Namibia	1	500
Nepal	1	1,000
Nigeria	1	500
Peru	1	1,000
Philippines	1	1,000
Russian Federation	1	1,000
South Africa	1	1,000
Tunisia	3	3,000
Turkey	1	1,000
Uzbekistan	1	1,000
<b>Total</b>	31	30,500

 $<sup>^{\</sup>mathrm{1}}$  In 2007, the IMU/CDE defintion of a developing country was where the Per Capita Gross National Income

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<sup>&</sup>lt;sup>2</sup> CDE support to this category is intended solely for the participation of mathematicians from developing countries. Furthermore, conference organizers are required to demonstrate that they will match the funds being requested from/granted by CDE by an equal amount from other sources also dedicated to the participation of mathematicians from developing countries.

<sup>&</sup>lt;sup>3</sup> CDE's January awards included awards on applications received during November/early December 2006, circulated to the Commission in December, and approved in January.

<sup>&</sup>lt;sup>4</sup> At 31 December 2007, 8 of these awards, for a total value of US\$ 7,100, remained to be disbursed.

Partial support was granted in **2** cases of **conferences** taking place in the following **developed countries**:

Country	No. awards	Total value of awards (US\$)
Germany	1	600
Mexico	1	1,000

**Individual** research **travel support** was granted in **20** cases, to mathematicians from:

Country	No. awards	Total value of awards (US\$)
Belarus	1	500
Benin	2	1,700
Cameroon	1	400
Cuba	1	600
Egypt	1	530
India	5	$4,000^5$
Iran	2	1,000
Nigeria	1	1,000
Tunisia	2	1,500
Uzbekistan	3	$2,400^{6}$
Vietnam	1	1,000
<b>Total</b>	20	14,630

Due to budgetary constraints, the amounts awarded for conferences, in particular, were perforce rather small.

Schedule A expenditures during the year were limited to bank fees charged for the transfer of grant monies, the precise amount of which is unknown at the time of writing.

# <u>Income 1 January - 31 December 2007</u>

Source	Amount (US\$)
IMU Schedule A	2,500.00
IMU Schedule B	45,000.00
Reimbursement of an unused 2006 grant	983.29
IMU/DCSG	6,500.00

<sup>&</sup>lt;sup>5</sup> One of these awards, to the value of US\$ 500, was eventually unavailed of.

<sup>&</sup>lt;sup>6</sup> One of these awards, to the value of US\$ 800, was eventually unavailed of.

Mathematical Society of Japan	1,293.54
Total	56,276.83
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A detailed financial report accompanies this narrative.

# Misc.

During the year, CDE co-operated fully with the efforts of the Executive Committee of the IMU to expand the reach of IMU support in the develo

\$59.285,28 \$55.720,28 \$46.542,88 \$12.785,28 \$60.285,28 \$57.785,28 \$58.285,28 \$57.970,28 \$56.720,28 \$54.720,28 \$53.720,28 \$50.720,28 \$49.720,28 \$48.720,28 \$48.542,88 \$47.542,88 \$45.442,88 \$43.692.88 \$42.510,88 \$40.510,88 \$39.010,88 \$38.010,88 \$34.400,00 \$37.224,83 \$36.224,83 Balance \$52.720,28 \$51.720,28 \$45.942,88 \$44.442,88 \$43.510,88 \$41.510,88 \$39.510,88 \$37.991,88 \$37.650,00 \$37.974,83 \$33.400,00 \$10.977,43 \$53.477,43 \$53.977,43 \$53.477,43 \$52.727,43 \$48.727,43 \$40.650,00 \$55.977,43 \$54.977,43 \$53.977,43 \$51.727,43 \$50.727,43 \$49.727,43 \$47.727,43 \$45.727,43 \$45.500,00 \$45.500,00 \$44.500,00 \$43.500,00 \$42.400,00 \$40.650,00 \$39.650,00 \$37.650,00 \$36.650,00 \$35.150,00 \$35.150,00 \$35.150,00 \$35.150,00 \$46.727,43 \$42.900,00 \$41.400,00 \$38.650,00 \$36.150,00 (\$ to Ind )Schedule A Schedule \$1.807,85 \$4.307,85 \$4.307,85 \$4.307,85 \$4.307,85 \$3.992,85 \$2.860,88 \$2.824,83 \$3.992,85 \$3.992,85 \$3.992,85 \$3.992,85 \$3.992,85 \$3.992,85 \$3.992,85 \$3.992,85 \$3.042,88 \$3.042,88 \$3.042,88 \$3.042,88 \$2.860,88 \$2.860,88 \$2.860,88 \$2.860,88 \$2.824,83 \$3.992,85 \$3.220,28 \$3.042,88 \$3.042,88 \$3.042,88 \$2.860,88 \$2.860,88 \$2.841,88 \$2.500,00 \$2.824,83 \$600,00 (\$45.000,00) \$1.500,00 (\$200,00) \$1.000,00 \$227,43 \$1.000,00 \$500,00 \$750,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1,000,00 \$500,00 \$1.000,00 \$750,00 \$1,000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$500,00 \$1.000,00 \$750,00 \$1.000,00 Schedule B (\$2.500,00) \$315,00 \$19,00 \$177,40 \$182,00 \$341,88 (\$324,83) \$772,57 Schedule A (Admin.) CDE FINANCIAL REPORT 2007 RT Cameroon->ICTP (CDE/ICTP agrmt) RT Belarus->ICTP (CDE/ICTP agrmt) RT India->ICTP (CDE/ICTP agrmt) CS=Conf. Support / RT=Ind. Res. RT Tunisia->France CS Burkina Faso RT India->USA CS Cambodia CS Philippines CS Cameroon CS Morocco CS Colombia CS Colombia CS Armenia CS Vietnam CS Namibia CS Senegal CS Nigeria CS Algeria CS Turkey CS Turkey CS China CS China CS China CS Nepal CS India 31.01.2007 RT Cameroon->ICTP (agrmt) 30.01.2007 RT Belarus->ICTP (agrmt) 31.01.2007 RT India->ICTP (agrmt) 12.03.2007 RT Tunisia->France Type 05.02.2007 CS Burkina Faso 11.05.2007 RT India->USA 12.02.2007 CS Philippines 19.01.2007 CS Cambodia 17.04.2007 CS Cameroon 09.05.2007 CS Colombia 12.02.2007 CS Morocco 16.04.2007 CS Colombia 12.02.2007 CS Armenia 16.02.2007 CS Vietnam 23.04.2007 CS Namibia 23.04.2007 CS Senegal 11.01.2007 CS Algeria 12.03.2007 CS Nigeria 12.03.2007 CS Turkey 23.04.2007 CS Turkey 01.02.2007 CS China 12.03.2007 CS Nepal 12.03.2007 CS China 12.03.2007 CS China 21.02.2007 CS Peru 23.04.2007 CS India 01.01.2007 19.01.2007 19.01.2007 01.03.2007 21.03.2007 04.05.2007 01.01.200 31/04/2007 04.05.2007 Date CDE's 19 Jan 07 \$1K award to Chan Roath by \$500 (NB: Ferrari (Total US\$ 1000 made up of Sch. A & Sch. B Received from DCSG due to their having increased Actual amount received in Berlin of above transfer AMS November & December 2006 bank fees Roath grant paid from funds at AMS) Transaction Transferred from AMS to Berlin AMS February 2007 bank fees CDE Beginning Balance 2007 AMS January 2007 bank fees AMS March 2007 bank fees Budget for 2007 Nitsure/Srinivas Adarve/Paycha funds at AMS) Giraldo Salazar Shahgholian Chan Roath Sarmiento Shuungula Lemrabet Muranov Tuladhar Eddahbi Nkemzi Yengui Uludag Onder Ayeni Zhou Some Gwet Wade Shum Rath Xiao Rao

Parpieva   29.05.2007 RT Uzbekistan->ICTP (agmt)     Rath Zoog and reimbursement   1.06.2007 RT Vigermt)     Rath Zoog and reimbursement   1.06.2007 RT Vigermt)     Hessami Pilehrood K	Inn-NCTP (agrmt) ICTP (agrmt) NCTP (agrmt) P (agrmt) P (agrmt) ermany ica in Interpolation Interpola	RT Uzbekistan->ICTP (CDE/ICTP agrmt) RT Nigeria->ICTP (CDE/ICTP agrmt) RT Vietnam->ICTP (CDE/ICTP agrmt) RT Cuba->ICTP (CDE/ICTP agrmt) RT Iran->ICTP (CDE/ICTP agrmt) RT Iran->ICTP (CDE/ICTP agrmt) RT Iran->ICTP (CDE/ICTP agrmt) CS Brazil RT Benin->Germany CS Tunisia CS South Africa CS South Africa CS India CS Argentina RT India->Belgium RT Egypt->ICTP (CDE/ICTP agrmt) CS Germany CS	\$800,00 \$1.000,00 \$1.000,00 \$600,00 \$500,00 \$1.000,00 \$1	\$2.824,83 \$5.824,83 \$5.824,83 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$31.600,00 \$30.600,00 \$31.583,29	\$34.424,83 \$33.424,83 \$34.408,12
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11.06.2007   RI	>ICTP (agrmt) P (agrmt) P (agrmt) ermany ica ligium TP (agrmt) In (agrmt) In (agrmt)	XT Vietnam->ICTP (CDE/ICTP agrmt) XT Cuba->ICTP (CDE/ICTP agrmt) XT Iran->ICTP (CDE/ICTP agrmt) XT Benin->Germany XT Benin->Germany XT Unisia XT India->Belgium XT India->Belgium XT Egypt->ICTP (CDE/ICTP agrmt) XT Germany XT Tunisia->India	(\$983,23 \$1.000,00 \$500,00 \$500,00 \$1.000,00 \$1.000,00 \$1.000,00 \$1.000,00 \$2500,00 \$55000,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$55000,00 \$55000,00 \$55000,00 \$5500,00 \$55000,00 \$5		\$31.583,29	\$34.408,12
Quang Dieu         29.06.2007 RT           ez Mederos         02.07.2007 RT           Pilehrood K.         02.07.2007 RT           Pilehrood T.         12.07.2007 CS           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         14.08.2007 CS           Inde         15.08.2007 RT           Ind         15.08.2007 RT           Ind         15.08.2007 RT           Ind         15.08.2007 RT           Ind         15.11.2007 RT           Ind         15.11.2007 RT           Ind         15.11.2007 RT           Ind         15.12.2007 RT	>ICTP (agrmt) P (agrmt) P (agrmt) ermany ica ligium TP (agrmt) In (agrmt) In (agrmt)	XT Vietnam->ICTP (CDE/ICTP agrmt) XT Cuba->ICTP (CDE/ICTP agrmt) XT Iran->ICTP (CDE/ICTP agrmt) XT Benin->Germany XT Benin->Germany XT India->Belgium XT India->Belgium XT India->ICTP (CDE/ICTP agrmt) XT Germany XT Tunisia->India	\$1.000,00 \$500,00 \$500,01 \$1.000,01 \$1.000,01 \$1.000,01 \$1.000,01 \$2500,00 \$55000,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$55000,00 \$55000,00 \$55000,00 \$5500,00 \$550000,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$		\$30.583.29	
ez Mederos         02.07.2007 RT           Pilehrood K.         02.07.2007 RT           Pilehrood T.         02.07.2007 CS           Inde         12.07.2007 CS           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         13.07.2007 RT           Inde         14.08.2007 CS           Inde         15.08.2007 CS           Inde         15.08.2007 RT           Ind         15.08.2007 RT           Ind         15.11.2007 RT           Ind         15.11.2007 RT           Ind         15.12.2007 RT           Ind         16.12.2007 RT	TP (agrmt) P (agrmt) P (agrmt) ermany ica ligium TP (agrmt)	AT Cuba->ICTP (CDE/ICTP agrmt) AT Iran->ICTP (CDE/ICTP agrmt) AT Iran->ICTP (CDE/ICTP agrmt) S Brazil AT Benin->Germany AT Benin->Germany AT Benin->Germany AT Unisia S South Africa S India S Argentina AT India->Belgium AT Egypt->ICTP (CDE/ICTP agrmt) S Germany AT Tunisia->India	\$500,00 \$500,00 \$1,000,00 \$1,000,00 \$1,000,00 \$1,000,00 \$2500,00 \$55000,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$55000,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$5500,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$55000,00 \$55			\$33.408,12
Pilehrood K.         02.07.200/C RT           Pilehrood T.         02.07.200/C ST           Inde         12.07.200/C CS           Inde         13.07.200/C ST           Inde         13.07.200/C ST           Inde         13.07.200/C ST           Inde         13.07.200/C ST           Inde         14.08.200/C ST           Inde         15.08.200/C ST           Ind         15.09.200/C ST           Ind         15.11.200/C ST           Ind         15.11.200/C ST           Ind         15.12.200/C ST           Ind         15.12.200/C ST           Ind         16.12.200/C ST </td <td>P (agrmt) P (agrmt) ermany ica ligium TP (agrmt)</td> <td>VT Iran-&gt;ICTP (CDE/ICTP agrmt) St Iran-&gt;ICTP (CDE/ICTP agrmt) St Brazil VT Benin-&gt;Germany St Tunisia St South Africa St South Africa St India -&gt;Belgium TI India -&gt;Belgium TI Egypt -&gt;ICTP (CDE/ICTP agrmt) St Germany TI Tunisia -&gt;India</td> <td>\$500,00 \$1,000,01 \$1,000,01 \$1,000,01 \$1,000,01 \$1,000,01 \$2,000,0</td> <td></td> <td>\$29.983,29</td> <td>\$32.808,12</td>	P (agrmt) P (agrmt) ermany ica ligium TP (agrmt)	VT Iran->ICTP (CDE/ICTP agrmt) St Iran->ICTP (CDE/ICTP agrmt) St Brazil VT Benin->Germany St Tunisia St South Africa St South Africa St India ->Belgium TI India ->Belgium TI Egypt ->ICTP (CDE/ICTP agrmt) St Germany TI Tunisia ->India	\$500,00 \$1,000,01 \$1,000,01 \$1,000,01 \$1,000,01 \$1,000,01 \$2,000,0		\$29.983,29	\$32.808,12
pilehrood T.         02.07.200/CS         RT           nde         12.07.200/CS         CS           nde         13.07.200/CS         RT           ued/Boukricha         14.08.200/CS         CS           an / Rajarama Bhat         14.08.200/CS         CS           na Sastry         15.08.200/CS         RT           runk         23.08.200/RT         CS           runk         23.08.200/RT         CS           na Sastry         23.08.200/RT         CS           runk         23.08.200/RT         CS           na Sastry         23.10.200/RT         CS           na Ellassoued         01.11.200/CS         CS           eyh         06.11.200/CS         CS           chaud         23.11.200/CS         CS           tion from DCSG (November 2007)         10.12.200/CS         CS           st Jan - 11 Dec 2007         23.11.200/CS         CS           atical Society of Japan donation         21.12.200/CS         RT           eved funds         RT         RT           rest funds         RT         RT	P (agrmt) ermany ica ligium TP (agrmt) India	St Tran->ICTP (CDE/ICTP agrmt) S Brazil Tt Benin->Germany St Tunisia St South Africa St India ->Belgium St Tegypt->ICTP (CDE/ICTP agrmt) St Germany Tt Tunisia->India	\$1000,00 \$1000,00 \$1000,00 \$1,000,00 \$1,000,00 \$1,000,00 \$200,00 \$500,00 \$500,00		\$29.483,29	\$32.308,12
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nde         13.07.2007         RT           ued/Boukricha         14.08.2007         CS           an / Rajarama Bhat         15.08.2007         CS           na Sastry         15.08.2007         RT           runk         23.08.2007         RT           runk         23.08.2007         RT           runk         23.08.2007         RT           runk         25.10.2007         RT           eyh         06.11.2007         CS           eyh         06.11.2007         CS           chaud         06.11.2007         CS           tion from DCSG (November 2007)         10.12.2007         CS           stion from DCSG (November 2007)         10.12.2007         CS           stion from bocsety of Japan donation         21.12.2007         CS           sred funds         RT         RT           red funds         RT         RT	ica legium TP (agrmt)	XT Benin->Germany ST Tunisia SS South Africa SS India ST Argentina AT India->Belgium AT Egypt->ICTP (CDE/ICTP agrmt) ST Germany AT Tunisia->India	\$800,00 \$1.000,01 \$1.000,01 \$1.000,01 \$500,01 \$500,01 \$500,01		\$27.983,29	\$30.808,12
nan / Rajarama Bhat     14.08.2007     CS       nan / Rajarama Bhat     15.08.2007     CS       nha Sastry     23.08.2007     RT       7 Trunk     21.08.2007     RT       7 Trunk     25.10.2007     CS       18 Elassoued     01.11.2007     CS       weyh     06.11.2007     CS       i Talibi     06.11.2007     CS       weyh     06.11.2007     CS       a puthenpurakal     29.11.2007     CS       a ution from DCSG (November 2007)     10.12.2007     CS       es 1 Jan - 11 Dec 2007     10.12.2007     CS       natical Society of Japan donation     21.12.2007     CS       pered funds     RT     RT       r	ica I Igium TP (agrmt)	S. Tunisia S. South Africa S. South Africa S. India S. Argentina VI India->Belgium VI Egypt->ICTP (CDE/ICTP agrmt) S. Germany VI Tunisia->India S. Morocco	\$1.000,00 \$1.000,01 \$1.000,01 \$500,01 \$500,01 \$500,01 \$500,01		\$27.183,29	\$30.008,12
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Is.08.2007 CS  Inha Sastry  Is.08.2007 RT  Is.08.2007 RT  Is.08.2007 RT  21.08.2007 RT  21.08.2007 RT  21.08.2007 CS  Is.08.2007 RT  22.08.2007 RT  22.10.2007 CS  Is.08.2007 RT  22.10.2007 CS  Is.08.2007 RT  25.10.2007 CS  Is.08.2007 RT  Is.08.20	igium TP (agrmt) India	S. India S. Argentina R.T India->Belgium R.T Egypt->ICTP (CDE/ICTP agrmt) S. Germany R.T Tunisia->India S. Morocco	\$1.000,00 \$1.000,01 \$500,0 \$530,01 \$600,0		\$25.183,29	\$28.008,12
15.08.2007   CS	lgium :TP (agrmt) India	S. Argentina RT India->Belgium RT Egypt->ICTP (CDE/ICTP agrmt) S. Germany RT Tunisia->India S. Morocco	\$1.000,00 \$500,00 \$530,00 \$600.0		\$24.183,29	\$27.008,12
National Sastry   23.08.2007   RT	lgium TP (agrmt) India	XT India->Belgium XT Egypt->ICTP (CDE/ICTP agrmt) SS Germany XT Tunisia->India	\$500,00 0,052\$		\$23.183,29	\$26.008,12
Trunk   31.08.2007   CS	TP (agrmt)	XT Egypt->ICTP (CDE/ICTP agrmt) S Germany XT Tunisia->India S Morocco	\$530,00	0 \$2.824,83	\$22.683,29	\$25.508,12
Trunk     31.08.2007 CS       ta     25.10.2007 RT       ta     25.10.2007 CS       i/Bellassoued     01.11.2007 CS       weyh     06.11.2007 CS       ii Talibi     06.11.2007 CS       iichaud     15.11.2007 CS       iichaud     23.11.2007 CS       iichaud     23.11.2007 CS       iichaud     23.11.2007 CS       iichaud     23.11.2007 CS       iichaud     10.12.2007 CS       intion from DCSG (November 2007)     10.12.2007 CS       intical Society of Japan donation     21.12.2007       pered funds     21.12.2007       r     RT	ndia	S Germany XT Tunisia->India S Morocco	\$600.00		\$22.153,29	\$24.978,12
ta  iyaellassoued  iyaellassoued  iyaellassoued  ixidentify  ixide	ndia	XT Tunisia->India			\$21.553,29	\$24.378,12
ta i/Bellassoued 01.11.2007 CS weyh 06.11.2007 CS weyh 1 Talibi 1	0	S Morocco	00'006\$	0 \$2.824,83	\$20.653,29	\$23.478,12
i/Bellassoued     01.11.2007 CS       weyh     06.11.2007 CS       weyh     06.11.2007 CS       ii Talibi     15.11.2007 CS       sichaud     23.11.2007 CS       a     23.11.2007 CS       Puthenpurakal     23.11.2007 CS       ution from DCSG (November 2007)     10.12.2007 CS       es 1 Jan - 11 Dec 2007     10.12.2007 CS       matical Society of Japan donation     21.12.2007       pered funds     RT       r     RT			\$1.000,00	0 \$2.824,83	\$19.653,29	\$22.478,12
weyh  in Talibi  in Ta		CS Tunisia	\$1.000,00		\$18.653,29	\$21.478,12
weyh     06.11.2007 [CS       ni Talibi     06.11.2007 [CS       Sichaud     15.11.2007 [CS       a     23.11.2007 [CS       Puthenpurakal     23.11.2007 [CS       ution from DCSG (November 2007)     10.12.2007 [CS       es 1 Jan - 11 Dec 2007     10.12.2007 [CS       matical Society of Japan donation     21.12.2007 [CS       pered funds     RT       r     R       R     R       R     R       R     R       R     R       R     R		CS Russian Federation	\$1.000,00		\$17.653,29	\$20.478,12
a vichaud     15.11.2007 (CS in Talibi       a vichaud     23.11.2007 (CS in Talibi       a vichaud     23.11.2007 (CS in Talibi       Puthenpurakal     29.11.2007 (CS in Talibi       ution from DCSG (November 2007)     10.12.2007 (CS in Talibi       es 1 Jan - 11 Dec 2007     10.12.2007 (CS in Talibi       natical Society of Japan donation     21.12.2007 (CS in Talibi       pered funds     RT       r     RT <t< td=""><td></td><td>CS India</td><td>\$1.000,00</td><td></td><td>\$16.653,29</td><td>\$19.478,12</td></t<>		CS India	\$1.000,00		\$16.653,29	\$19.478,12
sichaud     15.11.2007 [CS       a     23.11.2007 [CS       Puthenpurakal     23.11.2007 [CS       ution from DCSG (November 2007)     10.12.2007 [CS       es 1 Jan - 11 Dec 2007     10.12.2007 [CS       matical Society of Japan donation     21.12.2007       pered funds     RT       r     R       R     R       R     R       R     R       R     R       R		CS Morocco	\$1.000,00		\$15.653,29	\$18.478,12
Richaud     23.11.2007 [CS]       va     23.11.2007 [CS]       Puthenpurakal     29.11.2007 [CS]       Pution from DCSG (November 2007)     10.12.2007 [CS]       ses 1 Jan - 11 Dec 2007     10.12.2007 [CS]       matical Society of Japan donation     21.12.2007       v     RT       V     RT       CS     RS       CS     RS   <		CS Morocco	\$1.000,00	$\Box$	\$14.653,29	\$17.478,12
va     23.11.2007 (CS)       Puthenpurakal     29.11.2007 (CS)       Puthenpurakal     29.11.2007 (CS)       Puthenpurakal     10.12.2007 (CS)       Puthenpurakal     10.12.2007 (CS)       Pess 1 Jan - 11 Dec 2007     10.12.2007 (CS)       Pared funds     21.12.2007       V     RT       CS     CS       CS     CS <t< td=""><td></td><td>CS Peru</td><td>\$1.000,00</td><td></td><td>\$13.653,29</td><td>\$16.478,12</td></t<>		CS Peru	\$1.000,00		\$13.653,29	\$16.478,12
Puthenpurakal     29.11.2007 [CS       buttion from DCSG (November 2007)     10.12.2007 [CS       ses 1 Jan - 11 Dec 2007     10.12.2007 [CS       matical Society of Japan donation     21.12.2007       bered funds     RT       v     RT		CS Colombia	\$1.000,00		\$12.653,29	\$15.478,12
bered funds  v  v  v  v  v  v  v  v  v  v  v  v  v		CS India	\$1.000,00		\$11.653,29	\$14.478,12
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ees 1 Jan - 11 Dec 2007  matical Society of Japan donation 21.12.2007  bered funds  v	noc	CS Cameroon	\$1.000,00		\$16.653,29	\$19.478,12
matical Society of Japan donation 21.12.2007  bered funds		CS Tunisia	\$1.000,00		\$15.653,29	\$18.478,12
bered funds  v RT			\$1.364,20		\$15.653,29	\$17.113,92
v BT RT			(\$1.293,54)	4) \$1.460,63	\$16.946,83	\$18.407,46
bered funds  V RT						
NT RT	$\neg$			$\perp$		100
		RT Uzbekistan->ICTP (CDE/ICTP agrmt)	\$800,00		\$16.146,83	\$17.607,46
		RT Benin->ICTP (CDE/ICTP agrmt)	\$900,00		\$15.246,83	\$16.707,46
The same of the sa		CS Mexico	\$1.000,00		\$14.246,83	\$15.707,46
Tieudjo RT Cameroon->Germany		RT Cameroon->Germany	\$400,00		\$13.846,83	\$15.307,46
Hervé/Treuil CS Madagascar		CS Madagascar	\$1.000,00		\$12.846,83	\$14.307,46
El Harti CS Morocco		CS Morocco	\$1.000,00		\$11.846,83	\$13.307,46
Dzhalilov CS Uzbekistan		CS Uzbekistan	\$1.000,00		\$10.846,83	\$12.307,46
Barreto/Cardoso CS Brazil		CS Brazil	\$1.000,00	0 \$1.460,63	\$9.846,83	\$11.307,46
CDE Closing Balance 31 Dec. 2007				\$1.460,63	59.846,83	511.307,46

# Report on the activities of the Developing Countries Strategy Group (DCSG) of the International Mathematical Union 1 January - 31 December 2007

## **Activities**

- 1. DCSG has continued to support ICMI, awarding them:
- (i) in April 2007, a grant of USD 4,000 for their 2nd African Regional Congress which took place in Kenya in May 2007. (Report appended.);
- (ii) in May 2007, a grant of USD 3,000 to transport the UNESCO ICMI "Experiencing Mathematics" Exhibition to Latin America at the end of 2007.
- 2. DCSG has continued to support CIMPA's project in Cambodia, providing, in June 2007, a grant of Euro 5,000. (Report appended.)
- 3. DCSG has continued monitoring the deployment of the grants awarded by the Levehulme Trust and the Nuffield Foundation, in particular the Mentoring African Research in Mathematics (MARM) mentorships, now matching the responses to its second call for prospective mentors with interested mathematics departments in Africa.
- 4. DCSG provided \$3,000 for the International Council for Industrial and Applied Mathematics (ICIAM) towards the travel/living expenses of four mathematicians from developing countries for participation in the Round Table Discussion on "Developing Mathematics in the Developing World" during the 6th International Congress on Industrial and Applied Mathematics, which took place in Zurich, Switzerland, during the interval 16 20 July 2007. (Report appended.)
- 5. DCSG provided \$2,500 for training at a Park City Mathematics Institute Graduate Summer School in 2007 of Ugandan teacher leaders of a Graduate Summer School in Biomathematics to take place in Kampala, Uganda, in July 2008.
- 6. DCSG provided \$2,500 for an International Conference on Mathematical Biology which took place in Marrakesh, Morocco, in December 2007.
- 7. DCSG provided a grant of \$2,500 to the ICSU Regional Office for Africa for an International Workshop on Natural and Human-Induced Hazards and Disasters in Africa, which took place in Kampala, Uganda, during 21 22 July 2007. (Report pending.)
- 8. DCSG supplemented by \$500 CDE's grant of \$1,000 to the Cambodian Mathematical Society for a Workshop on the Usefulness of Mathematics, which took place at the Regional Pedagogy Training Centre of Battambang Province, Cambodia, on 9 March 2007. (Report appended.)

- 9. DCSG approved the allocation of \$6,000 towards a fund for a programme of volunteer lecturers to deliver short courses in Mathematics in the developing world.
- 10. DCSG approved IMU involvement in a programme of the U.S. National Committee for Mathematics to help vet applications from the developing world to the mathematics research institutes in the U.S.. The vetting is being done via our network of professional mathematicians in the developing world. Between August and November 2007, two institutes (the Institute for Pure and Applied Mathematics of the University of California at Los Angeles, and the Institute for Mathematics and its Applications of the University of Minnesota) sought our collaboration for the vetting of 3 applicants.
- 11. In December 2007, DCSG approved a grant of \$5000 towards the grants programme for the participation of mathematicians from developing countries in the Fifth European Congress of Mathematics, to take place in Amsterdam, The Netherlands, from 14 to 18 July 2008.
- 12. The John Templeton Foundation approached DCSG Chair, Herb Clemens, for a survey on mathematics in Africa, with a view to guiding future investment in the area. DCSG (and IMU/EC) approved the survey, and the dossier required by the Foundation was compiled and submitted in late December 2007. (Work on the actual survey is expected to commence around April/May 2008.)
- 13. DCSG approved \$6,000 to supplement the budget of IMU's Commission on Development and Exchanges for its operations in 2007.

## **Budget for 2007**

- (i) IMU allocated CHF 115,000 (approx. USD 92,500) in Schedule B funds to CDE and DCSG for the 2007 programmes (roughly half of this being the 2007 grant from the Abel Fund). This allocation was split equally between CDE and DCSG.
- (ii) IMU allocated CHF 56,000 (approx USD 45,000) for the CDE and DCSG Administrative Secretary's salary in 2007.

## **IMU-supported administrative post at ICTP**

Work done by Sharon Laurenti included:

## for CDE

- receipt and onward processing of applications for CDE support, checking for eligibility and completeness of information and, where necessary, contacting applicants for missing data;
- compiling and transmitting a monthly mailing to CDE members, retrieving from CDE records and including, where applicable, any information on previous awards;
- informing applicants of the Commission's decisions;

- administering CDE accounting and fund transfers;
- maintaining CDE archives and records;
- drafting of CDE's 2007 annual report to IMU/EC.

## for DCSG

- administering DCSG accounting and fund transfers;
- transmitting a bi-monthly mailing to DCSG members;
- availing of the expertise of a programmer in ICTP's Administrative Computer Section, Mr. Michael Scoltock, designed an online database of U.S. lecturers who volunteered to deliver short courses in Mathematics in Cambodia within the framework of CIMPA's project; inserted and maintained the data of all volunteers to date (see http://acs-lloyd.ictp.it/Volunteers/lists/person/all.mhtml [username *maths*, password *volunteers*]). Michel Jambu consults this database as and when he requires lecturers. (This could provide the basis of an anticipated future programme of volunteer lecturers for the developing world.)
- co-ordination/preparation of the dossier for the John Templeton Foundation concerning the survey of mathematics in Africa;
- drafting the reports for the Board for the Niels Henrik Abel Memorial Fund on the uses of its grants for 2006 and 2007;
- maintaining DCSG webpage.

## Misc.

- In anticipation of the merge of CDE and DCSG which had been proposed at the General Assembly 2006, had started work on the creation of a consolidated website (see http://www.ictp.it/~cdc, [username CDC, password djstpm]).

#### **APPENDIX**

## **IMU/DCSG Grant Recipients' Reports**

1. ICMI's Second Africa Regional Congress on Mathematical Education

#### A. BACKGROUND

During the first Africa Regional Congress on Mathematical Education (AFRICME 1), which was held at Witwatersrand University, South Africa, a meeting of the regional committee was held, on Friday 24th June 2005, during which the regional committee resolved that the congress be held as a bi-annual event. Thus the proposed date for the 2nd Congress fell in the year 2007. Subsequently it was agreed that the congress be held in Kenya at the Jomo Kenyatta University of Agriculture and Technology but due strike-related lockouts at the university, which included sackings and

suspensions of some of the leading AFRICME 2 organizers, the venue was changed to the Catholic University of Eastern Africa (CUEA).

#### B. PLANNING

The general planning of the congress was done by the local organizing committee of about 25 members and also by the scientific committee of about the same number. The latter was crucial in developing the theme, sub-themes and strands of the congress. It was also in charge of the development of the scientific programme and review of papers. The mode of communication for the scientific committee was by email but the congress adviser, Vice-President of ICMI Prof. Jillian Adler travelled to Kenya on two occasions to give guidance to the local organizing committee both on the scientific programme and on seeking for funding. Her advice and guidance was very helpful. The local organizing committee was in charge of fundraising and logistics of the congress. It held a total of eighteen meetings, at first once in two months, then once a month, once in a fortnight and finally weekly and even daily. The two committees did a commendable job and the congress was largely successful.

#### C. PARTICIPATION

The congress attracted 87 participants from fourteen countries distributed as follows: Botswana - 7, Burkina Faso - 2, Canada - 1, Kenya - 42, Malawi - 1, Mozambique - 1, Namibia - 1, Nigeria - 6, New Zealand - 1, Rwanda - 1, South Africa - 16, Uganda - 4, United States of America - 2, and Zimbabwe - 1.

## D. SCIENTIFIC PROGRAMME

The scientific programme consisted of plenary sessions in the morning, during which panels or commissioned papers were presented. There were two panel sessions and four commissioned papers presented. After the plenary session there were three sessions for parallel presentation in which four presentations were done simultaneously. In the parallel sessions, a total of thirty nine papers were presented, nine of which were long papers. After the parallel sessions there were workshops, and a total of four workshops were presented.

## E. CONGRESS OUTCOMES

Considering the purpose of ICMI, which is to promote international cooperation in mathematics, and also considering the outcomes of the 1st Africa Regional Congress, the theme chosen for the congress was *Embracing Innovative Responses to Challenges in Mathematical Instruction*.

The objectives of AFRICME 2 were:

- 1. To provide a follow-up of the 1st Africa Regional Congress.
- 2. To enhance networking, partnership and collaboration among stakeholders in mathematical instruction in the region.
- 3. To sensitize and inform stakeholders on suitable responses to challenges in mathematical instruction in varied settings.

- 4. To stimulate mathematical education activities particularly in the East African region.
- 5. To publicize, document and disseminate the outcomes of the congress

The first four objectives of the congress were met as follows:

- 1. Follow-up of the 1st Africa Regional Congress was accomplished through launching of the monograph containing the countries' presentations during AFRICME 1.
- 2. Enhancement of networking, partnership and collaboration among stakeholders in mathematical instruction in the region was achieved through the variety of participating countries. A good number of those at AFRICME 2 had been to AFRICME 1. The congress also provided a forum for publicizing ICME 11.
- 3. Sensitization and information of stakeholders on suitable responses to challenges in mathematical instruction in varied settings was achieved through various presentations.
- 4. Stimulation of mathematical education activities in the East African region is evident in the large number of participants particularly from Kenya. In a winding-up meeting of the local organizing committee it was resolved that an association, namely Association of Kenya Mathematical Educators (AKME), be formed and interim officials were elected. The interim chairperson and convener is Mr. Moses Muchina of Jomo Kenyatta University of Agriculture and Technology. The secretary is Ms. Evelyn Njurai, a high-school teacher, and the treasurer is Mr. Muthiga of Catholic University of Eastern Africa. It is expected that this association will spearhead mathematical education activities in Kenya.

Publicity, documentation and dissemination the outcomes of the congress will be done by the production of a CD containing all the papers presented and distributed to all the participants. The process of producing the CD is already in progress.

#### F. CONCLUDING REMARKS

From the AFRICME 1 and 2, one can see that when the congress is held in a particular country, the level of participation in that country is high. One can also see that a good number of those who participated in AFRICME 1 were present in AFRICME 2. For this reason, AFRICMEs should be supported to continue stimulating mathematical activities in various African sub-regions. My own observation is that many would-be participants fail to make it to the congress due to lack of funding. This lack of funding is largely as a result of failure by the participants to individually seek funding from their institutions or other partners. Participants should be sensitized to aggressively seek individual funding from agencies such as the African Network of Scientific Institutions, DAAD, TWAS and their affiliations, among others. These organizations normally have strict deadlines and one has to apply about three months before the congress dates.

It was also my observation that a good number of presenters had slides that were barely legible. I therefore suggest that in AFRICME 3 there be a workshop on scientific presentations.

I wish to thank all the partners who contributed to the success of AFRICME 2. These are local and regional organizing committee members, scientific committee members, the Inter-University Council of Eastern Africa (IUCEA), the International Mathematical Union (IMU), Macmillan Kenya Publishers, the Catholic University of Eastern Africa (CUEA), the Strengthening Mathematics and Science in Secondary Education Project (SMASSE) and the Jomo Kenyatta University of Agriculture and Technology (JKUAT).

It was a challenging project and I am very glad that we are almost finished with it and my best wishes to the organizers of AFRICME 3.

Dr. Cecilia Wangechi Mwathi, The Convener Date: June 15, 2007

#### CONGRESS BUDGET AND SOURCES OF FUNDING

The cost items for the congress were:

- 1. AIRFARE This was mostly borne by the participants who were mainly sponsored by their affiliation institutions. Four Ugandan and one Rwandese participants cost of air tickets was met by Inter-University Council of Eastern Africa (ICUEA).
- 2. ACCOMMODATION All the participants were accommodated at the Catholic University of Eastern Africa at a cost of US \$ 23 per day and again this was borne by the participants with the exception of the four Ugandans, one Rwandese and fifteen Kenyans whose accommodation cost was met by IUCEA. A number of participants had their accommodation subsidized using funds from IMU/DCSG. These are shown in the table below.
- 3. LUNCHES AND TEAS These cost about US \$ 10 per person per day were paid for from the registration fee which was set at US\$ 120 for foreign participants and Ksh.5000 for local participants and half rate for students in both categories. A number of participants had their registration fees subsidized using funds from IMU/DCSG. These are shown in the table below.
- 4. CONGRESS DINNER AND COCKTAIL These cost about US \$ 30 per person and were paid for from the registration fee.
- 5. CONGRESS MATERIALS These include production of the book of abstracts and programme at a cost of about US \$ 2 per person again met from the registration fee.

- 6. CONGRESS BAGS These cost about US \$ 25 each and were paid for by the Macmillan Kenya Publishers
- 7. COMMUNICATION (POSTAGE, COURIER SERVICE, TELEPHONE AND INTERNET) These cost about US \$ 1000.
- 8. CONGRESS PLANNING COSTS These include:
- -Cost of cartridges and photocopying US \$ 140
- -Transport to meeting venue for an average of 20 committee members for eighteen meetings at a cost of US \$ 15 per person per meeting. This cost was also met partly through the registration fee and partly through ICMI Funds.
- -Cost of lunches and teas of about US \$ 7 per person per day for eighteen days which was met by both the Catholic University of Eastern Africa and Jomo Kenyatta University of Agriculture and Technology.

PRODUCTION AND DISSEMINATION OF PROCEEDINGS – This is estimated at US \$ 1500 which will include the cost of 100 CDs, cost of writing and labeling them and postage to all participants. This cost will be met partly with registration fee and partly by IMU/DCSG funds.

## B. UTILIZATION OF IMU/DCSG FUNDS

The funds were used as shown in the table below based on the number of participants needing financial subsidy and level of financial needs

#### ITEMIZED USE OF FUNDS

Total of US\$ 1060 subsidy for participants from Botswana in terms of registration and accommodation:

- 1. Y. Liu: Registration US\$ 99
- 2. L. Mosweu: Registration US\$ 120 and Accommodation US\$ 115 (Total US\$ 235)
- 3. M. Mokakapadi: Registration US\$ 120 and Accommodation US\$ 115 (Total US\$ 235)
- 4. K.G. Garegae: Registration US\$ 99
- 5. P.A Chakalisa: Registration US\$ 99
- 6. A.A. Nkhwalume: Registration US\$ 99
- 7. L. Kaino: Registration US\$ 99
- 8. K.A. Ramatlapana: Registration US\$ 99

Total of US\$ 150 subsidy for participants from Zimbabwe in terms of registration and accommodation:

1. M. Chauraya Registration: US\$ 75 Accommodation US\$ 75. (Total US\$ 150)

Total of US\$ 100 subsidy for participants from Malawi in terms of registration and accommodation:

1. Mercy Kazima: Registration: US\$ 100 (Total US\$ 100)

Total US\$ 1950 subsidy for participants from Kenya in terms of registration and accommodation:

- 1. Ema Marigi: Registration US\$ 80 Accommodation US\$ 115
- 2. Everlyn Njurai: Registration US\$ 80 Accommodation US\$ 115
- 3. Peter Waweru: Registration US\$ 80 Accommodation US\$ 115
- 4. Mwangi Ndirangu: Registration US\$ 80 Accommodation US\$ 115
- 5. Augustus Wali: Registration US\$ 80 Accommodation US\$ 115
- 6. Johana Sigei: Registration US\$ 80 Accommodation US\$ 115
- 7. Moses Muchina: Registration US\$ 80 Accommodation US\$ 115
- 8. Jotham Akanga: Registration US\$ 80 Accommodation US\$ 115
- 9. John Ondindo: Registration US\$ 80 Accommodation US\$ 115
- 10. Ken Njogu: Registration US\$ 80 Accommodation US\$ 115

GRAND TOTAL ALREADY SPENT: US\$ 3260

Still remaining to be used as partial funding for proceedings' CD production and postage: US\$ 740

On behalf of the local organizing committee, I wish to inform the IMU/DCSG committee that the sponsorship of US\$ 4000 was greatly appreciated and utilized mainly as a subsidy for participants with financial difficulties. The rest of the funds will be utilized to produce the proceedings on a CD and to post them to participants and other stakeholders. Please accept our appreciation for the support extended by IMU/DCSG to AFRICME 2.

Dr. Cecilia Wangechi Mwathi, Convener AFRICME 2 Dated June 15, 2007

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## 2. CIMPA's project in Cambodia

# Scientific report

The project to extend and to support mathematics in Cambodia initiated by CIMPA in 2005, has continued in 2007.

The main purpose is to open in November 2007, a master degree program at Royal University of Phnom Penh (RUPP) in accordance with the authorities of RUPP and the Ministry of Education, Youth and Sports of Cambodia.

It was planned to organize a program of 4 courses from January to May 2007, called premaster program in order to train the students and to select the best of them for the master program.

- Differential systems and Optmization (Prof; B. Rousselet, Université de Nice, France)
- Probability (Prof. R. Douc, Ecole Polytechnique, France)
- Finite elements (Prof. R. Eymard, Université de Marne la Vallée, France)
- Statistics (Prof. J.-M. Bardet, Université de Paris 1, France)

This program was completed in August and September 2007 by a Summer School in Mathematics and Physics. This summer school had a great success. All the reports are on the CIMPA website:

http://www.cimpa-icpam.org/Francais/Cooperations/Cambodge.html

The master program began in November 2007. Nine short courses will be given from November 2007 to July 2008 for the first year (45 hours each course). http://www.cimpa-icpam.org/Francais/Cooperations/MasterURPP.pdf

The partners of this program are:

- US National Committee for Mathematics
- University of Tohoku (Toyota Foundation) (Japan)
- University of Paris 6 (France)
- University of Marseille (France)
- University of Nice (France)
- CIMPA (France)
- Institut de Mathématiques de Hanoï (Vietnam)

The meeting on Education and Sciences in Developing Countries, organized from 7 to 10 January 2008, in Siem Reap, jointly by the Ministry of Education, Youth and Sports of Cambodia, the Society of Mathematics of Cambodia and CIMPA, showed the strong interest of the international scientific community for the Cambodian education system and more specially for mathematics.

This program is the first step of a more ambitious one:

- A regional master in mathematics including Cambodia and Laos, with the participation of Thailand and Vietnam (one Cambodian student is studying mathematics at the Institute of mathematics of Hanoï and 3 or 4 Cambodian students will possibly receive next year some scholarships from the agreement Cambodia-Vietnam to study at the Institute of mathematics of Hanoï).
- An annual regional 3-week institute, beginning in 2009 or 2010, which will provide intensive advanced courses for selected university students, and seminars and research talks for university personnel from the region, and mathematics-based professional development for secondary teachers. Accomplishing this in a single unified setting allows for efficient use of short-term visiting professors and for the exchange of resources and insights between practitioners in the entire region.

## <u>Financial Report</u>

	Euro
- part of travel & stay of	
B. Rousselet (Prof. University of Nice), January 2007:	1365,00
- part of travel & stay of	
R. Douc (Prof. Ecole Polytechnique), April-May 2007:	745,00
- part of travel & stay of	
R. Eymard (Prof. University of Marne La Vallée), Feb. 2007:	732,00

- part of travel & stay of

J-M Bardet (Prof. University Paris 1), March 2007: 1128,00

- part of travel & stay of

M. Jambu (Prof. University of Nice), Aug.-Sept. 2007: 1220,00

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# 3. Round Table Discussion on

"Developing Mathematics in the Developing World", ICIAM 07, Zürich, Switzerland, 19 July 2007

Organized as part of the 6th International Congress on Industrial and Applied Mathematics, the round table involved four speakers from the main developing regions, namely, Africa, Asia, Latin America and the Middle East, as well as three from Europe. Topics of discussion included Historical contribution of developing regions to mathematics, Causes and remedies of brain drain, Existing interaction and assistance programs, Ideas and proposals for the future, to mention but a few. The speakers presented and discussed among themselves as well as with the audience.

It was clear from the audience's response that the round table had brought to light some of the challenges faced by developing regions in the development of mathematics. A number of solutions and existing programs were discussed and a list of relevant contacts was given by the panel members, which was complemented by the audience.

A detailed report will appear in SIAM News.

We appreciate with thanks the organizational and financial support received from ICIAM and IMU, which made the round table a success, as it enabled panel members to travel and stay in Zürich during the congress. These were:

NAME (Affiliation) - Type of Support Received

Fatima Abu Salem (American University of Beirut, Lebanon) - Full accommodation and partial travel

Juan Manuel Otero (University of Havana, Cuba) - Full accommodation and partial travel

Amiya Kummar Pani (Institute of Technology Bombay, India) - Full travel

Jan Persens (University of the Western Cape, SA) - Full accommodation

Sheung Tsun Tsou (Oxford University, UK) - Full accommodation

## Alain Damlamian (Université Paris 12, ICIAM Board) - Organizational

Andreas Griewank (Humboldt-Universität Berlin) - Organizational

Prof. Dr. Andreas Griewank Organizer of the Round Table

## Financial report on the uses of IMU/DCSG funds

Amount received from DCSG (in Euro): 2.210,73

Expenses (in Euro):

1) Air ticket refund to Prof. Amiya Pani 613,00

2) Air ticket refund and 2 nights' accommodation to Prof. Manuel Otero 330,00

3) Accommodation cost for:

Prof. Manuel Otero (2 nights)

Prof. Sheung Tsun Tsou (2 nights)

Prof. Jan Petersens (7nights)

1.133,44

4) Partial travel support for

Fatima Abu Salem 135,00

# DCSG FINANCIAL REPORT 2007

Transaction		Bank Cont.	Date	Type	Schedule A	Schedule B	Bala	Balances	Account Balance
					(Admin.)	(CS/RT/Proj)	Schedule A	Schedule B	
				CS=Conf. Support	ırt				
				RT=Ind. Res. Trav.	JA.				
				Proj=Project					
IMU allocation for developing countries	(CHF 6180 Sch A + 115000 Sch B)	1B)	01.01.2007		\$4.970,83	\$92.502,54	\$4.970,83	\$92.502,54	\$97.473,37
Allocated to CDE from allocation for developing countries			01.01.2007	100	\$2.500,00	\$45.000,00	\$2.470,83	\$47.502,54	\$49.973,37
Allocated to DCSG from allocation for developing		82	01.01.2007		\$2.470,83	\$47.502,54	\$2.470,83	\$47.502,54	\$49.973,37
countries									
DCSG Beginning Balance 2007			01.01.2007				\$2.470,83	\$47.502,54	\$49.973,37
Transferred to CDE for having increased CDE's 19 Jan	cf Narrative Report, Activities, no. 8	, no. 8	19.01.2007			\$500,00	\$2.470,83	\$47.002,54	\$49.473,37
2007 \$1K award to Chan Roath by \$500									
ICMI/Mwathi/Adler for AFRICME 2	cf Narrative Report, Activities, no. 1 (i)	, no. 1 (i)	23.04.2007 CS Kenya	CS Kenya		\$4.000,00	\$2.470,83	\$43.002,54	\$45.473,37
ICMI Experiencing Maths Exhibition -> Latin America	cf Narrative Report, Activities, no. 1 (ii)	, no. 1 (ii)	25.05.2007	25.05.2007 Proj Latin America	rica	\$3.000,00	\$2.470,83	\$40.002,54	\$42.473,37
2007-8									
CIMPA for Cambodia (Euro 5000)	cf Narrative Report, Activities, no. 2	, no. 2	20.06.2007	20.06.2007 Proj Cambodia		\$6.726,62	\$2.470,83	\$33.275,92	\$35.746,75
Griewank for ICIAM Round Table	cf Narrative Report, Activities, no. 4	, no. 4	03.07.2007	03.07.2007 CS Switzerland		\$3.000,00	\$2.470,83	\$30.275,92	\$32.746,75
Africa/US Biomaths Workshop in Marrakesh	cf Narrative Report, Activities, no. 6	, no. 6	03.07.2007	03.07.2007 Proj Africa		\$2.500,00		\$27.775,92	\$30.246,75
ICSU-Africa for Int'l Workshop on Natural & Human-	cf Narrative Report, Activities, no. 7	, no. 7	12.07.2007	12.07.2007 CS Uganda		\$2.500,00	\$2.470,83	\$25.275,92	\$27.746,75
Induced Hazards & Disasters in Africa									
Training of Ugandan teacher-leaders towards a 2008	cf Narrative Report, Activities, no. 5	, no. 5	01.11.2007	01.11.2007 Proj Africa		\$2.500,00	\$2.470,83	\$22.775,92	\$25.246,75
Arrica/US Blomaths Workshop in Nampala		7				000000	CO 071 CO	¢16 77E 02	¢10 346 75
Contribution to CDE (November 2007)	CI Natifative Report, Activities, 110. 13	10. 13				20,000,00	42.0000	20'011070	440 010 00
Bank fees 1 Jan - 11 Dec 2007 (provisional amo)					\$189,92		\$2.280,91	\$16.775,92	\$19.056,83
Finds enclimbered									
5th European Congress of Mathematics	of Narrative Report, Activities, no. 11	. no. 11		CS Netherlands	S	\$5.000,00	\$2.280,91	\$11.775,92	\$14.056,83
Fund for sending volunteers to the developing world	cf Narrative Report, Activities, no. 9	, no. 9				\$6.000,00	\$2.280,91	\$5.775,92	\$8.056,83
DCSG Closing Balance 2007							\$2.280,91	\$5.775,92	\$8.056,83

# 9. International Commission on the History of Mathematics (ICHM) <a href="http://www.unizar.es/ichm/">http://www.unizar.es/ichm/</a>

# **International Commission on the History of Mathematics** (ICHM)

# **Report to the International Mathematical Union: 2007**

Karen Hunger Parshall, Chair and Elena Ausejo, Secretary

In 2007, the International Commission for the History of Mathematics (ICHM) has continued to pursue its dual aims of encouraging the study of the history of mathematics and of promoting a high level of historically and mathematically sophisticated scholarship in the field internationally. It has done so in the following ways:

# **Meetings of the Executive Committee (EC) of the ICHM:**

Thus far this year, the EC has had three of its four annual e-meetings (the fourth, as per our rules of governance, is scheduled for December). Among the business discussed and the issues considered were: the election of a new national representative from Japan on the EC; the best ways to use the ICHM's limited resources in support of activities in the history of mathematics internationally; the redesign of the ICHM's webpages (see the section on "Projects" below); and consideration of a series of proposals for ICHM co-sponsored events internationally (see the next section).

#### **Conferences /Symposia/ Congresses:**

In 2007, the ICHM co-sponsored the following *eight* events internationally:

- ICHM Special Session at the Joint Mathematics Meetings, New Orleans, LA, USA (January 2007)
- ICHM Co-Sponsored Session on "Some Current Trends in Research on History of Mathematics in France and Spain" at the First French-Spanish Congress of Mathematics, Zaragoza, Spain (July 2007)
- ICHM Satellite Conference on the History of Mathematics at the Fourth International Congress on Representation Theory, Lhasa, Tibet, (July 2007)
- ICHM-sponsored Session on Leonhard Euler at the Joint Meeting of the Canadian Society for History and Philosophy of Mathematics (CSHPM) and the British Society for the History of Mathematics (BSHM) in Montréal, Canada (July 2007)
- Symposium "In Commemoration of the 300th Anniversary of Euler's Birth and the 400th Anniversary of the Publication of the Chinese Translation of Euclid's *Elements*," Chengdu, China, (October 2007)

- Session on "Leonhard Euler: On the Tercentenary of His Birth: Primary Sources, Rivalry with Clairaut and d'Alembert, and the Second St. Petersburg Period" at the History of Science Society Annual Meeting, Arlington, VA USA, (November, 2007)
- Session on "The Peirces of Boston: Snapshots of Science in 19th-Century America" at the History of Science Society Annual Meeting, Arlington, VA USA, (November, 2007)
- Leonhard Euler's Tercentenary Brazilian Meeting at the University of São Paulo (USP), São Paolo, Brazil, (December, 2007)

For the full reports on those meetings that have already concluded, see the ICHM's webpages at http://www.unizar.es/ichm/home.htm.

# **Projects:**

- 1. The ICHM has completely redesigned and updated its webpages.
- 2. The ICHM continues to compile and maintain a searchable database of information on historians of mathematics around the world.
- 3. The ICHM has begun an e-mail list and regular e-mailing of its national representatives in an effort both to keep them more informed on the ICHM's activities than is possible in an annual snail mailing and to engage them more directly in the ICHM by encouraging them to report on events of interest in their respective countries.

## **Publications:**

*Historia Mathematica* is the official journal of the ICHM. Under the direction of Benno van Dalen (Germany), Editor, and June Barrow-Green (United Kingdom), Managing Editor, the journal appears four times annually and comprises annually roughly 525 pages of original research in the history of mathematics from all times and cultures. It is published by Elsevier Science and is available electronically to subscribers of IDEAL.

#### The members of the EC of the ICHM:

The EC's current members are: Karen Hunger Parshall (United States), Chair; Craig Fraser (Canada), Vice Chair; Elena Ausejo (Spain), Secretary; Menso Folkerts (Germany), Treasurer; Natalja Ermolaeva (Russia); Alejandro Garçiadiego (Mexico); Niccolo Guicciardini (Italy); Sergio Nobre (Brazil); QU Anjing (China); Luis Saraiva (Portugal); Ken Saito (Japan); and Ahmed Djebbar (France/Algeria). Ex officio members are: Kirsti Andersen (Denmark); Joseph W. Dauben (United States); and Christoph Scriba (Germany). The two IMU members are: Peter Neumann (United Kingdom) and Christian Houzel (France). For a list of the current ICHM national members, see the ICHM website under "Members."

# 10. Committee on Electronic Information and Communication (CEIC)

http://www.ceic.math.ca/

# **Annual Report of the CEIC for 2007**

by Jonathan Borwein, FRSC, Dalhousie

The CEIC met in Providence, Rhode Island November 1-4, 2007 Attending was the entire membership of John Ball, Jonathan Borwein (chair), Michael Doob, David Eisenbud, John Ewing, Ulf Rehmann, Alf van der Poorten. The summary of this meeting provides a good synopsis of the year's activities.

**Session 1: Friday** Afternoon. A review and discussion of the changing role of the CEIC took place. The history of this committee has had three phases:

**1996-2000** focussed on external advocacy and tool building for open access (e.g. **MathNet**). This phase was overtaken to a large extent by commercial interests. **2000-2006** centred on Best practices documents (successful), IMU on the Web, WDML, proselytizing (of little effect), and electronic World Directory of Mathematicians (IP and copyright problems made this impossible but lead to the FWDM reported on at the end). **2006-2010** saw the CEIC making a continued presence on the Web, while becoming primarily a resource for technical advice to the Executive.

There was a further discussion of transition and membership issues.

**Session 2: Saturday** Morning There was extensive discussion about the following:

**Digitization of earlier IMU Proceedings** Ulf Rehmann and Keith Dennis have diligently worked on obtaining copyright, and everything seems in place save the 1924. The scans have been completed for all years except 1994 and 1998. The files from Madrid need not be scanned since they are born digital. In some cases the copyright is with the author and obtaining rights for digitization is impractical. We will put up files with a copyright disclaimer and take them down if requested to do so.

Archiving (traditional and electronic) IMU Material The following recommendations were agreed on. The material should remain in Helsinki until 2010; in the meantime arrangements for future archiving should be discussed and, if necessary, another site determined. A committee should be formed to bring recommendation to the EC with the chair to come from the CEIC. The records of each President of the IMU should be preserved (digitized) for practical reasons and for historical interest. It was noted that ICMI/ICME was having copyright problems.

There was general agreement that **IMU on the Web** pages had been quite successful. Alf van der Poorten has been able to publish interesting documents that have come his way or been solicited. More articles should be solicited and some contributed annually by CEIC members.

It was noted that the Electronic World Directory of Mathematicians (EWDM) has about 1500 entries and could use some publicity. It was requested that the EC at its meeting in April 2008 consider sending out a letter encouraging mathematicians to joint the list and ask the LMS to have an insert included in their newsletter.

Session 3: Saturday Afternoon Ulf reported on the items referred to on his Digital Mathematical Library page. Most have public access, but there not much mirroring. The AMS runs a parallel page with journals only. Both are well maintained. Various other digitization initiatives were discussed.

- 1. The project for digitizing the AMS Bulletin never received the desired business plan or funding from the Moore Foundation. The work was completed via the Euclid project and Cornell. There is still interested in digitization from the Moore Foundation, but it is not clear how this will proceed.
- 2. The Canadian Math Society made a demo of its digitization project for its journals.
- 3. John Ewing discussed the emerging trends on the use of impact factors. A report was to be forwarded to the EC in early 2008. It was noted that SCOAP project (Sponsoring Consortium for Open Access Publishing in Particle Physics) seems to have little direct relevance to the mathematical community. Still, it is an interesting project and might be worthy of an article in the "IMU on the web" pages.
- 4. The change of venue of Topology and K-Theory from Springer to Cambridge University Press was discussed.
- 5. There has been an increase in spam from organizers of conferences whose raison d'être is to make money rather than facilitate meetings of mathematical merit. Perhaps CEIC should warn the naive.
- 6. The committee partitioned itself to work on drafts:
  - ✓ An introduction to archiving old IMU proceedings on the web
  - ✓ Guidelines for bids form ICM meetings: proceedings in electronic form.
     ✓ A renewed mandate to start in 2007.

FWDM and MathPeople In 2007, development continued on the Federated World **Directory of Mathematicians** (FWDM), with the addition of new databases and features. Early 2007 saw the completion of work begun in the latter half of 2006, with the databases for the Austrian and Portuguese Mathematical Society (Österreichische Mathematische Gesellschaft and Sociedade Portuguesa de Matemática) now added, bringing the number of society databases included into the FWDM list to six. [Discussions with the London Mathematical Society seemed to be fruitful] The specific information returned for each individual has also been expanded, with links included for automatic searches using Google and Google Scholar. In addition, the speed of the searching was improved by adding multithreading functionality in order to perform the searches of the member society databases in parallel, thus potentially improving the response-time of the search by a factor of six. Further speed improvements are being developed by developing and installing software to provide for a European mirror of the FWDM software, so that user-requests for FWDM member data will be returned via the ZIB server; the timeline for completion of this mirror is early 2008.

This year also saw the development of an exciting new project called MathPeople, a database developed to combine research and publication background information for mathematical researchers from a variety of publicly available resources, such as the Math Genealogy Project, MathSciNet, MacTutor History of Mathematics, Oberwolfach Photo Collection, and Probability Web. Specific development has focused on: name disambiguation, or determining whether two or more individuals with the same or similar names from separate databases are the same or different individual researchers; accesscontrol, or the specific user-hierarchies allowing for refinements, corrections and additions to the database; and homepage definition, or the interface and access-control methods to allow the homepages for each individual to be added and corrected while limiting overall access to the database. A test version of MathPeople is currently available on <a href="http://ddrive.cs.dal.ca:8852/">http://ddrive.cs.dal.ca:8852/</a>, and we are currently migrating it to the server hosted by the Institute of Mathematical Statistics.

**Finances** USD \$5,000 was received from the IMU in April 2007. This money was paid in equal proportions to Mason Macklem and Jaehyun Paek, as part of Dalhousie Research Assistantships for their work as detailed above.

# 11. Independent Auditor's Report 2007



# **International Mathematical Union**Berlin

Audit Report on the Annual Financial Statements as of 31 December 2007



# **International Mathematical Union**Berlin

Audit Report on the Annual Financial Statements as of 31 December 2007

#### Berlin

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RÖVERBRÖNNER KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft Sitz der Gesellschaft: Berlin AG Charlottenburg HRA 15276

4 November 2008

Persönlich haftende Gesellschafter: Dr. Dr. Herbert Brönner, WP, StB (bis 01.01.2008) | Dieter Ulrich, RA, WP, StB | Gregor Kunz, WP, StB | Magdalena Riehle, WP, StB | Helmut Schuhmann, WP, StB | Rainer Vedder, WP, StB | Rainer Weichhaus, WP, StB | Horst Beck, WP, StB | Gertrud R. Bergmann, WP, StB | Prof. Dr. Jens Poll, RA, WP, StB | Ingo Fehlberg, WP, StB | Dr. Christoph Regierer, RA, WP, StB | Dr. Reinhard Schubert, WP, StB | Bernd Schult, RA, StB | Gerhard Schult, RA, StB | Gerhard Schult, RA, StB | We Ehrsam, WP, StB | Rainer Weicht, RA, WP, StB | Rainer Weicht, RA, StB | WP, StB | Marko Pape, WP, StB | Rainer Weicht, RA, WP, StB | Rainer Weicht, RAIner Weicht, RA, WP, StB | Rainer Weicht, RAIner Weicht, RAIner Weicht, RAIner Weicht, RA, WP, StB | Rainer Weicht, R

# ROVERBRONNER

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#### A. Audit Engagement

We were engaged by the Secretary and Treasurer of the

International Mathematical Union

Berlin
(hereinafter "the IMU" or "Association")

on 20 September 2007 to audit and report on the annual financial statements for the reporting year ending 31 December 2007.

The IMU is an international association. According to German law, the IMU is an "ideal" association (§ 21 BGB) because it pursues ideal purposes rather than financial purposes. The Association does not have legal capacity in Germany because it is not registered with the German Register of Associations.

The Association is not required by law to have its annual financial statements audited. In accordance with section 45 of the IMU Statutes, at least once every four years the members of the Union shall obtain from the Executive Committee an audit of the accounts. In continuation of current practice, the audit of the annual financial statements is performed annually. The financial statements consist of a statement of assets and liabilities as well as a statement of income and expenditure. According to the size definitions of § 267 HGB, the IMU would be classified as a small entity. Accordingly, the audit was performed in conformity with the accounting regulations applicable to small entities.

As per agreement, we included in our audit report explanations to the net assets, financial position and results of operations (section D.)

The budget comparison included in Annex 4 was, per agreement, not audited.

The performance of the audit and our liability, including any third-party liability, is controlled by the enclosed "General Engagement Terms for German Public Auditors and Public Audit Firms as of January 1, 2002" under Annex 6.

This report was prepared under the auditing standard of the Institut der Wirtschafsprüfer in Deutschland e. V. IDW PS 450 "Fundamentals of Proper Audit Reporting."

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#### B. Object, Nature and Scope of the Audit

#### Object of the Audit

We audited the annual financial statements of the IMU as of 31 December 2008 together with the bookkeeping system. The financial statements (statements of assets and liabilities and income and expenditure) were prepared in accordance with German accounting principles. Bookkeeping and the preparation of the annual financial statements are the responsibility of the Association's Secretary. Our responsibility is to provide an opinion on the annual financial statements based on our audit.

An audit of compliance with other statutory regulations is part of our engagement only to the extent that those regulations typically have an effect on the annual financial statements or to the extent that non-compliance may have an effect on the annual financial statements.

In addition, an audit is not intended to determine whether the Association is compliant with all regulations of, for example, tax law, social security and employment law, competition and price regulations, the law of foreign transactions, consumer protection regulations or environmental regulations or similar matters.

It is not the nature of an audit to detect and investigate criminal acts (e. g. embezzlement, fraud, collusion) occurring beyond the scope of the annual financial statements.

We have not examined the extent and appropriateness of insurance coverage.

#### Nature and Scope of the Audit

We conducted our audit of the annual financial statements in accordance with §§ 316 *et seq*. HGB as well as in observance of the Principles of Performing Audits of Financial Statements of the Institut der Wirtschaftsprüfer in Deutschland e.V. (IDW). Therein, an audit has to be planned and performed such that material misstatements affecting the bookkeeping and annual financial statements are to be detected with reasonable assurance.

The evidence supporting the disclosures in the accounting and annual financial statements is to be examined on a test basis. The audit includes assessing the accounting, measurement and classification principles used and significant estimates made by management, as well as evaluating the overall presentation of the annual financial statements. We believe that our audit provides a reasonable basis for our opinion.

2



We conducted our audit in September and October 2008 in the offices of the Konrad-Zuse-Zentrum für Informationstechnik Berlin (ZIB). The audit report was prepared in our office.

The IMU had its registered office in Princeton/USA, until 31 December 2006. The registered office was transferred to Berlin on 1 January 2007 because the new Secretary has his office in the ZIB. In preparation of our audit, we reviewed in September 2007 the bank balance transferred by the former Secretary at the IMU office in Berlin in February 2007 with the bank balance certified by Gunnip & Company LLP, Wilmington, USA in its independent auditors' report dated 31 December 2006.

Our audit commenced with the independent auditors' report dated 22 January 2007 for the year ended 31 December 2006 of Gunnip & Company LLP, Wilmington/USA. Those financial statements were prepared on a modified cash basis with additional information on assets and liabilities. The Statutes do not provide for an adoption of the annual financial statements. Instead, on the basis of every fourth annual financial statements (lastly on 31 December 2005, thereafter again on 31 December 2009) the preparation of a budget for the following four-year-period is anticipated. The budget for the time from 1 January 2007 to 31 December 2010 was approved by the 15<sup>th</sup> General Assembly in Santiago de Compostela/Spain, on 19 and 20 August 2006.

#### We received information from:

Prof. Dr. Drs. h. c. Martin Grötschel
 Secretary of the IMU

Ms. Sylwia Markwardt
 Assistant to the Secretary of the IMU

Ms. Sylke Arencibia
 Director of Finance ZIB

Management provided us with the information and documentation we requested and issued a standard letter of representation.

The audit had no particular focus because of the limited size of the Association. We audited the complete and timely recording of business transactions on a test basis and were convinced of the implementation of the four-eye-principle as the main instrument of the internal control system.

Our audit included events of particular importance occurring after the end of the reporting year as well as whether the annual financial statements as a whole provide an accurate picture of the net assets, financial position and results of operations of the Association.

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#### C. Statements and Notes on Accounting

#### 1. Proper Accounting

#### 1.1. Bookkeeping and Other Audited Documents

Financial bookkeeping and operational accounting are performed by the internal IT-equipment using the software HSD Finanzwesen 1.60 and HSD Kostenauswertung 1.50. Wage and salary accounting is not necessary because there is no personnel.

Records are properly kept and, together with the books and other documents, allow for a proper audit. In our opinion, the bookkeeping corresponds to statutory and regulatory requirements.

#### 1.2. Annual Financial Statements

#### Preparation of the Annual Financial Statements

The enclosed annual financial statements were prepared in accordance with the regulations of the third book of the HGB (§§ 238 et seq.) under observance of the supplementary regulations for companies in the second section (§§ 264 et seq.).

The annual financial statements commence with the prior year's financial statements and are based on proper bookkeeping. In accordance with the written statement of management, the annual financial statements include all required assets, liabilities and risks.

#### **Accounting and Measurement**

Proper documentation of assets and liabilities is maintained. Assets and liabilities have been reported and measured in compliance with statutory regulations and principles of proper book-keeping.

#### Classification

The classifications used in the statement of assets and liabilities and statement of income and expenditure correspond to regulations under §§ 265 to 277 HGB.

The statement of income and expenditure is prepared in accordance with the total cost (nature of expense) method (§ 275 (2) HGB).

4



#### Notes to the Annual Financial Statements

The Association does not have a legal obligation to prepare notes to the annual financial statements. Accordingly, the IMU has permissibly waived the preparation of notes.

#### Contingencies, Other Financial Obligations

As per the information provided to us and our own inquiries, contingencies requiring disclosure within the meaning of § 251 HGB and other financial obligations within the meaning of § 285 (3) HGB did not exist on the balance sheet date.

#### 1.3. Management Report

The Association does not have a legal obligation to prepare a management report. Accordingly, the IMU has permissibly waived the preparation of a management report.

The IMU provides its members with an annual accounting of its activities in the Bulletin of the International Mathematical Union. The current Bulletin number 54 is dated December 2006.

The Bulletin provides, in particular, a description of IMU activities for the promotion of mathematics in the world and the proper use of member contributions and donations.

According to management information and results of our audit, no events of particular importance occurred after the conclusion of the financial year.

#### 2. Overall Assertions of the Annual Financial Statements

#### 2.1. Our Opinion on the Overall Assertions of the Annual Financial Statements

According to the results of our audit, the annual financial statements give a true and fair view of the net assets, financial position and results of operations of the Association in accordance with German principles of proper accounting.

As per § 321 (2) HGB, the auditor is required to include statements in his audit report on significant measurement principles as well as the extent to which changes in measurement principles, including the exercise of accounting and measurement elective rights and use of discretion, influence the presentation of net assets, financial position and result of operations as a whole.

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The influence of material measurement principles and changes thereto in the presentation of net assets, financial position and results of operations are explained in section 2.2.

General explanations of the net assets, financial position and results of operations are provided in sections D.1. - D.3.

#### 2.2. Significant Measurement Principles

The exercise of accounting and measurement elective rights and the use of discretion do not indicate any tendency to improve or worsen the result or to in any way influence the total disclosures of the annual financial statements.

Foreign currency receivables and payables are recorded in the bookkeeping in Euro at the then valid exchange rate. Measurement on the balance sheet date is at the exchange rate valid on that date, as necessary.

#### D. Other Classifications and Explanations to the Annual Financial Statements

#### Net Assets

In order to evaluate the net assets, the balance sheet of the reporting year is shown in condensed form:

<u>ASSETS</u>	31.12.	2007
	T€	%
Current Assets		
Receivables from member contributions	28	6.0
Cash	425	90.4
Other receivables	17	3.6
	470	100.0

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LIABILITIES	31.12.	2007
	T€	%
Net Assets (Own Funds)	396	84.3
<u>Current Liabilities</u>		
Provisions	6	1.3
Trade payables	2	0.4
Liabilities from		
donations not yet spent	41	8.7
Other liabilities (including deferred income)	25	5.3
	74	15.7
	470	100.0

## Receivables from national member contributions are as follows:

Country	Year	Amount (CHF)	Amount (EUR)	Receipt of payment
Bosnia & Herzegovina	2007	1,386.00	861.57	
Bulgaria	2007	1,386.00	861.57	3.4.2008
Chile	2007	2,772.00	1,723.13	5.8.2008
China (CMS, Beijing)	2007	9,979.00	6,203.15	28.1.2008
Cuba	2007	1,386.00	861.57	
Georgia	2007	1,386.00	861.57	
Iran	2007	231.00	140.37	4.1.2008
Kazakhstan	2007	1,386.00	861.57	
Pakistan	2007	1,386.00	861.57	14.5.2008
Peru	2007	1,386.00	861.57	
Philippines	2007	1,386.00	861.57	
Russia	2007	16,632.00	10,338.80	
		40,702.00	25,298.01	
Georgia	2005-2006	2,640.00	1,592.55	
Pakistan	2006	1,320.00	796.28	14.5.2008
Cuba	2002	1,200.00	765.14	31.3.2008
		5,160.00	3, <u>153.</u> 97	
		45,862.00	28,451.98	

At the end of 2006, outstanding member contributions were T $\in$  40 (TCHF 67). At the end of 2007 they amounted to T $\in$  28 (TCHF 46) and at the time of the audit they amounted to  $\in$  17,100.77 (CHF 27,588.00).

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At the end of 2006, outstanding member contributions were T $\in$  40 (TCHF 67). At the end of 2007 they amounted to T $\in$  28 (TCHF 46) and at the time of the audit they amounted to  $\in$  17,100.77 (CHF 27,588.00).

<u>Cash</u>, part of which is in foreign currency, is located in accounts with the Berliner Bank AG and is composed of the following:

	Foreign currency	€
Account in USD (00 93 02 50 50)	USD 453,732.50	308,274.94
Account in CHF (00 93 02 51 15)	CHF 101,847.48	61,438.47
Account in € (35 91 21 11 00)		45,038.58
Account in € - Ito Fund (35 91 21 11 01)		10,006.76
		424,758.75 ======
Other receivables are composed of the following:		
	€	€
Donation ICM 2010 (Special Development Fund)		
<ul> <li>American Mathematical Society (AMS)</li> </ul>	13,038.20	
<ul> <li>Swiss Mathematical Society</li> </ul>	516.24	13,554.44
DFG, travel expense allowance		2,116.91
Commission revenues		
<ul> <li>Springer Verlag, Japan</li> </ul>	557.57	
- AMS	303.00	860.57
Accrued interest on fixed deposit		512.08

Donations for ICM 2010, the International Congress of Mathematicians 2010, involve monies collected by foreign organizations in 2007 that were received in 2008.

Association capital of € 307,465.98 is the difference between the bank balance transferred from Secretary Phillip A. Griffiths on 1 January 2007 to Prof. Martin Grötschel, in his capacity as the new Secretary, and the assumed liabilities, which include liabilities from donations not yet spent.

17,044.00



<u>Liabilities from donations not yet spent</u> developed as follows and involved the Special Development Fund as well as the Ito Fund:

	€	€	€
Special Development Fund			
Per 1.1.2007		1,667.59	1,667.59
Contribution			
- AMS for 2007	13,038.20		
- AMS for 2006	12,482.80		
<ul> <li>London Mathematical Society (LMS)</li> </ul>	3,506.90	29,027.90	29,027.90
Per 31.12.2007		30,695.49	
<u>Ito Fund</u>			
Per 1.1.2007		0.00	0.00
Contribution			
<ul> <li>Donation of Prof. Ito to the IMU</li> </ul>			
(Prize money Gauss Prize)		10,000.00	10,000.00
Per 31.12.2007		10,000.00	40,695.49
		=======	=======

The funds shown under <u>Special Development Fund</u> are for the support of mathematicians from developing countries to support participants in International Congresses of Mathematicians. An international committee decides on the applications. The next congress will take place in Hyderabad/India in 2010.

#### 2. Financial Position

The IMU was in a position to meet its payment obligations in a full and timely manner. Cash flow from investment activities is 0 because the IMU has no investment assets. The cash flow from financing activities is also 0 because the IMU had no loans or had distributed no money in the reporting year. The cash flow from current activities amounts to  $T \in 116$  and corresponds to the change in the amount of cash between 1 January 2007 ( $T \in 309$ ) and 31 December 2007 ( $T \in 425$ ).

# RÖVERBRÖNNER

#### 3. Results of Operations

The summarized statement of income and expenditure shows the following structure for the reporting year:

	2007	
	T€	%
Revenue	341	100.0
Administrative expenses	-122	-35.8
Expenditures for scientific activities	-137	-40.2
Other expenses	-259	-76.0
	<u></u>	
Operating result	82	24.1
Interest	8	2.4
Result before taxes on income	90	26.4
Taxes on income		-0.3
Annual surplus	89	26.1

The IMU had revenue of T $\in$  341 in the reporting year, consisting largely of member contributions. In addition, the IMU received donations from scientific organizations.

Revenue is composed of the following:

	€
Member contributions	251,587.23
Third-party donations	76,396.86
Donation Prof. Ito (see above: Ito Fund)	10,000.00
Other revenue	3,127.75
Per 31.12.2007	341,111.84
	=======

The composition of member contributions is shown in Annex 3 to this report.



Third-party donations from scientific organizations are composed of the following:

	€	€
Donations - international		
<ul> <li>Niels Henrik Abel Memorial Fund, Norway (thereof € 7,369.54 for the Ramanujan Prize)</li> </ul>	40,422.47	
- AMS (for ICM 2010)	25,521.00	
- LMS (for ICM 2010)	3,506.90	
<ul> <li>Mathematical Society Japan</li> </ul>	913.34	
<ul> <li>Swiss Mathematical Society</li> </ul>	516.24	70,879.95
Donations - national		
- DFG		5,516.91
Per 31.12.2007		76,396.86 ======

Other expenses of approximately T€ 259 are shown in detail in the statement of income and expenditure (Annex 2).

Interest includes the return on the bank balance (approximately  $T \in 8$ ). The retained <u>taxes on income</u> of approximately  $T \in 1$  involve the interest deduction for 2007 that the bank made for 2007 until it was presented with the notice of exemption.

# E. Independent Auditor's Report and Concluding Statement

We have issued the following unqualified opinion dated 4 November 2008 for the annual financial statements as of 31 December 2007 of the IMU, Berlin. The annual financial statements are enclosed in this report under Annexes 1 to 2.

# ROVERBRONNER

# "Independent Auditor's Report

To the International Mathematical Union, Berlin

We have audited the annual financial statements, together with the bookkeeping system of the International Mathematical Union for the reporting year from 1 January 2007 to 31 December 2007. The maintenance of the books and the preparation of the annual financial statements in accordance with the German Commercial Code (HGB) are the responsibility of the Association's management. Our responsibility is to express an opinion on the annual financial statements, together with the bookkeeping system, based on our audit.

We performed our audit of the annual financial statements in accordance with § 317 HGB and general accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the annual financial statements in accordance with German principles of proper accounting are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Association as well as expectations of possible misstatements are taken into account in determination of audit procedures. The effectiveness of the internal control system and the evidence supporting the disclosures in the books and records and in the annual financial statements are examined primarily on a test basis.

The audit includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall presentation of the annual financial statements. We believe that our audit provides a reasonable basis of our opinion.

Our audit has not led to any reservations.

In our opinion based on the information gathered during the audit, the annual financial statements correspond to statutory requirements as applicable to small entities and give a true and fair view of the net assets, financial position and results of operations of the Association in accordance with German principles of proper accounting."



The above audit report is submitted in compliance with statutory provisions and principles of proper audit reporting of annual financial statements (IDW PS 450).

Use of the above independents auditors' report outside of this audit report requires our prior consent. Publication or a copy of the annual financial statements in a form different from the certified form also requires our consent if our independent auditors' report is quoted or if reference is made to our audit. We herein refer to § 328 HGB.

Berlin, 4 November 2008

RÖVERBRÖNNER KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft

Helmut Schuhmann Wirtschaftsprüfer

# $55^{th}$ Bulletin of the International Mathematical Union

# <u>Annexes</u>

	Annex
Statement of Assets and Liabilities as of 31 December 2007	1
Statement of Income and Expenditure for 2007	2
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International Mathematical Union, Berlin

STATEMENT OF ASSETS AND LIABILITIES as of 31 December 2007

ASSETS				LIABILITIES		
	ŧ	€	Э		e	Ę
A. Current Assets				A. Net Assets	2002	
I. Receivables and Other Assets				I. Association net assets	307,465.98	206 400 42
1. Receivables from member contributions	28,451.98				00,040.40	390,409.43
2. Other assets	17,044.00	17,044.00 45,495.98		B. Provisions		6,000.00
II. Bank Balances		424,758.75	470,254.73	C. Liabilities  1. Trade payables 2. Liabilities from donations not yet spent 3. Other liabilities	2,054.86 40,695.49 16,975.84	59,726.19
		,		D. Deferred Income	ļ	8,119.11
Total Assets			470,254.73	Total Liabilities	Į	470,254.73

# International Mathematical Union, Berlin

# Statement of Income and Expenditure for 2007

	€	€	€
Income			341,111.84
Member contributions	251,587.23		
Donations - national	5,516.91		
Donations - international	70,879.95		
Donations	10,000.00		
Other income	3,127.75		
Other Expenditures			-259,270.32
Administrative Expenses		-121,798.05	
Salaries	-42,739.10		
Travel	-8,544.57		
Consulting	-6,951.98		
Audit fees	-7,587.46		
Other activities CDE/ICMI	-9,383.60		
Member contributions	-6,002.00		
Postage	-559.25		
Bank fees	-2,740.00		
Other	-37,290.09		
Expenditures for Scientific Activities		-137,472.27	
Promotion of scientific activities	-90,812.67		
Expense ICM	-282.16		
Expense Prize Award	-7,349.54		
Transfer to liabilities from donations not yet spent	-39,027.90		
Interest and Similar Income			7,912.31
Interest and Similar Expenditures		-	-0.13
Result of Association Activities			89,753.70
Taxes			-810.25
Annual Surplus (Excess of Income over			
Expenditures and Transfers)		_	88,943.45

# **Member Contributions**

	Prior Years	s		2007		Total per Country		
Country		Amount EUR	Amount CHF	Amount EUR	Amount CHF	Amount EUR	Amount CHF	
Argentina				1,723.13	2,772.00	1,723.13	2,772.00	
Armenia				861.57	1,386.00	861.57	1,386.00	
Australia				3,446.26	5,544.00	3,446.26	5,544.00	
Austria				1,723.13	2,772.00	1,723.13	2,772.00	
Belgium				3,446.26	5,544.00	3,446.26	5,544.00	
Bosnia & Herzegovina				861.57	1,386.00	861.57	1,386.00	
Brazil				6,892.52	11,088.00	6,892.52	11,088.00	
Bulgaria	2006	788.48	1,320.00	861.57	1,386.00	1,650.05	2,706.00	
Cameroon		7 00.10	1,020.00	861.57	1,386.00	861.57	1,386.00	
Canada				10,338.80	16,632.00	10,338.80	16,632.00	
Chile				1,723.13	2,772.00	1,723.13	2,772.00	
CMS, Beijing	2006	3,295.92	5,280.00	6,203.15	9,979.00	9,499.07	15,259.00	
Math Society, Taipei	2000	0,230.32	3,200.00	4,135.64	6,653.00	4,135.64	6,653.00	
Croatia	2005/2006	1,583.00	2,640.00		1,386.00	2,444.57		
Cuba	2003/2000	765.14	1,200.00				4,026.00	
Czech Republic	2002	700.14	1,200.00	861.57	1,386.00	1,626.71 3,446.26	2,586.00	
Denmark				3,446.26	5,544.00		5,544.00	
				1,723.13	2,772.00	1,723.13	2,772.00	
Egypt	-			1,723.13	2,772.00	1,723.13	2,772.00	
Estonia				861.57	1,386.00	861.57	1,386.00	
Finland				1,723.33	2,772.00	1,723.33	2,772.00	
France	2006	8,149.15			16,632.00	18,487.95	29,832.00	
Georgia	2005/2006	1,592.55	2,640.00		1,386.00	2,454.12	4,026.00	
Germany				10,338.80	16,632.00	10,338.80	16,632.00	
Greece				861.57	1,386.00	861.57	1,386.00	
Hong Kong				861.57	1,386.00	861.57	1,386.00	
Hungary				3,446.26	5,544.00	3,446.26	5,544.00	
Iceland				861.57	1,386.00	861.57	1,386.00	
India				6,892.52	11,088.00	6,892.52	11,088.00	
Indonesia				861.57	1,386.00	861.57	1,386.00	
Iran	2006	1,638.24	2,640.00	1,723.13	2,772.00	3,361.37	5,412.00	
Iran				140.37	231.00	140.37	231.00	
Ireland				1,723.13	2,772.00	1,723.13	2,772.00	
Israel				10,338.80	16,632.00	10,338.80	16,632.00	
Italy				10,338.80	16,632.00	10,338.80	16,632.00	
Ivory Coast				861.57	1,386.00	861.57	1,386.00	
Japan				12,636.30	20,328.00	12,636.30	20,328.00	
Kazakhstan				861.57	1,386.00	861.57	1,386.00	
Korea, Rep. of				1,723.13	2,772.00	1,723.13	2,772.00	
Korea, Rep. of				2,945.44	4,851.00	2,945.44	4,851.00	
Latvia				861.57	1,386.00	861.57	1,386.00	
Lithuania				861.57	1,386.00	861.57	1,386.00	
Mexico				1,723.13	2,772.00	1,723.13	2,772.00	
Netherlands				6,892.52	11,088.00	6,892.52	11,088.00	
New Zealand	1			861.57	1,386.00	861.57		
Nigeria	+						1,386.00	
Norway	+			861.57	1,386.00	861.57	1,386.00	
	2006	706.00	1 200 00	1,723.13	2,772.00	1,723.13	2,772.00	
Pakistan	2006	796.28	1,320.00		1,386.00	1,657.85	2,706.00	
Peru	2005/2006	1,475.90	2,640.00		1,386.00	2,337.47	4,026.00	
Philippines				861.57	1,386.00	861.57	1,386.00	

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# **Member Contributions**

	Prior Year	s		2007		Total per Country	
Country		Amount EUR	Amount CHF	Amount EUR	Amount CHF	Amount EUR	Amount CHF
Poland				6,892.52	11,088.00	6,892.52	11,088.00
Portugal				1,723.13	2,772.00	1,723.13	2,772.00
Romania				861.57	1,386.00	861.57	1,386.00
Russia				10,338.80	16,632.00	10,338.80	16,632.00
Saudi Arabia				861.57	1,386.00	861.57	1,386.00
Serbia	2006	811.31	1,320.00	861.57	1,386.00	1,672.88	2,706.00
Singapore				861.57	1,386.00	861.57	1,386.00
Slovakia	2003	1,641.08	2,640.00	1,723.13	2,772.00	3,364.21	5,412.00
Slovenia				861.57	1,386.00	861.57	1,386.00
South Africa				1,723.13	2,772.00	1,723.13	2,772.00
Spain				6,892.52	11,088.00	6,892.52	11,088.00
Sweden				6,892.52	11,088.00	6,892.52	11,088.00
Switzerland				6,892.52	11,088.00	6,892.52	11,088.00
Tunisia	2004	912.86	1,500.00	861.57	1,386.00	1,774.43	2,886.00
Turkey				861.57	1,386.00	861.57	1,386.00
Ukraine	2005/2006	3,191.15	5,280.00	1,723.13	2,772.00	4,914.28	8,052.00
United Kingdom				10,338.80	16,632.00	10,338.80	
Uruguay	2005/2006	1,586.37	2,640.00	861.57	1,386.00	2,447.94	4,026.00
U.S.A.				10,338.80	16,632.00	10,338.80	
Venezuela				861.57	1,386.00	861.57	1,386.00
Vietnam				861.57	1,386.00	861.57	1,386.00
Total		28,227.43	46,260.00	223,359.80	359,436.00	251,587.23	405,696.00

# INTERNATIONAL MATHEMATICAL UNION

# Budget Comparison\* — 2007 for the year ended December 31, 2007

	Budget 2007		Budget 2007	
Expenses	CHF (Swi	ss Franc)	EUR (	Euro)
Schedule A:				
Secretarial help, IMU office	22,660	0	13,670	0
Secretarial help, President	5,150	3,336	3,107	2.011
Accountant	9,270	3,336	5,592	2,011
ICMI	15,450	15,564	9,320	9,384
CDE	6,180	2,017	3,728	1,216
Office expenses (including postage)	16,480	2,017	9,941	1,218
Travel expenses of the EC	30,900	3,145	18,640	1,896
President's and Secretary's expenses	4,120	1,877	2,485	1,132
Contribution to ICSU	9,785	9,956	5,903	6,002
IMU Bulletin		9,956		
Audit fee	1,500		905	14.530
General Assembly	8,755	24,117	5,281	14,539
World Directory of Mathematicians	4,120	0	2,485	0
Contingencies	2,060	73,784	1,243	44,483
Subtotal of Schedule A	136,430	135,816	82,300	81,881
Schedule B:				
IMU non-CDE conference support	20,000	32,858	12,065	19.809
ICMI scientific activities	27,810	28,016	16,776	16,890
CDE scientific activities	115,000	73,631	69,373	44,390
CDE support staff	56,000	67,556	33,781	40,728
CEIC scientific activities	25,000	16,127	15,081	9.723
Website support	6,253	0	3,772	0
ICM Site Committee	2,000	0	1,207	0
Program Committee for ICM	8,240	468	4,971	282
Subvention to ICM	28.840	0	17.397	0
Prize Committees (subvention)	11,100	0	6,696	0
Awards	0	12,191	0	7,350
Travel grants (young & senior)	61,000	0	36,798	0
Media Relations	3,500	0	2,111	0
Subtotal of Schedule B	364,743	230,847	220,028	139,172
Total Expenses (A & B)	501,173	366,663	302,328	221,053
I	100			
Income	200 700	447.046	000 470	054.507
Membership dues	336,798	417,310	203,170	251,587
ICSU Grant	0	0	0	0
Special Development Fund	32,000	50,520	19,304	30,458
Interest on bank accounts	16,000	13,124	9,652	7,912
Donations	59,220	83,637	35,724	50,422
Other income	0	14,339	0	8,645
Draw from Reserves	57,155	0	34,478	0
Return to Reserves	0	0	0	0
Total Income	501,173	578,930	302,328	349,024
Income less Expenses	0	212,267	0	127,971

Transition to Statement of Income and Expenditure:

Transfer to liabilities from donations not yet spent

-39,028 €

Excess (deficit) of income over expenditure:

88,943 €

Actual Euro Income and Expenses converted to Swiss Franc, using the December 31, 2007 rate of 1 Euro = 1.66 Swiss Franc

<sup>\*</sup>Based on the corrected version of the Budget for 2007-2010, published in IMU Bulletin No. 55, 2007

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# Legal and Tax Position

# 1. Legal Position

## Association, Registered Office

International Mathematical Union, Berlin/Germany

The IMU is an international association. Under German law, the IMU is an "ideal" association (§ 21 BGB) because it pursues ideal purposes rather than financial purposes. The Association does not have legal capacity in Germany because it is not registered with the German Register of Associations.

The registered office of the IMU was located in Princeton/USA, until 31 December 2006. According to article 29 of the IMU Statutes, the legal domicile of the Union shall be located at the offices of the Secretary.

# Place of Management

c/o Konrad-Zuse-Zentrum (ZIB), Takustrasse 7, 14195 Berlin/Germany

Bookkeeping and monetary transactions of the IMU were performed by ZIB within the scope of the support activities.

# Statutes

The Statutes were amended on 19 and 20 August 2006 in Santiago de Compostela/Spain, by the 15<sup>th</sup> General Assembly. The amendments were with regard to articles 7 - 12 (Associate Membership), article 22 (term of office of the Executive Committee Members-at-Large) and article 23 (number of the Executive Committee Members-at-Large). A certified German translation is available.

# Objectives of the Association

According to article 1 of the Statutes, the objectives are:

- (a) to promote international cooperation in mathematics;
- (b) to support and assist the International Congress of Mathematicians and other international scientific meetings or conferences;

 (c) to encourage and support other international mathematical activities considered likely to contribute to the development of mathematical science in any of its aspects, pure, applied, or educational.

## Association Capital, Members

The Statutes make no provision for association capital. Association capital currently amounts to  $T \in 307$  that was transferred from Princeton/USA, to Berlin/Germany, on 1 January 2007, the time when the registered office was transferred.

According to article 3, a country adheres to the Association through an adhering Organization. This may be the principal academy, a mathematical society, its research council or some other institutions or association of institutions, or an appropriate agency of its government. At the end of 2007, the IMU had 67 regular members (voting) and 2 associate members (non-voting).

## **Executive Committee**

The Executive Committee consists of following persons:

- Mr. László Lovász, Hungary (President)
- Mr. Martin Grötschel, Germany (Secretary)
- Mr. Zhi-Ming Ma, China (Vice-President)
- Mr. Claudio Procesi, Italy (Vice-President)
- Mr. M. Salah Baouendi, USA (Member-at-Large)
- Mr. Manuel de León, Spain (Member-at-Large)
- Ms. Ragni Piene, Norway (Member-at-Large)
- Ms. Cheryl E. Praeger, Australia (Member-at-Large)
- Mr. Victor A. Vassiliev, Russia (Member-at-Large)
- Mr. Marcelo Viana, Brazil (Member-at-Large)
- Mr. John M. Ball, United Kingdom (Ex-officio, because he is the former President of the IMU)

Ordinary business is performed by the Secretary and his assistant in Germany.

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## Reporting Year

The reporting year corresponds to the calendar year. Reports to members are made annually by dispatching the bulletin of the IMU. The next General Assembly of all members will take place in 2010.

# General Assembly

The General Assembly resolved the following in August 2006:

- appointments to various committees and commissions
- the budget for the time between 2007 and 2010
- amendments to the IMU Statutes (see above "Statutes")
- increase in member contributions
- the next General Assembly will take place in Hyderabad/India

# 2. Tax Information

The Association is registered with the Finanzamt für Körperschaften I, Berlin, under the tax number 27/640/57572.

At the time of the audit there was no tax notice available because the registered office of the Association only moved to Germany in 2007.

The Association is non-profit. After common inquiries on 16 April 2007 at the Finanzamt für Körperschaften I, Berlin, the formal requirements for the recognition as a non-profit organization were fulfilled. The final certification of the non-profit status will be made after actual fulfillment of the requirements.

The Finanzamt für Körperschaften I, Berlin, issued a preliminary certification for the time between 1 January and 31 December 2007 in which the current revenue of the IMU is free of corporate and trade tax. This was done upon the instruction of the Senatsverwaltung der Finanzen, Berlin. In addition, revenue from capital of the IMU is not subject to tax up to 31 December 2008. Further, the IMU is entitled to issue donation confirmations until 4 May 2010.

[Translator's notes are in square brackets]

# **General Engagement Terms**

for

# Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften

[German Public Auditors and Public Audit Firms] as of January 1, 2002

This is an English translation of the German text, which is the sole authoritative version

#### 1. Scope

- (1) These engagement terms are applicable to contracts between Wirtschaftsprüfer (German Public Auditors) or Wirtschaftsprüfungsgesellschaften (German Public Audit Firms) (hereinafter collectively referred to as the "Wirtschaftsprüfer") and their clients for audits, consulting and other engagements to the extent that something else has not been expressly agreed to in writing or is not compulsory due to legal requirements.
- (2) If, in an individual case, as an exception contractual relations have also been established between the Wirtschaftsprüfer and persons other than the client, the provisions of No. 9 below also apply to such third parties.

#### 2. Scope and performance of the engagement

- (1) Subject of the Wirtschaftsprüfer's engagement is the performance of agreed services not a particular economic result. The engagement is performed in accordance with the Grundsätze ordnungsmäßiger Berufsausübung (Standards of Proper Professional Conduct). The Wirtschaftsprüfer is entitled to use qualified persons to conduct the engagement.
- (2) The application of foreign law requires except for financial attestation engagements an express written agreement.
- (3) The engagement does not extend to the extent it is not directed thereto to an examination of the issue of whether the requirements of tax law or special regulations, such as, for example, laws on price controls, laws limiting competition and Bewirtschaftungsrecht [laws controlling certain aspects of specific business operations] were observed; the same applies to the determination as to whether subsidies, allowances or other benefits may be claimed. The performance of an engagement encompasses auditing procedures aimed at the detection of the defalcation of books and records and other irregularities only if during the conduct of audits grounds therefor arise or if this has been expressly agreed to in writing.
- (4) If the legal position changes subsequent to the issuance of the final professional statement, the Wirtschaftsprüfer is not obliged to inform the client of changes or any consequences resulting therefrom.

## 3. The client's duty to inform

- (1) The client must ensure that the Wirtschaftsprüfer even without his special request – is provided, on a timely basis, with all supporting documents and records required for and is informed of all events and circumstances which may be significant to the performance of the engagement. This also applies to those supporting documents and records, events and circumstances which first become known during the Wirtschaftsprüfer's work.
- (2) Upon the Wirtschaftsprüfer's request, the client must confirm in a written statement drafted by the Wirtschaftsprüfer that the supporting documents and records and the information and explanations provided are complete.

# 4. Ensuring independence

The client guarantees to refrain from everything which may endanger the independence of the Wirtschaftsprüfer's staff. This particularly applies to offers of employment and offers to undertake engagements on one's own account.

## 5. Reporting and verbal information

If the Wirtschaftsprüfer is required to present the results of his work in writing, only that written presentation is authoritative. For audit engagements the long-form report should be submitted in writing to the extent that nothing else has been agreed to. Verbal statements and information provided by the Wirtschaftsprüfer's staff beyond the engagement agreed to are never binding.

## 6. Protection of the Wirtschaftsprüfer's intellectual property

The client guarantees that expert opinions, organizational charts, drafts, sketches, schedules and calculations – expecially quantity and cost computations – prepared by the Wirtschaftsprüfer within the scope of the engagement will be used only for his own purposes.

#### 7. Transmission of the Wirtschaftsprüfer's professional statement

- (1) The transmission of a Wirtschaftsprüfer's professional statements (longform reports, expert opinions and the like) to a third party requires the Wirtschaftsprüfer's written consent to the extent that the permission to transmit to a certain third party does not result from the engagement terms. The Wirtschaftsprüfer is liable (within the limits of No. 9) towards third parties only if the prerequisites of the first sentence are given.
- (2) The use of the Wirtschaftsprüfer's professional statements for promotional purposes is not permitted; an infringement entitles the Wirtschaftsprüfer to immediately cancel all engagements not yet conducted for the client.

#### 8. Correction of deficiencies

- (1) Where there are deficiencies, the client is entitled to subsequent fulfilment [of the contract]. The client may demand a reduction in fees or the cancellation of the contract only for the failure to subsequently fulfill (the contract); if the engagement was awarded by a person carrying on a commercial business as part of that commercial business, a government-owned legal person under public law or a special government-owned fund under public law, the client may demand the cancellation of the contract only if the services rendered are of no interest to him due to the failure to subsequently fulfill [the contract]. No. 9 applies to the extent that claims for damages exist beyond this.
- (2) The client must assert his claim for the correction of deficiencies in writing without delay. Claims pursuant to the first paragraph not arising from an intentional tort cease to be enforceable one year after the commencement of the statutory time limit for enforcement.
- (3) Obvious deficiencies, such as typing and arithmetical errors and formelle Mangel [deficiencies associated with technicalities] contained in a Wirtschaftsprüfer's professional statements (long-form reports, expert opinions and the like) may be corrected and also be applicable versus third parties by the Wirtschaftsprüfer at any time. Errors which may call into question the conclusions contained in the Wirtschaftsprüfer's professional statements entitle the Wirtschaftsprüfer to withdraw also versus third parties such statements. In the cases noted the Wirtschaftsprüfer should first hear the client, if possible.

# 9. Liability

(1) The liability limitation of § ["Article"] 323 (2)["paragraph 2"] HGB ["Handelsgesetzbuch": German Commercial Code] applies to statutory audits required by law.

## (2) Liability for negligence; An individual case of damages

(a) Labully for negigence, An individual case of admages if neither No. 1 is applicable nor a regulation exists in an individual case, pursuant to § 54a (1) no. 2 WPO ['Wirtschaftsprüferordnung': Law regulating the Profession of Wirtschaftsprüfer] the liability of the Wirtschaftsprüfer for claims of compensatory damages of any kind – except for damages resulting from injury to life, body or health – for an individual case of damages resulting from negligence is limited to € 4 million; this also applies if liability to a person other than the client should be established. An individual case of damages and of duty. The individual case of damages encompasses all consequences from a breach of duty without taking into account whether the damages occurred in one year or in a number of successive years. In this case multiple acts or omissions of acts based on a similar source of error or an source of error or an equivalent nature are deemed to be a uniform breach of duty if the matters in question are legally or economically connected to one another. In this event the claim against the Wirtschaftsprüfer is limited to € 5 million. The limitation to the fivefold of the minimum amount insured does not apply to compulsory audits required by law.

## (3) Preclusive deadlines

A compensatory damages claim may only be lodged within a preclusive deadline of one year of the rightful claimant having become aware of the damage and of the event giving rise to the claim – at the very latest, however, within 5 years subsequent to the event giving rise to the claim. The claim expires if legal action is not taken within a six month deadline subsequent to the written refusal of acceptance of the indemnity and the client was informed of this consequence.

The right to assert the bar of the preclusive deadline remains unaffected. Sentences 1 to 3 also apply to legally required audits with statutory liability limits

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#### 10. Supplementary provisions for audit engagements

- (1) A subsequent amendment or abridgement of the financial statements or management report audited by a Wirtschaftsprüfer and accompanied by an auditor's report requires the written consent of the Wirtschaftsprüfer even if these documents are not published. If the Wirtschaftsprüfer has not issued an auditor's report, a reference to the audit conducted by the Wirtschaftsprüfer in the management report or elsewhere specified for the general public is permitted only with the Wirtschaftsprüfer's written consent and using the wording authorized by him.
- (2) If the Wirtschaftsprüfer revokes the auditor's report, it may no longer be used. If the client has already made use of the auditor's report, he must announce its revocation upon the Wirtschaftsprüfers request.
- (3) The client has a right to 5 copies of the long-form report. Additional copies will be charged for separately.

#### 11. Supplementary provisions for assistance with tax matters

- (1) When advising on an individual tax issue as well as when furnishing continuous tax advice, the Wirtschaftsprüfer is entitled to assume that the facts provided by the client especially numerical disclosures are correct and complete; this also applies to bookkeeping engagements. Nevertheless, he is obliged to inform the client of any errors he has discovered.
- (2) The tax consulting engagement does not encompass procedures required to meet deadlines, unless the Wirtschaftsprüfer has explicitly accepted the engagement for this. In this event the client must provide the Wirtschafts prüfer, on a timely basis, all supporting documents and records especially tax assessments material to meeting the deadlines, so that the Wirtschafts prüfer has an appropriate time period available to work therewith.
- (3) In the absence of other written agreements, continuous tax advice encompasses the following work during the contract period:
  - a) preparation of annual tax returns for income tax, corporation tax and business tax, as well as net worth tax returns on the basis of the annual financial statements and other schedules and evidence required for tax purposes to be submitted by the client
- b) examination of tax assessments in relation to the taxes mentioned in (a)
- c) negotiations with tax authorities in connection with the returns and assessments mentioned in (a) and (b)
- d) participation in tax audits and evaluation of the results of tax audits with respect to the taxes mentioned in (a)
  e) participation in Einspruchs- und Beschwerdeverfahren [appeals and
- complaint procedures] with respect to the taxes mentioned in (a).

  In the afore-mentioned work the Wirtschaftsprüfer takes material published
- In the afore-mentioned work the Wirtschaftsprüfer takes material publisher legal decisions and administrative interpretations into account. (4) If the Wirtschaftsprüfer receives a fixed fee for continuous tax advice, in
- (4) If the Wirtschaftspruler receives a fixed fee for continuous tax advice, if the absence of other written agreements the work mentioned under Paragraph 3 (d) and (e) will be charged separately.
- (5) Services with respect to special individual issues for income tax, corporate tax, business tax, valuation procedures for property and net worth taxation, and net worth tax as well as all issues in relation to sales tax, wages tax, other taxes and dues require a special engagement. This also applies to:
  - a) the treatment of nonrecurring tax matters, e. g. in the field of estate tax, capital transactions tax, real estate acquisition tax
  - b) participation and representation in proceedings before tax and administrative courts and in criminal proceedings with respect to taxes, and
- c) the granting of advice and work with respect to expert opinions in connection with conversions of legal form, mergers, capital increases and reductions, financial reorganizations, admission and retirement of partners or shareholders, sale of a business, liquidations and the like.

(6) To the extent that the annual sales tax return is accepted as additional work, this does not include the review of any special accounting prerequisities nor of the issue as to whether all potential legal sales tax reductions have been claimed. No guarantee is assumed for the completeness of the supporting documents and records to validate the deduction of the input tax credit.

#### 12. Confidentiality towards third parties and data security

- (1) Pursuant to the law the Wirtschaftsprüfer is obliged to treat all facts that he comes to know in connection with his work as confidential, irrespective of whether these concern the client himself or his business associations, unless the client releases him from this obligation.
- (2) The Wirtschaftsprüfer may only release long-form reports, expert opinions and other written statements on the results of his work to third parties with the consent of his client.
- (3) The Wirtschaftsprüfer is entitled within the purposes stipulated by the client - to process personal data entrusted to him or allow them to be processed by third parties.

## 13. Default of acceptance and lack of cooperation on the part of the client

If the client defaults in accepting the services offered by the Wirtschaftsprüfer or if the client does not provide the assistance incumbent on him pursuant to No. 3 or otherwise, the Wirtschaftsprüfer is entitled to cancel the contract immediately. The Wirtschaftsprüfer's right to compensation for additional expenses as well as for damages caused by the default or the lack of assistance is not affected, even if the Wirtschaftsprüfer does not exercise his right to cancel.

#### 14. Remuneration

- (1) In addition to his claims for fees or remuneration, the Wirtschaftsprüfer is entitled to reimbursement of his outlays; sales tax will be billed separately. He may claim appropriate advances for remuneration and reimbursement of outlays and make the rendering of his services dependent upon the complete satisfaction of his claims. Multiple clients awarding engagements are jointly and severally liable.
- (2) Any set off against the Wirtschaftsprüfer's claims for remuneration and reimbursement of outlays is permitted only for undisputed claims or claims determined to be legally valid.

## 15. Retention and return of supporting documentation and records

- (1) The Wirtschaftsprüfer retains, for ten years, the supporting documents and records in connection with the completion of the engagement - that had been provided to him and that he has, prepared himself - as well as the correspondence with respect to the engagement.
- (2) After the settlement of his claims arising from the engagement, the Wirtschaftsprüfer, upon the request of the client, must return all supporting documents and records obtained from him or for him by reason of his work on the engagement. This does not, however, apply to correspondence exchanged between the Wirtschaftsprüfer and his client and to any documents of which the client already has the original or a copy. The Wirtschaftsprüfer may prepare and retain copies or photocopies of supporting documents and records which he returns to the client.

## 16. Applicable law

Only German law applies to the engagement, its conduct and any claims arising therefrom.

# 12. Special Development Fund

Contributions to the IMU Special Development Fund 2007

American Mathematical Society 16,506.20 US dollars

**London Mathematical Society** 5,000.00 US dollars

# 13. IMU Bank accounts

as of January 1, 2007:

International Mathematical Union, Takustr. 7, D-14195 Berlin, Germany Berliner Bank, Hardenbergstr. 32, D-10623 Berlin, Germany BIC (SWIFT) code: BEBEDEBB

CHF transfer to account No.: EUR transfer to account No.: **USD** transfer to account No.: IBAN code: IBAN code: IBAN code:

DE5610020000093025115 | DE45100200003591211100 | DE6510020000093025050