

**Bulletins of the
International
Mathematical Union**



Bulletin of the IMU, No. 62 (2012)

Bulletin of the International Mathematical Union

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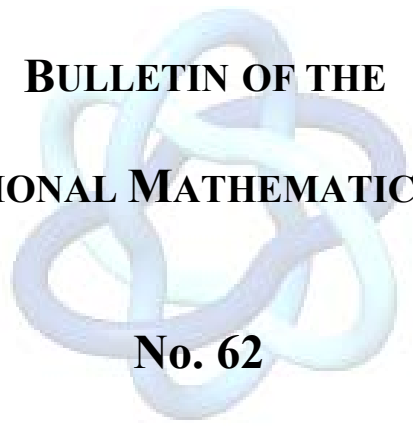
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IMU

**BULLETIN OF THE
INTERNATIONAL MATHEMATICAL UNION**



No. 62

December 2012

Secretariat:

*International Mathematical Union
Secretariat
Markgrafenstr. 32
D-10117 Berlin, Germany*

<http://www.mathunion.org>

List of Abbreviations

AO	Adhering Organization
CDC	Commission for Developing Countries
CDE	Commission on Development and Exchange
CEIC	Committee on Electronic Information and Communication
DCSG	Developing Countries Strategy Group
EC	Executive Committee
ICHM	International Commission on the History of Mathematics
GA	General Assembly
ICM	International Congress of Mathematicians
ICM OC	ICM Opening Ceremony
ICMI	International Commission on Mathematical Instruction
ICSU	International Council for Science
IMU	International Mathematical Union
IUHPS	International Union of the History and Philosophy of Science

Dear Members of the International Mathematical Union,

In the course of preparation of ICM 2014 important tasks have been accomplished in 2012. The Program Committee has chosen the core panels for the ICM 2014 sections, the ICM 2014 section descriptions as well as the number of lectures to be given in each section were defined, and the IMU Adhering Organizations (AOs) and the mathematical societies the world over were invited to submit nominations of invited plenary and sectional speakers to the Program Committee.

The IMU Executive Committee selected the chairs and members of the selection committees for the IMU Awards, Prizes, and Special Lectures to be presented at ICM 2014. So the committees for the Fields Medal, the Nevanlinna Prize, the Gauss Prize, the Chern Medal Award, the Leelavati Prize, and the ICM Emmy Noether Lecture started their work. The names of the selection committee members remain confidential until ICM 2014, the names of the committee chairs were made known on the IMU Web page. A call was sent out asking to send proposals for nominations for IMU awards 2014 in order to assist the committees in their task to select the awardees.

The preparations of the next IMU General Assembly meeting started. The IMU Executive Committee began to form the Nominating Committee with the purpose of presenting slates of nominations to the IMU Adhering Organizations at the GA meeting in Gyeongju, Korea, in August 2014. The Adhering Organizations were invited to submit nominations out of which three persons were chosen at random to serve at the Nominating Committee.

The Adhering Organizations were also requested to submit nominations for the offices of President and Secretary of IMU who will be elected by the GA in Gyeongju, Korea. In 2013, a call will be sent out for nominations for the offices of IMU Vice Presidents and IMU EC Members-at-Large, President, Secretaries and Members-at-Large of CDC, and IMU Representatives to ICHM to be elected for the term 2015-2018.

A symposium entitled *The Future World Heritage Digital Mathematics Library: Plans and Prospects* took place at the National Academy of Sciences in Washington DC, US. The symposium was organized by IMU's Committee on Electronic Information and Communication (CEIC), support was received from the Sloan Foundation. The goal of the meeting was to develop a viable plan of action to realize the vision of a universally accessible library for the world's mathematics literature of all time. The symposium was a significant step on the way to establish a world digital mathematics library.

The IMU blog on mathematical journals that started in 2011 was continued in 2012. The blog format changed, it switched to the WordPress platform in order to make submission of entries easier. Previous entries remain available, contributions to the blog are welcome.

The International Commission on Mathematical Instruction (ICMI), IMU's commission devoted to the development of mathematical education, held the International Congress on Mathematical Education (ICME 12) in Seoul, Korea. The congress was preceded by the ICMI General Assembly that elected the ICMI leadership for the term 2013-2016.

The IMU was represented at international meetings by running a booth and offering information material about the Union and its commissions and committees and their activities. These booths were organized at the 6th European Congress of Mathematics (6ECM) in Krakow, Poland and the 12th International Congress on Mathematical Education (ICME 12) in Seoul, Korea.

The IMU welcomed new members of the Union. The Adhering Organizations approved the application of Algeria to become an IMU member as well as the applications of Madagascar and Malaysia to become IMU Associate Members. Thus, IMU membership increased to 80 countries, of which are 10 Associate Members.

On the occasion of the 10th Abel Prize Ceremony in Oslo, the foundation of a new conference format, the Heidelberg Laureate Forum (HLF), was laid. An agreement on collaborating in the Heidelberg Laureate Forum between the Klaus Tschira Stiftung who establishes the HLF and the Norwegian Academy of Science and Letters, the International Mathematical Union, and the Association for Computing Machinery who grant the prestigious Abel Prize, Fields Medal, and Turing Award respectively, was signed. The HLF will bring together winners of these awards with young scientists from all over the world. The HLF was inspired by the annual Lindau Nobel Laureate Meetings, the first HLF meeting will be held in Heidelberg in September 2013.

With best wishes

Martin Grötschel
IMU Secretary

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1. Executive Committee of the IMU

INTERNATIONAL MATHEMATICAL UNION

Executive Committee

January 1, 2011 – December 31, 2014

President:	Ingrid Daubechies	(USA)
Vice-Presidents:	Christiane Rousseau	(Canada)
	Marcelo Viana	(Brazil)
Secretary:	Martin Grötschel	(Germany)
Members-at-Large:	Manuel de León	(Spain)
	Yiming Long	(China)
	Cheryl E. Praeger	(Australia)
	Vasudevan Srinivas	(India)
	John F. Toland	(United Kingdom)
	Wendelin Werner	(France)
Ex-officio Member (Past President)	László Lovász	(Hungary)

Meetings of the Executive Committee in 2012:

82nd EC Meeting, Rio de Janeiro, Brazil, April 22/23, 2012

2. Members of the Union

The following 80 countries were members of IMU through December 31, 2012:

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

The following 4 organizations were members of IMU through December 31, 2012:

Affiliate Membership	African Mathematical Union (AMU) European Mathematical Society (EMS) South East Asian Mathematical Society (SEAMS) Unión Matemática de América Latina y el Caribe (UMALCA)
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3. IMU Leadership

IMU Executive Committee (EC) 2011 – 2014

Ingrid Daubechies	IMU President	USA
Martin Grötschel	IMU Secretary	Germany
Christiane Rousseau	IMU Vice President	Canada
Marcelo Viana	IMU Vice President	Brazil
Manuel de León	IMU EC Member-at-Large	Spain
Yiming Long	IMU EC Member-at-Large	China
Cheryl E. Praeger	IMU EC Member-at-Large	Australia
Vasudevan Srinivas	IMU EC Member-at-Large	India
John F. Toland	IMU EC Member-at-Large	UK
Wendelin Werner	IMU EC Member-at-Large	France
László Lovász	IMU EC Ex-officio Member (Past President)	Hungary

Commission for Developing Countries (CDC) 2011 – 2014

José-Antonio de la Peña	CDC President	Mexico
C. Herbert Clemens	CDC Secretary Policy	USA
Srinivasan Kesavan	CDC Secretary Grants	India
Carlos Cabrelli	CDC, Latin American Member	Argentina
Wandera Ogana	CDC, African Member	Kenya
Hoang Xuan Phu	CDC, Asian Member	Vietnam
Ragni Piene	CDC Member appointed by IMU EC	Norway
Polly W. Sy	CDC Member appointed by IMU EC	Philippines
Angel Ruiz	CDC Member appointed by ICMI EC	Costa Rica
Ingrid Daubechies	CDC Ex-officio Member (IMU President)	USA

International Commission on the History of Mathematics (ICHM) 2011 – 2014

Jesper Lützen	ICHM	Denmark
Kim Plofker	ICHM	USA

International Commission on Mathematical Instruction (ICMI) 2010 – 2012*

William (Bill) Barton	ICMI President	New Zealand
Jaime Carvalho E Silva	ICMI Secretary-General	Portugal

Angel Ruiz	ICMI Vice President	Costa Rica
Mina Teicher	ICMI Vice President	Israel
Mariolina Bartolini Bussi	ICMI EC Member-at-Large	Italy
Sung Je Cho	ICMI EC Member-at-Large	Korea
Roger Howe	ICMI EC Member-at-Large	USA
Renuka Vithal	ICMI EC Member-at-Large	South Africa
Zhang Yingbo	ICMI EC Member-at-Large	China
Michèle Artigue	ICMI EC Ex-officio Member (Past President)	France
Ingrid Daubechies	ICMI EC Ex-officio Member (IMU President)	USA
Martin Grötschel	ICMI EC Ex-officio Member (IMU Secretary)	Germany

* The transition process according to the changed election model ends in 2012, four-year terms of service start in 2013.

International Commission on Mathematical Instruction (ICMI) 2013 – 2016**

Ferdinando Arzarello	ICMI President	Italy
Abraham Arcavi	ICMI Secretary-General	Israel
Cheryl E Praeger	ICMI Vice President	Australia
Angel Ruiz	ICMI Vice President	Costa Rica
Catherine P. Vistro-Yu, Ed.D.	ICMI EC Member-at-Large	Philippines
Jean-Luc Dorier	ICMI EC Member-at-Large	Switzerland
Roger Howe	ICMI EC Member-at-Large	USA
Yuriko Yamamoto Baldin	ICMI EC Member-at-Large	Brazil
Zahra Gooya	ICMI EC Member-at-Large	Iran
William (Bill) Barton	ICMI EC Ex-officio Member (Past President)	New Zealand
Ingrid Daubechies	ICMI EC Ex-officio Member (IMU President)	USA
Martin Grötschel	ICMI EC Ex-officio Member (IMU Secretary)	Germany

** Elected at the ICMI General Assembly meeting, August 8, 2012, Seoul, Korea.

Committee on Electronic Information and Communication (CEIC) 2008 – 2014***

Peter Olver	CEIC Chair (chair as of 2011)	Jul 1, 2008 – Dec 31, 2014	USA
Thierry Bouche	CEIC Member	Jan 1, 2011 – Dec 31, 2014	France
Olga Caprotti	CEIC Member	Jul 1, 2008 – Dec 31, 2012	Finland
Tim Cole	CEIC Member	Jan 1, 2013 – Dec 31, 2016	USA
James Davenport	CEIC Member	Jul 1, 2008 – Dec 31, 2012	UK
Carol Hutchins	CEIC Member	Jul 1, 2008 – Dec 31, 2012	USA
László Lovász	CEIC Member	Jan 1, 2011 – Dec 31, 2014	Hungary
Ravi Vakil	CEIC Member	Jan 1, 2011 – Dec 31, 2014	USA

*** CEIC terms of membership are staggered. Starting 2013, CEIC membership is 8 persons.

Persons representing IMU in various organizations

Body	Representative/ liaison person	(end of) Term
COSPAR	T. Padmanabhan	2011-2014
Gruber Foundation Cosmology Prize	Gerhard Huisken	2012-2014
ICMI (IMU EC liaison person)	Cheryl Praeger	2010-2014
CEIC (IMU EC liaison person)	László Lovász	2011-2014
IMU-Net editor	Mireille Chaleyat-Maurel	2011-2014
IMU-Net EC correspondent	Christiane Rousseau	2011-2014
Ramanujan Prize	Vasudevan Srinivas	2011-2014
Curator of the IMU archive	Guillermo Curbera	2011-2014
UNESCO	Michèle Artigue	2011-2014
ICSU	Manuel de León	2010-2014
ICSU Regional office for Latin America and the Caribbean (ROLAC)	Marcelo Viana	2011-2014
ICSU Regional office for Asia and the Pacific (ROAP)	Yiming Long	2011-2014
ICSU Regional office for Africa (ROA)	Fanja Rakotondrajao	2011-2014

4. Approved IMU membership dues 2011 – 2014

International Mathematical Union				
Approved membership dues 2011 – 2014 (Swiss Francs)				
Year	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Group I	1.637	1.670	1.703	1.737
Group II	3.274	3.340	3.406	3.474
Group III	6.548	6.680	6.812	6.948
Group IV	13.096	13.360	13.624	13.896
Group V	19.644	20.040	20.436	20.844

5. Approved IMU budget 2011-2014

The IMU AOs approved the new budget structure through postal ballot 01/11.

International Mathematical Union												
Proposed new Budget for 2011-2014, in Swiss Francs (CHF)												
	2011			2012			2013			2014		
	General	Special	Sum	General	Special	Sum	General	Special	Sum	General	Special	Sum
INCOME												
I. General												
Membership Dues												
Sum General Income	435.442			444.220			452.998			462.042		
II. Special												
Special Development Fund		30.000			30.000			30.000			30.000	
Donations		56.000			56.000			56.000			56.000	
Grants												
Sum Special Income from Third Parties												
Income from IMU bank accounts		1.000			1.000			1.000			1.000	
Other Income		300			300			300			300	
Sum Special Income from Other Sources												
TOTAL INCOME	435.442	87.300	522.742	444.220	87.300	531.520	452.998	87.300	540.298	462.042	87.300	549.342
EXPENDITURE												
1. Commissions & Committees (C&C)												
1.1 CDC	89.734	45.000		89.734	45.000		89.734	45.000		89.734	45.000	
1.2 CEIC	22.434			22.434			22.434			22.434		
1.3 ICMI	67.300			67.300			67.300			67.300		
1.4 Ad hoc committees	13.460			13.460			13.460			13.460		
1.5 Special support	0			0			0			0		
C&C Expenditure	192.928	45.000	237.928	192.928	45.000	237.928	192.928	45.000	237.928	192.928	45.000	237.928
2. ICM												
2.1 Site Committee	4.487			4.487			4.487			4.487		
2.2 Program Committee	8.974			8.974			8.974			8.974		
2.3 Prize Committees	8.974			8.974			8.974			8.974		
2.4 Congress Subvention	22.434			22.434			22.434			22.434		
2.5 Travel Grants (Young & Senior)	31.407	30.000		31.407	30.000		31.407	30.000		31.407	30.000	
2.6 ICM related admin., outreach	22.434			22.434			22.434			22.434		
ICM Expenditure	98.710	30.000	128.710	98.710	30.000	128.710	98.710	30.000	128.710	98.710	30.000	128.710
3. Union Administration												
3.1 General Assembly	4.487			4.487			4.487			4.487		
3.2 President & Secretary	35.894			35.894			35.894			35.894		
3.3 Executive Committee	35.894			35.894			35.894			35.894		
3.4 Other	13.460			13.460			13.460			13.460		
Union Administration Expenditure	89.735	0	89.735	89.735	0	89.735	89.735	0	89.735	89.735	0	89.735
4. Outreach												
4.1 ICSU Union Member Contribution	8.974			8.974			8.974			8.974		
4.2 Awards	0	11.000		0	11.000		0	11.000		0	11.000	
4.3 Website Support, Media Relations	8.974			8.974			8.974			8.974		
4.4 Bulletin	0			0			0			0		
4.5 Other	4.487			4.487			4.487			4.487		
4.6 Scientific activity support	0			0			0			0		
Outreach Expenditure	22.435	11.000	33.435	22.435	11.000	33.435	22.435	11.000	33.435	22.435	11.000	33.435
5. Overhead												
5.1 Office Expenses	4.487			4.487			4.487			4.487		
5.2 Bank Charges	4.487			4.487			4.487			4.487		
5.3 Legal Advice, Audit Fees	17.947			17.947			17.947			17.947		
5.4 Other	17.947	1.300		17.947	1.300		17.947	1.300		17.947	1.300	
Overhead Expenditure	44.868	1.300	46.168	44.868	1.300	46.168	44.868	1.300	46.168	44.868	1.300	46.168
TOTAL EXPENDITURE			535.976			535.976			535.976			535.976
Draw from Reserves			13.234			4.456			0			0
Return to Reserves			0			0			4.322			13.366
INCOME LESS EXPENSES			0			0			0			0

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

IMU AO Circular Letter 1/2012

International Mathematical Union



January 20, 2012

IMU AO Circular Letter 1/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

Call for Nominations:

The Ramanujan Prize for Young Mathematicians from Developing Countries

Dear colleagues,

I would like to draw your attention to the Call for Nominations for the Ramanujan Prize which has been instituted by the Abdus Salam International Centre for Theoretical Physics (ICTP, Italy), the Niels Henrik Abel Memorial Fund (Norway), and the International Mathematical Union (IMU). The Prize is funded by the Niels Henrik Abel Memorial Fund. The first winner was announced in 2005.

The Ramanujan Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work. Eligible for the prize is a mathematician from a developing country less than 45 years of age on 31 December of the year of the award. For the details of the nomination please see the attached call paper.

April 1, 2012 is the deadline for nominations.

Nominations are to be sent to math@ictp.it. Please advertise this call for nominations for the Ramanujan Prize in your mathematical communities.

Attached is a PDF file containing the official text of the call for nominations. The call can also be found at <http://prizes.ictp.it/Ramanujan/call-for-nominations-for-the-2012-prize>.

With best wishes

Martin Grötschel
IMU Secretary

**The Ramanujan Prize
for Young Mathematicians from Developing Countries**

Call for Nominations for the 2012 Prize

The Abdus Salam International Centre for Theoretical Physics (ICTP), the Niels Henrik Abel Memorial Fund, and the International Mathematical Union (IMU) have instituted the Ramanujan Prize for young mathematicians from developing countries. The Prize is funded by the Niels Henrik Abel Memorial Fund.

The Prize is awarded annually to a researcher from a developing country, who must be less than 45 years of age on 31 December of the year of the award, and who has conducted outstanding research in a developing country. Researchers working in any branch of the mathematical sciences are eligible. The Prize carries a \$15,000 cash award. The winner will be invited to the ICTP to receive the Prize and deliver a lecture. The Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work.

The Selection Committee will take into account not only the scientific quality of the research, but also the background of the candidate and the environment in which the work was carried out. The Committee consists of five eminent mathematicians appointed in consultation between the ICTP, the Abel Fund and the IMU. The first winner was announced in 2005.

The deadline for receipt of nominations for the 2012 Prize is 1 April 2012.

Please send nominations to math@ictp.it describing the work of the nominee in adequate detail. Nominations should include a CV and a list of publications, as well as a letter of recommendation. Additional supporting letters are encouraged. Self-nominations are strongly discouraged.

IMU AO Circular Letter 2/2012

International Mathematical Union



February 29, 2012
IMU AO Circular Letter 2/2012

To: IMU Adhering Organizations
 Mathematical Societies

From: Martin Grötschel, IMU Secretary

Nomination of invited plenary and sectional speakers for ICM 2014

The Program Committee for the International Congress of Mathematicians 2014 in Seoul, Republic of Korea, August 13-21, 2014 has been set up. According to the PC/OC Guidelines the Program Committee has chosen the core panels for the ICM 2014 sections. At this moment in time the Adhering Organizations of IMU and the mathematical societies the world over are invited to nominate invited plenary and sectional speakers.

Attached to this circular letter please find the list of the ICM 2014 sections. When you make nominations for speakers please specify whether you suggest them as plenary speakers or section speakers. In case of proposals of section speakers please indicate to which sections you would like the persons to be invited.

All communication concerning the scientific program of ICM 2014 is handled by the Chair of the Program Committee. Please direct all your mail with proposals for invited plenary and sectional speakers to Prof. Carlos Kenig, the Louis Block Distinguished Service Professor of the University of Chicago, and please use the special e-mail address for this purpose

PC-Chair-ICM2014@mathunion.org.

Sincerely

Martin Grötschel
IMU Secretary

Attachment to IMU AO Circular Letter 2/2012 of February 29, 2012

ICM 2014 section descriptions as well as the number of lectures to be given in each section

1. Logic and Foundations (3-5 lectures)

Model theory. Set theory. Recursion theory. Proof theory. Applications.
Connections with sections 2, 3, 13, 14.

2. Algebra (4-6 lectures)

Groups (finite, infinite, algebraic) and their representations. Rings, Algebras and Modules (except as specified in other sections, Geometry, or Lie theory). Algebraic K-theory, Category theory, Computational aspect of algebra and applications.

Connections with sections 1, 3, 4, 5, 6, 7, 13, 14.

3. Number Theory (9-12 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, 11, 12, 13, 14.

4. Algebraic and Complex Geometry (9-12 lectures)

Algebraic varieties, their cycles, cohomologies, and motives. Schemes. Geometric aspects of commutative algebra. Arithmetic geometry. Rational points. Low-dimensional varieties. Singularities and classification. Birational geometry. Moduli spaces and enumerative geometry. Derived categories. Abelian varieties. Transcendental methods, topology of algebraic varieties. Complex differential geometry, Kähler manifolds and Hodge theory. Relations with mathematical physics and representation theory. Real algebraic and analytic sets. Rigid and p-adic analytic spaces. Tropical geometry. Non-commutative geometry.

Connections with sections 2, 3, 5, 6, 7, 8, 11, 13, 14.

5. **Geometry** (10-13 lectures)

Local and global differential geometry. Non-linear and fully non-linear geometric PDE. Geometric flows. Geometric structures on manifolds. Riemannian and metric geometry. Geometric aspects of group theory. Conformal geometry, Kähler geometry, Symplectic and Contact geometry, Geometric rigidity, General Relativity.

Connections with sections 2, 4, 6, 7, 8, 9, 10, 11, 12, 16, 17.

6. **Topology** (9-11 lectures)

Algebraic Topology, Differential Topology, Geometric Topology, Floer and gauge theories, Low-dimensional manifolds including knot theory and connections with Kleinian groups and Teichmüller theory, Symplectic Geometry and contact manifolds, and Topological quantum field theories.

Connections with sections 2, 4, 5, 7, 8, 11.

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. Non-commutative 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, 11, 12, 13.

8. **Analysis and its Applications** (9-12 lectures)

Classical analysis. Real and Complex analysis in one and several variables, potential theory, quasiconformal mappings. Harmonic analysis. Linear and non-linear functional analysis, operator algebras, Banach algebras, Banach spaces. Non-commutative geometry, spectra of random matrices. Asymptotic geometric analysis. Metric geometry and applications. Geometric measure theory.

Connections with sections 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16.

9. **Dynamical Systems and Ordinary Differential Equations** (9-12 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. Strange attractors and chaotic dynamics.

Multidimensional actions and rigidity in dynamics. Ergodic theory including

applications to combinatorics and combinatorial number theory. Infinite dimensional dynamical systems and PDE.

Connections with sections 5, 7, 8, 10, 11, 12, 13, 15, 16.

10. Partial Differential Equations (9-12 lectures)

Solvability, regularity, stability and other qualitative properties of linear and non-linear equations and systems. Asymptotics. Spectral theory, scattering, inverse problems. Variational methods and calculus of variations. Geometric Evolution equations. Optimal transportation. Homogenization and multiscale problems. Relations to continuous media and control. Modeling through PDEs.

Connections with sections 5, 8, 9, 11, 12, 15, 16, 17.

11. Mathematical Physics (9-12 lectures)

Quantum mechanics. Quantum field theory including gauge theories. General relativity. Statistical mechanics and random media. Integrable systems. Supersymmetric theories. String theory. Fluid dynamics.

Connections with sections 4, 5, 6, 7, 8, 9, 10, 12.

12. Probability and Statistics (10-13 lectures)

Stochastic processes, Interacting particle systems, Random media, Random matrices, conformally invariant models, Stochastic networks, Stochastic geometry, Statistical inference, High-dimensional data analysis, Spatial methods.

Connections with sections 3, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17.

13. Combinatorics (8-10 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. Additive combinatorics. Polyhedral combinatorics and combinatorial optimization.

Connections with sections 1, 2, 3, 4, 7, 9, 12, 14.

14. Mathematical Aspects of Computer Science (6-8 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, 12, 13, 15.

15. Numerical Analysis and Scientific Computing (5-7 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, stochastic, differential, and integral equations. Grid generation and adaptivity.

Connections with sections 8, 9, 10, 12, 14, 16, 17.

16. Control Theory and Optimization (5-7 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 9, 10, 12, 15, 17.

17. 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 9, 10, 11, 12, 14, 15, 16.

18. Mathematics Education and Popularization of Mathematics (2 lectures plus 3 panel discussions)

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

19. History of Mathematics (3 lectures)

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

IMU AO Circular Letter 3/2012

International Mathematical Union



March 6, 2012

IMU AO Circular Letter 3/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

- **Postal Ballot 02/11 Application for full Membership of Algeria**
- **Address/Data Check**
- **IMU/NAS Digital Mathematics Library Symposium**

Dear colleagues,

- The vote on Algeria's application for IMU Membership yielded a positive result. As of February 2012, Algeria is a Member of the International Mathematical Union. For more information on Algeria's Adhering Organization see <http://www.smath.dz/>.
- To keep the IMU records and Web site up-to-date you are requested to look at the URL <http://www.mathunion.org/members/countries> and check whether the information displayed there for your country is correct and complete. Please check especially the information concerning
 - the Adhering Organization (through which your country gains adherence to the IMU)
 - the Committee for Mathematics (to be formed by the Adhering Organization)
 - the Mathematical Society (Societies) in your country
 - the body responsible for the IMU membership dues payment

and verify whether the names, the representatives or contact persons, affiliations, addresses, phone and fax numbers, and in particular e-mail addresses are correct and complete.

Should any change have occurred I ask you to send an e-mail with the updates to manager@mathunion.org, with a Cc to technician@mathunion.org

so that we can update our records.

- From June 1-3, 2012 the symposium "The Future World Heritage Digital Mathematics Library: Plans and Prospects" will take place at the National Academy of Sciences in Washington DC. The symposium is organized by IMU's Committee on Electronic Information and Communication (CEIC) that, thus, continues to play a leading role in promoting the establishment of a World Digital Mathematics Library (WDML).

The conference is supported by a grant from the Alfred P. Sloan Foundation and is being coordinated with a concurrent proposal of the US National Academies' Board on Mathematical Sciences to the Sloan Foundation to assemble a Committee of experts to study how a Mathematics Heritage Library could be established.

The goal of the meeting is to develop a viable plan of action to realize the vision of a universally accessible library for the world's mathematics literature of all time. The workshop will gather about 50 participants from all over the world representing, e.g., academic and corporate bodies, learned societies, foundations, funding agencies, and software developers who will discuss the scope and practical requirements for a successfully realized WDML project, the financial and computing resources required, the formatting and metadata standards needed to form a fully functional version, and related issues.

With best wishes,

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 4/2012

International Mathematical Union



May 15, 2012

IMU AO Circular Letter 4/2012

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

From: Martin Grötschel, IMU Secretary

- **Postal Ballot 01/12 Application for Associate Membership of Madagascar**
- **Postal Ballot 02/12 Application for Associate Membership of Malaysia**

- Madagascar has applied for associate membership of the IMU. The Executive Committee of the IMU recommends to favor the application. The enclosed document provides a description of the state of mathematics in Madagascar (e.g., university courses, mathematical societies, mathematical publications, educational activities).

- Malaysia has applied for associate membership of the IMU. The Executive Committee of the IMU recommends to favor the application. The enclosed document provides a description of the state of mathematics in Malaysia (e.g., mathematics research and education at universities, details about mathematics education, publications, mathematical conferences and workshops).

Please vote on the requests of Madagascar and Malaysia through the enclosed postal ballots¹ and return the ballots by mail or fax

by July 27, 2012

to the address indicated on the ballot form.

Sincerely,

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 5/2012

International Mathematical Union

¹ The postal ballot sheets are forwarded only with regular mail to the Adhering Organizations of the IMU member countries who are solely responsible for voting. If postal ballots would be sent out by e-mail (with possibly multiple recipients) this could lead to multiple voting of one member country (with possibly contrary votes – as has happened in the past).

May 22, 2012
IMU AO Circular Letter 5/2012

To: IMU Adhering Organizations
From: Martin Grötschel, IMU Secretary

**Heidelberg Laureate Forum
Abel, Fields, and Turing Laureates meet the next generation**

Dear colleagues,

Starting in September 2013, the “Heidelberg Laureate Forum” will bring together winners of the Abel Prize, the Fields Medal, and the Turing Award with young scientists from all over the world.

On the occasion of the 10th Abel Prize Ceremony the agreement on collaborating in the Heidelberg Laureate Forum between the Klaus Tschira Stiftung who establishes this Forum and the Norwegian Academy of Science and Letters, the International Mathematical Union, and the Association for Computing Machinery who grant the prestigious Abel Prize, Fields Medal, and Turing Award respectively, was signed in Oslo on May 22, 2012.

Read more about this important event in the relevant IMU news item (<http://www.mathunion.org/general/news>) and the attached press releases

in English: http://www.mathunion.org/fileadmin/IMU/News/120522_PR-IMU_Heidelberg_Laureates_Forum_En.pdf,
in German: http://www.mathunion.org/fileadmin/IMU/News/120522_PR-IMU_Heidelberg_Laureates_Forum_De.pdf.

IMU would be happy if you circulated this information within your communities.

With best wishes,

Martin Grötschel
IMU Secretary

Press Release

**Heidelberg Laureate Forum
Abel, Fields, and Turing Laureates Meet the Next Generation**

Winners of the prestigious Abel Prize, Fields Medal, and Turing Award will meet ambitious young scientists – Established by the Klaus Tschira Stiftung

The Klaus Tschira Stiftung will establish the “Heidelberg Laureate Forum” as an annual meeting bringing together winners of the most prestigious scientific awards in Mathematics

(Abel Prize and Fields Medal) and Computer Science (Turing Award) with a select group of highly talented young researchers. The Forum has been initiated by the Heidelberg Institute for Theoretical Studies (HITS), the research institute of the Klaus Tschira Stiftung (KTS) – a German foundation, which promotes Natural Sciences, Mathematics, and Computer Science. The Heidelberg Laureate Forum is modeled after the annual Lindau Nobel Laureate Meetings, established more than 60 years ago to bring forward new ideas. Klaus Tschira, founder and managing partner of the foundation states: “Meeting with the scientific leaders of Mathematics and Computer Science will be extremely inspiring and encouraging for the young scientists.”

The agreement on collaborating in the Heidelberg Laureate Forum between the organizers and the award-granting institutions (Norwegian Academy of Science and Letters, International Mathematical Union, and Association for Computing Machinery) was signed in Oslo on May 22nd on the occasion of the 10th Abel Prize Ceremony.

Research in all fields requires both mathematical methods and computational tools, and the results enter all aspects of our daily lives. Mathematics and Computer Science are indispensable foundations of our technological world. The Turing Award has long been recognized as the highest scientific award worldwide in the field of Computer Science, and the same holds for the Fields Medal and the Abel Prize in Mathematics. And yet: While young researchers in Physics, Chemistry, Medicine, and Economics have a chance to closely interact with the Nobel laureates of their fields in Lindau each year, no such opportunity has been existing for Mathematics and Computer Science – until now.

Starting in September 2013, the Heidelberg Laureate Forum will bring together winners of the Abel Prize, the Fields Medal, and the Turing Award with young scientists from all over the world. The Meeting is held in Heidelberg, where the Klaus Tschira Stiftung and the Heidelberg Institute for Theoretical Studies (HITS) are located. It is organized in collaboration with the Association for Computing Machinery (ACM; Turing Award), the International Mathematical Union (IMU; Fields Medal), and the Norwegian Academy of Science and Letters (DNVA; Abel Prize). The first meeting of the Heidelberg Laureate Forum will take place during September 23-27, 2013.

Signing for the IMU, president Ingrid Daubechies expressed her delight at this initiative of the Klaus Tschira Stiftung, and her hope that this new forum will help foster enthusiasm for mathematics among the next generation. It is important for starting researchers to meet their “scientific heroes” and realize they are not unattainable personalities to keep on pedestals – mathematics, for all its abstractness, is a pursuit by living people, in which all the aspects of human communication and relations can play a role. We need to attract to and retain in mathematical research all the young bright minds that we can reach, eager to work enthusiastically to carry forward the whole living enterprise of mathematics.

The **Klaus Tschira Stiftung (KTS)** is a German foundation promoting the Natural Sciences, Mathematics, and Computer Science. The Heidelberg Institute for Theoretical Studies (HITS) is the research institute of the Klaus Tschira Stiftung. Further information: www.klaus-tschira-stiftung.de; www.h-its.org.

The **Norwegian Academy of Science and Letters (DNVA)** has annually been awarding the Abel Prize for outstanding scientific work in the field of mathematics since 2003. The prize amount is 6 million NOK (800,000 Euro). The Norwegian Academy of Science and Letters, founded in 1857, is a

non-governmental, nation-wide, and interdisciplinary body which embraces all fields of learning. The Academy has 895 members, both Norwegian and foreign. Further information: <http://english.dnva.no>.

More than 70 countries are members of **IMU, the International Mathematical Union**. IMU promotes worldwide cooperation in mathematics, organizes the International Congress of Mathematicians (ICM), encourages and supports mathematical activities the world over contributing to the development of mathematical science in any of its aspects, pure, applied, or educational. Further information: www.mathunion.org/.

ACM, the Association for Computing Machinery, is the world's largest educational and scientific computing society, uniting computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges. Further information: www.acm.org/.

Download the press release and pictures of the Oslo agreement signing:

www.klaus-tschira-stiftung.de/presse/download/2012/signing_event_HLF.jpg.

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IMU AO Circular Letter 6/2012

International Mathematical Union



May 30, 2012

IMU AO Circular Letter 6/2012

To: IMU Adhering Organizations

From: Ingrid Daubechies, IMU President

Nominations for IMU awards 2014

Dear colleagues,

In my capacity of President of the IMU, I invite you to submit nominations for the IMU awards listed below, thus assisting the corresponding committees in their task to select the awardees who will receive their prize or medal at ICM 2014 in Seoul.

Here is the list of awards for which we presently seek nominations, each listed with the email address to which nominations can be sent, and with its short description:

- **Fields Medals** — fields14-chair@mathunion.org
The Fields Medals are awarded every 4 years on the occasion of the International Congress of Mathematicians to recognize outstanding mathematical achievement for existing work and for the promise of future achievement.
- **Rolf Nevanlinna Prize** — nevanlinna14-chair@mathunion.org
The Nevanlinna Prize is awarded once every 4 years at the International Congress of Mathematicians, for outstanding contributions in mathematical aspects of information sciences.
- **Carl Friedrich Gauss Prize** — gauss14-chair@mathunion.org
The Gauss Prize is awarded once every 4 years to honor a scientist whose mathematical research has had an impact outside mathematics - either in technology, in business, or simply in people's everyday lives.
- **Chern Medal Award** — chern14-chair@mathunion.org
The Chern Medal is awarded every 4 years on the occasion of the International Congress of Mathematicians to an individual whose accomplishments warrant the highest level of recognition for outstanding achievements in the field of mathematics.
- **Leelavati Prize, sponsored by Infosys** — leelavati14-chair@mathunion.org
The Leelavati Prize, sponsored by Infosys, is intended to accord high recognition and great appreciation of the IMU and Infosys of outstanding contributions for increasing public awareness of mathematics as an intellectual discipline and the crucial role it plays in diverse human endeavors.

IMU also requests nominations for the

- **ICM 2014 Emmy Noether Lecture** — noether14-chair@mathunion.org
The ICM Emmy Noether lecture is a special lecture at an ICM which honors women who have made fundamental and sustained contributions to the mathematical sciences.

More details about each of these awards and the Noether lecture, as well as lists of past laureates, can be found on the IMU Web site, at URL:

www.mathunion.org/general/prizes

and the Web pages to which you can link from there.

As you can imagine, the selection committees take their task most seriously, and a lot of thought and deliberation is spent on reaching their final decisions. To allow the committees sufficient time for this decision process, the IMU has set

December 31, 2012

as the deadline for nominations.

This does not mean that nominations reaching the committees after this deadline will not be considered. (In particular, if some truly stupendous result were obtained by a mathematician under 40 during 2013, then this achievement would of course be taken into consideration as well for a Fields Medal.) However, we would like to urge you to submit before the end of this calendar year any compelling nominations of which you are already aware now.

The names of the chairs of the various prize committees and their contact information can be found at:

<http://www.mathunion.org/general/prizes/prize-committee-chairs/2014/>.

The names of the other prize committee members remain confidential and will be announced at the Opening Ceremony of ICM 2014 only.

The guidelines for nominations are specified at the Web page:

<http://www.mathunion.org/general/prizes/nomination-guidelines/>.

For some awards (e.g., the Leelavati Prize, sponsored by Infosys) additional hints concerning the nomination can be found on the respective Web pages.

IMU prefers electronic submission of nominations, if possible in pdf form.

By sending your nomination to the special email address, you will ensure that it is automatically forwarded to the corresponding committee. A copy of your nomination materials will also be held, for the record, in the IMU Secretariat in Berlin. All the materials will, of course, be treated with the utmost confidentiality.

We look forward to receiving your nominations!

With best regards,

Ingrid Daubechies
IMU President

IMU AO Circular Letter 7/2012

International Mathematical Union



August 3, 2012
IMU AO Circular Letter 7/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

- **Postal Ballot 01/12 Admittance as Associate Member of Madagascar**
- **Postal Ballot 02/12 Admittance as Associate Member of Malaysia**

Dear colleagues,

- The vote on Madagascar's application for Associate Membership yielded a positive result. As of August 2012, Madagascar is an Associate Member of the IMU. For more information on Madagascar's Adhering Organization see <http://www.mathunion.org/members/countries/list/sorted-by-names/madagascar/>.
- The vote on Malaysia's application for Associate Membership yielded a positive result. As of August 2012, Malaysia is an Associate Member of the IMU. For more information on Malaysia's Adhering Organization see <http://www.mathunion.org/members/countries/list/sorted-by-names/malaysia/>.

With best wishes,

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 8/2012

International Mathematical Union



August 14, 2012
IMU AO Circular Letter 8/2012

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

From: Martin Grötschel, IMU Secretary

Call for nominations to the Nominating Committee of IMU

Dear colleagues,

This e-mail marks the beginning of the preparations of the next meeting of the IMU General Assembly (GA) to be held in Gyeongju, Republic of Korea, on August 10-11, 2014.

The IMU Executive Committee is currently starting to form the Nominating Committee (NC) with the purpose of presenting slates of nominations to the IMU Adhering Organizations (AOs) at the GA meeting in Gyeongju. Every Adhering Organization is requested to nominate one person for this Nominating Committee.

The NC is one of the most important IMU committees since it has a strong influence on the composition of the IMU leadership for the term 2015-2018. The role of the Nominating Committee is described in detail at:

http://www.mathunion.org/fileadmin/IMU/EC/IMU_EC_ProceduresForElection_2010Final_100816A.pdf.

A brief review of the duties of the NC can be found in the appendix below.

The composition of the NC is as follows:

- a) The President of IMU.
- b) The Chair (chosen by the IMU President).
- c) Three other persons (chosen at random from AO nominations).
- d) Two persons with experience of IMU (chosen jointly by the NC Chair and the IMU President).

This call for nominations is about the three persons mentioned under c).

The IMU Executive Committee asks for the nomination of persons

- who are not current members of the IMU Executive Committee,
- who are willing to serve, and
- who do not work in the same country as the NC Chair or the IMU President.

The IMU President Ingrid Daubechies has chosen the Chair of the NC: Ragni Piene of the University of Oslo, Norway, see e.g.,

<http://www.mn.uio.no/math/english/people/aca/ragnip/index.html> who is currently a member of the IMU CDC (Commission for Developing Countries) and who was a member of the IMU Executive Committee from 2003 to 2010. Ragni Piene has agreed to serve as NC Chair.

This implies that no person working in the United States or in Norway can be nominated.

One person is to be chosen from nominations submitted by Groups I and II, one person chosen from nominations submitted by Groups III and IV and one person chosen from nominations submitted by Group V. Each Adhering Organization may submit one name of a person who is willing to serve. If there are no nominations in one of these three categories, then a person will be chosen at random from the other two categories. The IMU member countries sorted by groups can be found at <http://www.mathunion.org/members/countries/list/sorted-by-groups/>.

All submissions are to be sent via e-mail, post, or fax to IMU. All e-mail submissions must be sent from the official e-mail address of the Adhering Organization.

Postal address: International Mathematical Union
Secretariat
Markgrafenstr. 32
10117 Berlin
Germany

Tel: +49 30 20372 431

Fax: +49 30 20372 439

E-mail: secretary@mathunion.org

Additional requirements:

- Every nomination of a candidate has to be accompanied by a statement of the candidate that he or she is willing to serve.
- No member of the Nominating Committee will be eligible to hold an office for 2015-2018 on the IMU EC, CDC or ICHM.

Deadline:

The deadline for receipt of nominations from which a random selection will be made is

December 1, 2012.

Sincerely yours,

Martin Grötschel
IMU Secretary

Appendix:

Duties of the IMU Nominating Committee

- a) Nomination slates will be formed for the IMU Executive Committee (EC), IMU Committee for Developing Countries (CDC), and the International Commission on the History of Mathematics (ICHM).
- b) The slates for the commissions will be formed taking advice from the current officers of these commissions, but this advice is not binding on the IMU Nominating Committee.
- c) The IMU Nominating Committee will nominate one name for the position of President of IMU, Secretary of IMU, President of CDC, and Secretaries of CDC and one name for each of the two Vice Presidents of IMU.

The IMU Nominating Committee will nominate at least two more names than the number of Members-at-Large of IMU and CDC, and for the ICHM representatives.

IMU AO Circular Letter 9/2012

International Mathematical Union



September 20, 2012

IMU AO Circular Letter 9/2012

To: IMU Adhering Organizations
From: Martin Grötschel, IMU Secretary

IMU General Assembly (GA) Guidelines

Dear colleagues,

I would like to inform you that the IMU Executive Committee has endorsed guidelines for meetings of the General Assembly (GA) of the International Mathematical Union, see attachment.

Since the foundation of IMU such guidelines have not been existing, the GA meetings were always organized in a somewhat ad hoc manner. At the recent two General Assemblies it was suggested to consider drafting guidelines so that the organizers of future General Assembly meetings would have a clear picture of what has to be done. Now the IMU EC made such a draft that was discussed in detail with the organizers of the next General Assembly meeting in Gyeongju, Korea, in 2014. The 2014 GA organizers and the IMU EC will follow these guidelines in the planning of the 2014 GA meeting.

The new guidelines will also be on the agenda of the 2014 GA meeting so that the GA delegates can discuss the guidelines and suggest changes, amendments and the like. The local GA organizers and the IMU EC will report about their experiences with using the guidelines so that a final version may be ready for approval by the GA in 2014.

Best regards,

Martin Grötschel
IMU Secretary

Guidelines for Meetings of the General Assembly of the International Mathematical Union (IMU)

endorsed by the IMU Executive Committee on September 15, 2012

About the General Assembly

The General Assembly (GA) is the main body of the International Mathematical Union. It admits IMU members, elects the IMU officers and the members of the IMU Executive Committee, establishes commissions and the budget, and decides about the IMU statutes, the rules of conduct and many other issues. The GA consists of Delegates appointed by the Adhering Organizations, together with the members of the Executive Committee, and of the Representatives of Associate and Affiliate Members. Guests and observers may be invited additionally. Only Delegates have voting rights. The IMU Statutes contain a detailed description of the rights and duties of the GA.

The GA normally meets once in four years, usually at a place and date close to an International Congress of Mathematicians (ICM). An indication of the place and time of the GA meeting is supposed to be part of the bid for an ICM.

This document provides some guidelines for the organization of a meeting of the GA.

GA organization

For a GA meeting arranged in close association with an ICM, the ICM organizers are supposed to also care for the organization of the GA meeting. Ideally, a mathematician based in the vicinity of the location of the GA meeting should be appointed as chair of the GA organization. He/she is the local contact person and in charge of coordinating the GA meeting with the ICM organizers and the IMU secretary. The number of persons involved in the organization of the GA and the structure of the local GA organization team are up to the ICM organizers.

GA Web server and site

A GA Web server and a GA Web site must be set up. Competent staff has to run the GA server and make the documents needed available on the GA Web site. Mirroring is advisable to compensate any breakdown of the server. The GA Web server should be integrated into the ICM Web server and has to be maintained until a copy thereof is moved to the IMU archive. The GA organizers have to make sure (e.g., by obtaining corresponding copyrights) that IMU has the right that all material dedicated to the IMU archive can be made available on the IMU Web site without time limit.

GA participants

Admitted to the IMU GA meeting are:

Category	app. No.	Description	Voting rights
Delegate	160	is nominated by a full member AO of IMU	YES
Representative	15	–represents an associate member AO of IMU –represents an affiliate member of IMU	–NO* –NO* <small>*apart from voting rights, same rights as delegates</small>
IMU EC	11	all members of the executive committee	NO
IMU representative	5	a person serving some IMU function, invited by the IMU president, e.g., PC chair, commission president	NO
Observer	8	is invited by the IMU president in order to serve a certain function	NO
IMU staff	2	persons working for the IMU and supporting the GA by secretarial assistance	NO
GA organizer	5	members of the GA organization team appointed by the ICM organizers	NO
GA local staff	n	persons who help organize and support the GA at the location where the GA takes place.	NO

The persons belonging to one of the categories listed above are jointly called *GA participants*. In addition, there may be accompanying persons for whom some service should be provided.

The name tag (large letters please) for each GA participant has to contain the following information:

FIRST LINE (NAME LINE): Name of the person (the name provided by the person via the formal registration process, no titles).

SECOND LINE (COUNTRY LINE): Name of the country (the official name of the country if the person represents a member country as a delegate or an associate member country as a representative, in all other cases the name of the country a person has provided in his/her registration form).

*THIRD LINE (FUNCTION LINE): One of the following functions applies:
DELEGATE, REPRESENTATIVE, IMU EC MEMBER, IMU REPRESENTATIVE,
OBSERVER, IMU STAFF, GA ORGANIZER, GA STAFF, ACCOMPANYING PERSON.*

Timetable

ICM	– 1 year	IMU secretariat to forward invitations to the GA meeting through circular letter to all AOs
IMU GA	– 3 months	IMU secretary to forward the GA agenda to the AOs
IMU GA	– 2 months	IMU secretary to forward the GA slates to the AOs
IMU GA	– 1 month	IMU secretary to forward some practical advice to the AOs
ICM OC	– 5 days	IMU EC arrival at the place of the GA
ICM OC	– 4 days	IMU EC meeting at the place of the GA
ICM OC	– 4 days	GA participants arrival, registration
ICM OC	– 3 days	IMU GA meeting (2 full days)
ICM OC	– 1 day	Transfer from GA site to ICM site

The distribution of information material about the GA meeting venue, transport to and from the GA location, hotels, etc. (see below), needs to be jointly planned with the IMU secretariat and should be provided in due course.

Registration

GA participation is determined as follows:

- The AOs of full members have to nominate their delegates to the IMU secretary/secretariat according to the IMU Statutes 19.
- The AOs of associate and affiliate members have to nominate their representatives to the IMU secretary/secretariat according to the IMU Statutes 19.
- The IMU president in consultation with the EC decides on the invitation of IMU representatives and observers.
- The chair of the GA organization appoints the GA organizers and the members of the GA staff.

All GA participants and the accompanying persons have to register. The IMU secretariat defines who is delegate, representative, EC member, IMU representative, observer and IMU staff and provides this information to the GA organizers. The IMU secretariat and the GA organizers have to cooperate in this respect since, usually, some confusion occurs.

The possibility of electronic registration of GA participants prior to the GA meeting via e-mail and the GA Web server should be provided; details are to be coordinated between the IMU secretariat and the GA local organization. At the registration process meal and child care requirements should be asked for.

There are, in general, some countries with difficult visa relations to the GA host country. It is advisable to get in contact at an early stage with the foreign ministry of the host country and with embassies in countries with complicated diplomatic relations to make sure that all GA

participants (and ICM participants) from these countries can enter the host country. Suitable invitation letters to GA participants may have to be sent.

In addition, each GA participant has to register on site in the evening before or in the morning of the GA meeting (possibly in the conference hotel or another appropriate place) to check the identity, approve changes and, thus, verify the actual GA participation. The GA participants will receive name tags/local GA material, including GA documentation printouts if requested by participants in advance. The registration list has to be handed over to the credentials committee.

Typical GA schedule

- Day before day 1 of GA, IMU EC meeting starting at 09:00
- On-site registration evening before and in the morning of day 1
- GA, day 1, 09:00 – 17:00/18:00
Group photo, 2 coffee/tea breaks, 1 lunch break, GA committee meetings in the evening by individual appointment
- GA, day 2, 08:30 – 09:30 GA committee meetings by individual appointment, 09:30 – 16:30/17:00
2 coffee/tea breaks, 1 lunch break
- One social activity in the evening of day 1 or day 2 should be planned.

Expense arrangements

The expense arrangements need discussion between the IMU secretariat and the GA organization. Typically, the GA costs are born by the GA host country with some support by the IMU, see item 3.1 of the IMU budget. Among the items to be discussed are:

- Who pays for the local costs of the IMU EC, IMU staff, IMU representatives, observers?
- Is there financial support for participants from countries without resources, if requested?
- Who pays for local social activities?

Other issues at the venue:

- Provision/use of WLAN in the GA premises should be free of charge for all GA participants.
- Coffee/tea breaks: Provision free of charge of hot/cold drinks and possibly cookies/snacks.
- Lunch breaks: Provision free of charge of hot/cold drinks and refreshments/meals.

Location

The president of the ICM organization committee and the chair of the GA organization team decide in cooperation with the IMU secretary on the location (hotel, congress center, university, ...) of the GA meeting and the hotels to be offered to the GA participants. Budgetary constraints should be considered.

Room requirements

- 1 meeting room for the IMU EC meeting (on the day before the GA) accommodating about 15 persons.

WLAN should be provided.

- 1 GA conference room for about 200 persons.
- At least 3 meeting rooms for the 6 GA committees accommodating up to 10 persons.

The 6 GA committees meet at least once during the 2 days GA meeting.

2 rooms preferably equipped with a projector thus enabling checking of, e.g., delegates' registration, ballot sheets, finances, resolutions, simultaneously on a laptop and a screen, if requested. WLAN appreciated.

- 1 separate room for handling financial disbursements in case the GA organizing committee intends to grant financial support for GA participants (this is solely a business of the local GA organization).

The GA conference room

Seating plan: Order of countries according to the alphabetical order of the country names. Country nameplate to be arranged in front of each delegate/representative to make visible the country/Adhering Organization represented.

Presidium table accommodating the members of the EC (11 persons) and, at least, 2 supporting people (writing the minutes, overseeing the elections).

Ample space is favored. It is customary that, in breaks or discussion time, small groups form to debate issues and reach consensus. This requires the possibility to move within the conference room without obstruction by tightly packed seating.

Technical equipment

The GA conference room

A sufficient number of microphones on the presidium table enabling each EC member to speak over the loudspeakers without standing up.

A speaker's desk with a microphone and a laptop for presentations.

A number of floor microphones (fixed and/or moved by GA staff) for clearly audible contributions of the GA participants.

Screen and data projector (for presentations) reproducing sufficiently large pictures/letters, screen to be viewed from all seats in the room.

Wireless LAN should be available for all conference participants (Internet access is important since the extensive GA documents are not distributed as printouts but are made electronically available via a password protected mail server).

Sufficient number of electrical outlets for the laptops of the GA participants.

Ideally, provision of audio (and video) taping of the whole GA in order to facilitate exact minutes of the meeting.

Other

Provide printing and photocopying capacities (for ballot sheets and other materials, as need may be) close to the GA conference room. Ballot boxes, one for each teller.

PC/laptop in reserve for secretarial work.

Responsibilities

Organizational matters

- Slates of the GA to be made up by the IMU Nominating/Election Committee.
- Organizing the GA schedule is the duty of the IMU secretary together with the chair of the GA organization team.
- Agenda of the GA meeting to be drawn up by the IMU secretary.
- Presiding over the GA meeting is the duty of the IMU president.
- Ballots that are required for secret voting to be designed by the IMU secretariat, which is done most likely at the GA venue itself when the various committees (especially the election committee) have finalized their slates (shortly before the election of the forthcoming IMU representatives).

Committees

The IMU EC has to care for the appointment of five committees that have to be active at the GA meeting. The EC should make sure that candidates for the committees are available. To this end, the complete list of participants should be available rather soon in order to enable a preselection of candidates. The committee appointment is a privilege of the GA and is one of the first activities of the meeting.

- **Credentials Committee (1 chair + 2 members)**
Review the list of delegates that have registered at the GA and verify that each delegation is correctly constituted and present the list to the president of IMU; Ensure that voting procedures are understood.
- **Tellers Committee (1 chair + 5 members)**
Distribute ballots; Collect ballots; Verify ballots and discard invalid ballots; Count the votes; Report the outcome to the president of IMU.
- **Finance and Dues Committee (1 chair + 5 members)**
Review the proposed budget; Make recommendations to the GA concerning dues; Make recommendations to the GA concerning action to be taken regarding dues in arrears.
- **Resolutions Committee (1 chair + 5 members)**
Accept resolutions put forth by delegations prior to the close of the first day's sessions of the GA; Review and edit resolutions received from the delegations; Formulate resolutions; Present the resolutions to the GA with recommendations.
- **Election Committee (1 chair + 4 members)**
Settle all issues coming up during the election process, in particular, to oversee the form of the ballot papers and to clarify all matters coming up when suggestions from the floor are made.
- **IMU Nominating Committee (appointed about two years in advance of the GA meeting)**
Has put together slates for IMU commissions and committees to be elected at the GA. The slates are based on proposals from the AOs.

Local GA secretariat

It is expected that the GA organization team provides a (small) GA secretariat where the on-site registration is managed and where GA participants can ask for support, advice, and help of any kind (e.g., with flight, hotel booking, phone calls). The secretariat should be staffed with experienced local people with good English language skills. Due to other responsibilities the IMU staff will not be able to support the GA secretariat.

GA and ICM

- The GA organization team has to provide information about the timing of the GA meeting, the recommended hotels, the venue of the GA meeting, the city in which the meeting takes place, arrival and departure possibilities, local transport as well as the details of the transfer from the GA to the ICM venue well in advance so that travel arrangements can be made in due course.
- One day to be scheduled for the transfer from the GA venue to the ICM venue.
- It may be necessary to organize a special transfer for some GA participants, such as the IMU president and secretary, who may need to be at the ICM venue soon after the GA meeting ends.
- The GA participants are supposed to pay themselves for their travel to the GA meeting and, when they also participate in the subsequent ICM (most of them do so), for their travel home. Normally, the organizing committees have arranged and paid for the transfer from the GA venue to the ICM venue depending on the local conditions (1998 and 2006 transfers by bus, 2002 and 2010 transfers by plane).

Media coverage

It is important for the ICM media communication team to cover the GA meeting as well. This can be done by putting together a press dossier with information about the GA, ICM and the IMU and information about mathematics in the host country. Press releases should be issued announcing the celebration of the GA and its importance. A final GA press release can report the most important resolutions adopted at the GA meeting. Press material should be available in the local language and English (language check by native speaker is advisable).

Obtain photographs and, if possible, videos to issue with the releases. These should be subsequently included in the IMU records.

Conduct interviews with outstanding personalities at the GA, whether from the IMU, delegates or local organizers.

In all cases, attention should be paid to international and local significance to meet the right target groups.

Local politicians

It has been the case that local authorities have significantly sponsored or even fully financed a GA meeting. These contributions need to be appropriately acknowledged, for instance, by a short appearance of a local politician at the GA meeting (e.g., opening), but most importantly by press activities that meet the interest of all parties involved.

Final statements

The organizers of a GA are requested to share important conclusions with the IMU secretariat in order to profit from their experience with respect to the next GA.

IMU AO Circular Letter 10/2012

International Mathematical Union



November 2, 2012

IMU AO Circular Letter 10/2012

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

From: Martin Grötschel, IMU Secretary

Call for nominations for the offices of President and Secretary of IMU

Dear colleagues,

This is the next call for nominations in the context of preparations of the IMU General Assembly 2014.

The Adhering Organizations and Committees for Mathematics are invited to submit names for the offices of the IMU President and the IMU Secretary for the next term (2015-2018). The Adhering Organizations' and Committees for Mathematics' submissions must include a candidate's declaration of willingness to serve if elected and a CV.

Please send your nominations

by January 15, 2013

via your official Adhering Organization's/Committee for Mathematics' contact address (e-mail, fax, post) to Ragni Piene who has been chosen by the IMU president as the Nominating Committee chair. R. Piene's contact is the following:

E-mail: ragnip@math.uio.no

Fax: +47 22 85 43 49

Postal address:

Professor Ragni Piene
University of Oslo
Faculty of Mathematics and Natural Sciences
Department of Mathematics
P.O. Box 1053 Blindern
NO-0316 Oslo
Norway

<http://www.mn.uio.no/math/english/people/aca/ragnip/index.html>

Sincerely yours,

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 11/2012

International Mathematical Union



November 9, 2012
IMU AO Circular Letter 11/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

Call for Nominations:

**The Ramanujan Prize
for Young Mathematicians from Developing Countries**

Dear colleagues,

I would like to draw your attention to the Call for Nominations for the Ramanujan Prize. The Ramanujan Prize has been awarded annually since 2005. The 2013 Prize will be jointly funded and administered by ICTP and the IMU.

The Ramanujan Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work. Eligible for the prize is a person who has conducted outstanding work in a developing country, he/she must be less than 45 years of age on 31 December of the year of the award. For the details of the nomination please see the attached call paper.

February 1, 2013 is the deadline for nominations.

Nominations are to be sent to math@ictp.it. Please advertise this call for nominations for the Ramanujan Prize in your mathematical communities.

Attached is a PDF file containing the official text of the call for nominations. The call can also be found at <http://www.ictp.it/about-ictp/media-centre/news/call-for-nominations.aspx>.

With best wishes

Martin Grötschel
IMU Secretary

The Ramanujan Prize for Young Mathematicians from Developing Countries

Call for Nominations for the 2013 Prize

The Abdus Salam International Centre for Theoretical Physics (ICTP) is now accepting nominations for the 2013 Ramanujan Prize for young mathematicians from developing countries. The Ramanujan Prize has been awarded annually since 2005. The 2013 Prize will be funded and administered jointly by ICTP and the International Mathematical Union (IMU).

The Prize winner must be less than 45 years of age on 31 December of the year of the award, and have conducted outstanding research in a developing country. Researchers working in any branch of the mathematical sciences are eligible. The Prize carries a \$15,000 cash award. The winner will be invited to ICTP to receive the Prize and deliver a lecture. The Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work.

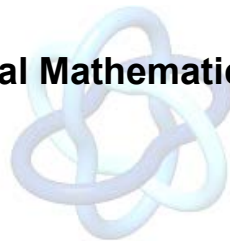
The Selection Committee, which consists of eminent mathematicians appointed in consultation between the ICTP and the IMU, will take into account not only the scientific quality of the research, but also the background of the candidate and the environment in which the work was carried out.

The deadline for receipt of nominations for the 2013 Prize is 1 February 2013.

Please send nominations to math@ictp.it describing the work of the nominee in adequate detail. Nominations should include a CV and a list of publications, as well as a letter of recommendation. Additional supporting letters are encouraged. Self-nominations are strongly discouraged.

IMU AO Circular Letter 12/2012

International Mathematical Union



December 17, 2012
IMU AO Circular Letter 12/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

IMU Bulletin No. 61, December 2011

Dear colleagues,

Attached hereto is IMU Bulletin No. 61 reporting about the IMU activities in 2011. A printed copy is forwarded by regular mail to the Adhering Organizations.

Bulletin No. 61 is also available on the IMU Web server at <http://www.mathunion.org/publications/bulletins/archive/>.

Apologies for the delay in providing this publication.

With best wishes

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 13/2012

International Mathematical Union



December 19, 2012
IMU AO Circular Letter 13/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

Dear colleagues,

This Circular Letter to the IMU Adhering Organizations (AOs) is related to the following issues:

- **IMU Nominating Committee**
- **Nominations for the offices of President and Secretary of IMU**
- **Nominations for IMU awards 2014**
- **Blog on mathematical journals - current state**

- **IMU Nominating Committee**

Recall that all AOs were asked to nominate persons for the IMU Nominating Committee, see

http://www.mathunion.org/fileadmin/IMU/AO/2012/IMU_AO_CL_8_2012.pdf.

Three persons were nominated by IMU members in groups I and II, three persons by group III and IV members, and five persons by group V members. A random draw was executed on December 12 at the IMU Secretariat. IMU Accountant A. Orłowsky drew the three names from an urn in three separate steps. The process was observed by B. Seeliger, IMU Archivist; I. Daubechies, IMU President; M. Groetschel, IMU Secretary; and S. Markwardt, Manager IMU Secretariat. This resulted in the choice of the following persons:

From groups I and II:

New Zealand - Gaven Martin, g.j.martin@massey.ac.nz.

From groups III and IV:

Spain - Joan Solà-Morales Rubió, JC.Sola-Morales@upc.edu.

From group V:

Japan - Masaki Kashiwara, masaki@kurims.kyoto-u.ac.jp.

All three colleagues have confirmed that they are willing to serve on the Nominating Committee. Now the IMU President I. Daubechies and the Chair of the Nominating Committee R. Piene will have to choose by February 1, 2013 two further persons so that the Nominating Committee will consist of 7 persons and be complete then.

- **Nominations for the offices of President and Secretary of IMU**

⇒ **Please submit nominations by January 15, 2013.**

I would like to remind you of my invitation to submit nominations for the offices of President and Secretary of IMU. Please send your proposals including the candidate's declaration of willingness to serve if elected and the candidate's CV to Ragni Piene, Chair of the Nominating Committee.

This is R. Piene's contact information:

E-mail: ragnip@math.uio.no

Fax: +47 22 85 43 49

Postal address:

Professor Ragni Piene
University of Oslo
Faculty of Mathematics and Natural Sciences
Department of Mathematics
P.O. Box 1053 Blindern
NO-0316 Oslo
Norway

- **Nominations for IMU awards 2014**

⇒ **Please submit nominations by December 31, 2012.**

And I also would like to remind you to send proposals for nominations for IMU awards 2014. Send your submissions for the different awards to the following e-mail addresses:

- Fields Medals — fields14-chair@mathunion.org

- Rolf Nevanlinna Prize — nevanlinna14-chair@mathunion.org
- Carl Friedrich Gauss Prize — gauss14-chair@mathunion.org
- Chern Medal Award — chern14-chair@mathunion.org
- Leelavati Prize, sponsored by Infosys — leelavati14-chair@mathunion.org
- ICM 2014 Emmy Noether Lecture — noether14-chair@mathunion.org

More details about each of these awards and the Noether lecture, as well as lists of past laureates, can be found on the IMU Web site, at URL:

www.mathunion.org/general/prizes

- **Blog on mathematical journals - current state**

In IMU-Net 54 of July 2012, the IMU President I. Daubechies wrote the following:

“Even though the IMU will not constitute a Journal Rating Committee, the IMU Blog on Mathematical Journals will continue to operate, for now, and we encourage everyone to use it. I will mark this continued operation by posting an entry myself, and I hope comments to this posting will be forthcoming! The last recommendation by the Committee of Moderators was that the IMU switch to the WordPress platform in lieu of the current module for blog operations, because it would make submission of entries much easier. This switch will be carried out in the near future; once the new format of imu-blog is available, the present IMU Blog on Mathematical Journals will be closed, although the entries up to that moment will remain available.”

Meanwhile the blog has switched to the WordPress platform, please look at the page <http://blog.wias-berlin.de/imu-journals/> and contribute to the discussion.

With best wishes

Martin Grötschel
IMU Secretary

IMU AO Circular Letter 14/2012

International Mathematical Union



December 23, 2012
IMU AO Circular Letter 14/2012

To: IMU Adhering Organizations

From: Martin Grötschel, IMU Secretary

Heidelberg Laureate Forum, Application and Nomination

Dear colleagues,

You may have heard of the Lindau Nobel Laureate Meetings which are now in their 63rd year and have become a unique platform for the dialogue between different scientific generations in medicine, physics, chemistry, and the economic sciences, fields for which Nobel Prizes are awarded, see <http://www.lindau-nobel.org/>.

Creating a similar event for mathematics and/or computer science has been contemplated by various persons and groups. Thanks to Klaus Tschira and his foundation, this idea has now become reality.

The first Heidelberg Laureate Forum will take place from September 22 until 27, 2013 and bring together the best students in mathematics and computer science with winners of the most prestigious awards in these two disciplines: Abel, Fields, and Turing Laureates. Detailed information can be found at <http://www.heidelberg-laureate-forum.org/>.

The Heidelberg Laureate Forum is supported by various institutions, among these are

- The Norwegian Academy of Science and Letters
- The Association for Computing Machinery
- The International Mathematical Union

which award the three outstanding prizes.

Application:

In the attachment is the press release which describes how young researchers in the fields of mathematics and computer science can apply for participation. The application Web page is:

<http://www.heidelberg-laureate-forum.org/heidelberg-laureate-forum-2013/application/>.

IMU asks its Adhering Organizations to distribute this information among their national mathematical communities, if possible through the newsletters of the national mathematical societies.

Please note that the application deadline is **February 15, 2013**.

Nomination:

There is a "bonus" for IMU Adhering Organizations and national mathematical societies. They can nominate young researchers. Nominated persons get "priority treatment", but, since there may be too many nominations, they have no acceptance guarantee. Typical candidates for nominations are students who have recently received a national PhD prize or a similar distinction.

Persons representing an IMU Adhering Organization or a national mathematical society who want to nominate a young researcher have to do this via the Web page:

https://application.heidelberg-laureate-forum.org/intern/reg_nom_registration_for.php.

However, before one can log in as a nominator, one has to register and enter an "organisation number" that will be provided by IMU. Just send an e-mail to secretary@mathunion.org to obtain this code and indicate which organization you represent.

The nomination deadline is also **February 15, 2013**.

Best regards
and Season's Greetings

Martin Grötschel
IMU Secretary

7. International Commission on Mathematical Instruction (ICMI)
<http://www.mathunion.org/icmi>

Report on ICMI activities in 2012

Bill Barton, Jaime Carvalho e Silva, Lena Koch



2012 at a glance

Key activities:

Administration and Governance

The ICMI General Assembly took place in Seoul in July and a new Executive Commission (2013-2016) was elected.

Members

Three new members were welcomed into the ICMI community: Nepal, Madagascar, and Oman.

Conferences

ICME: The 12th International Congress on Mathematical Education (ICME) was held on July 8-15, 2012 in Seoul, South Korea.

ICMI Regional Conference: EMF 2012 (Espace Mathématique Francophone) was held in Geneva, Switzerland, in February 2012.

International Research Collaboration: ICMI Studies

ICMI Study 19: The Role of Mathematical Reasoning and Proving in Mathematics Education was published in March and launched in July 2012.

ICMI Study 23: The Primary Mathematics Study on Whole Numbers was launched in the fall 2012. Mariolina Bartolini and Sun Xuhua have agreed to Co-Chair this study. The IPC has been appointed.

Outreach to Developing Countries

Capacity and Network Project (CANP) 1 EDI-Math Sub-Saharan Africa: The follow-up workshop took place in Senegal in September 2012 in Dakar.

CANP 2 Central America and the Caribbean: The first workshop took place in Costa Rica in August and successfully launched a new regional mathematics education network.

CANP 3 South East Asia: Was successfully launched and will take place in October 2013 in Phnom Penh, Cambodia.

Klein Project

Fourteen vignettes (short articles for secondary school teachers of senior mathematics classes) have been published and some translated into one or more of six languages 2012.

ICMI Awards

The ICMI 2009 and 2011 Awards were presented to the Awardees at the ICME-12 Opening Ceremony to Gilah C. Leder (Australia) and Alan Schoenfeld (USA) who received the Felix Klein Medal for lifetime achievement and Luis Radford (USA) and Yves Chevallard (**France**) who received the Hans Freudenthal Medal for a major cumulative programme of research.

Administration and Governance

Organisation

ICMI Members and Representatives

In 2012 ICMI had 92 member countries, 70 of which are also IMU members and 10 are IMU associate members. Each member country is required to elect an ICMI Representative who represents the ICMI member country at the ICMI General Assembly and has the (sole) voting right for the ICMI Executive Committee (ICMI EC). The ICMI representative also informs the national communities of developments within ICMI.

Executive Commission 2010-2012

The members of the EC 2010-2012 were:

PRESIDENT: Bill Barton (New Zealand)

SECRETARY-GENERAL: Jaime Carvalho E Silva (Portugal)

VICE-PRESIDENTS (2): Mina Teicher (Israel) and Angel Ruiz (Costa Rica)

MEMBERS AT LARGE (5):

Mariolina Bartolini Bussi (Italy)

Sung Je Cho (South Korea)

Roger Howe (USA)

Renuka Vithal (South Africa)

Zhang Yingbo (China)

The third meeting of the 2010-2012 Executive Commission took place in Seoul, South Korea JULY 6TH, 7TH, & 15TH, 2012. The major conclusion reached were the continued expansion of ICMI development activities in the form of the Capacity and Network Project (CANP), and the launching of Study 23 on Primary Mathematics.

General Assembly

The ICMI General Assembly took place on July 5th in Seoul. The new ICMI EC was elected and in this context a number of important decisions were made on topics that were a major focus of the activities during the year.

The new Executive was elected, reports from affiliated organisations were received, and two topics were discussed: how to get teachers more involved in ICMI/ICME; and how to better support regional initiatives.

Executive Commission 2013-2016

The members are:

PRESIDENT: Ferdinando Arzarello (Italy)

SECRETARY-GENERAL: Abraham Arcavi (Israel)

VICE-PRESIDENTS (2): Cheryl Praeger (Australia), Angel Ruiz (Costa Rica)

MEMBERS AT LARGE (5):

Yuriko Baldin (Brazil)

Jean Luc Dorier (Switzerland)

Zahra Gooya (Iran)

Roger Howe (USA)

Catherine Vistro-Yu (Philippines)

IMU Secretariat

ICMI is supported by Lena Koch, working part-time for ICMI at the IMU Secretariat in Berlin, Germany. She is responsible for all administrative and organisational issues regarding ICMI. Other staff members in Berlin also assist ICMI, including the IMU Secretariat manager, the accountant, the IT and technical support staff as well as the IMU archivist.

ICMI Affiliate Organizations

ICMI's organisational outreach includes ten multi-national organisations and study groups with interest in mathematics education.

Affiliated organisations are independent from ICMI and are self-financed. They collaborate with ICMI on specific activities, such as the ICMI Studies or CANP. The ICMI Affiliate Organisations also produce reports for the General Assembly of ICMI. There are currently four multi-national Mathematical Education Societies (one affiliated in 2011) and six international Study Groups which have obtained affiliation to ICMI.

The multi-national Mathematics Education Societies currently affiliated to ICMI, with year of affiliation, are:

- CIAEM: Inter-American Committee on Mathematics Education (2009)
- CIEAEM: International Commission for the Study and Improvement of Mathematics Teaching (2010)
- ERME: European Society for Research in Mathematics Education (2010)
- MERGA: Mathematics Education Research Group of Australasia (2011)

The Study Groups currently affiliated to ICMI, with their year of affiliation, are:

- HPM: The International Study Group on Relations between the History and Pedagogy of Mathematics (1976)
- ICTMA: The International Study Group for Mathematical Modelling and Applications (2003)
- IOWME: The International Organization of Women and Mathematics Education (1987)
- MCG: The International Group for Mathematical Creativity and Giftedness (2011)
- PME: The International Group for the Psychology of Mathematics Education (1976)
- WFNMC: The World Federation of National Mathematics Competitions (1994)

ICMI Activities in 2012 in Detail

The International Congress on Mathematical Education (ICME)

Seoul, Korea hosted ICME-12 in 2012 in the COEX Convention Centre on July 8-15, 2012. More than 3,600 participants from 84 countries participated. The International Programme Committee (IPC) was chaired by Professor Sung Je Cho, of the Seoul National University. Information about the congress is available at <http://www.icme12.org>.

Each ICME devotes at least 10 per cent of the registration fees to the ICME Solidarity Fund that allows organizers to give support to some participants from developing countries. For ICME12, 155 participants were awarded grants, involving a total of USD 146,000. The distribution was made by a Grant Committee, jointly appointed by the congress organizers and the ICMI Executive Committee.

ICME-13 will be held in 2016 in Hamburg, Germany.

ICMI Studies

A major ICMI programme is the series of ICMI Studies. Each Study addresses an issue or topic of particular significance in contemporary mathematical education, and is conducted by an international team of leading scholars and practitioners. Built around an international conference, it is directed towards the preparation of a published volume to promote discussion and action at the international, regional or institutional level. More than 20 volumes have been published between 1986 and 2012.

Current Studies are:

• ICMI Study 19: The Role of Mathematical Reasoning and Proving in Mathematics Education, published under the editorship of the two co-chairs, Gila Hanna and Michael de Villiers in March 2012. (NISS 15)

• ICMI Study 20: Educational Interfaces between Mathematics and Industry is organised jointly with the International Council for Industrial and Applied Mathematics (ICIAM). The IPC is co-chaired by Alain Alabamian (Université Paris-Est) and Rudolf Sträßer (Justus-Liebig-Universität Gießen). The Study was presented during the 7th International Congress on Industrial and Applied Mathematics (ICIAM 2011). The NISS volume is currently in preparation under the editorship of Alain Damlamian, Rudolf Sträßer and José Francisco Rodrigues with publication expected in 2012/13. (NISS 16).

• ICMI Study 21: Mathematics Education and Language Diversity, was presented at the Study Conference place in Águas de Lindóia, São Paulo, Brazil, on 16-20 September, 2011. The Study Volume has entered the editing process and will be published in 2013/2014 (NISS 17). The website is <http://www.icmi-21.co.za>.

• ICMI Study 22: The 2010-2012 Executive Committee launched a new Study late in 2010 on Task Design. The co-chairs are Anne Watson (Oxford University) and Minoru Ohtani (University of

Kanazawa, Japan). The IPC met in January 2012 in Oxford, UK. The Study conference will be held 2013 in Oxford, UK.

• ICMI Study 23: The 2010-2012 Executive Committee launched in December 2012 a new Study on Primary Mathematics Education and appointed the Co-Chairs Mariolina Bartolini Bussi, University Modena e Reggio Emilia, Italy, and Sun Xuhua of the University of Macau, China.

ICMI Regional Conferences

Launched in the mid-seventies, ICMI Regional Conferences aim to facilitate wider discussion of mathematical education issues in particular regions.

- ICMI-EARCOME-6 conference (the Fifth ICMI East Asia Regional Conference in Mathematics Education), to be held in Phuket, Thailand in March 2013. The ICMI EC will be represented on the International Programme Committee of this conference by Zhang Yingbo.
- AFRICME the Africa Regional Congress of ICMI on Mathematical Education was launched in 2005 and aims at offering a forum for mathematics educators throughout Africa. AFRICME-4 will be held June 2013 in Lesotho.
- EMF (Espace Mathématique Francophone) - These conferences are defined in linguistic rather than geographical terms. EMF 2012 was held in Geneva, Switzerland, in February 2012. The ICMI EC was represented on the International Programme Committee of EMF 2012 by Bernard Hodgson and Jaime Carvalho e Silva. The sixth EMF conference, (EMF-2015) will be held 2015 in Algeria.

The Klein Project

The Klein Project, inspired by Felix Klein's Elementary Mathematics from an Advanced Standpoint, provides contemporary mathematics for mathematics teachers. In 2012 the Klein Project has turned its primary focus to the production, dissemination, and trialling (with teachers) of "Klein Vignettes" (short articles). The Design Group met in May 2012 in Paris, the next meeting will be held in Berlin, Germany in September 2013. The Vignettes are being distributed via a Blog (<http://blog.kleinproject.org/>) and are being trialled both in Brazil under the coordination of Yuriko Baldin, and in New Zealand under the coordination of Bill Barton.

Outreach to Developing Countries

Capacity and Networking Project (CANP)

CANP is the major development project of ICMI in conjunction with the International Mathematical Union, IMU and UNESCO. It aims to enhance mathematics education in developing countries by supporting the educational capacity of those responsible for mathematics teachers, and creating sustained regional networks of teachers, mathematics educators and mathematicians, linking them to international support. The first CANP Program, CANP Sub-Sahara EDIMath) was held for two weeks in 2011 in Mali with about 40 participants from five countries in the region. The follow up meeting of CANP Sub-Sahara EDIMath was successfully held in September 2012 in Senegal.

The second CANP Programme, CANP Central America and the Caribbean, held its two week workshop with about 40 participants from six countries in Costa Rica in August 2012. The creation of the Mathematics Education Network: 'REDUMATEMATICACYC' - a professional community of mathematicians, educationalists, teachers, policy makers and institutions within and outside of the region was an important outcome of CANP Central America and the Caribbean. The workshop was financially supported by ICSU, the IMU and the IMU Commission for Developing Countries as well as ICMI, MEP, ICMAT Mexico, the University of Costa Rica and the Costa Rican Editorial Tecnologia.

The ICMI EC (2010-2012) decided to launch the third CANP Program in 2013 in South East Asia (host country Cambodia) and in the fourth CANP in 2014 in East Africa (host country Tanzania).

IMU Commission for Developing Countries (CDC)

The ICMI EC also appoints one member of the IMU Commission for Developing Countries (CDC). The ICMI 2010-2012 EC nominated Angel Ruiz as member of this Commission (2010-2014). In 2012 ICMI received a grant from CDC for the Capacity and Network Project in Costa Rica.

ICMI Solidarity Fund

The ICMI Solidarity Fund was established by ICMI in 1992 to help the development of mathematics education in countries in which there is a need for it that justifies international assistance. The money has been re-allocated to the CANP project where it is used to serve its intended purpose.

IMU/ICMI Digitization Program

The ICMI Digital Library Project aims at providing open access to all ICMI publications and thematic Studies. Currently proceedings of the symposium organized in the year 2000 on the occasion of the centennial of *L'Enseignement Mathématique*, the official organ of ICMI, the first five ICMI Studies, ICMI Bulletins, and proceedings various meetings and conferences are available for free download on the ICMI website.

<http://www.mathunion.org/icmi/digital-library/introduction/>

Database Project

The Database Project, launched in 2011 has as its ultimate goal to build up a free access database of the mathematics curricula (ranging from pre-primary, primary, elementary, middle, secondary to vocational and undergraduate university level) from all over the world. Useful web links can be sent to the ICMI Secretary General. Currently information from 27 countries is available on the ICMI website. The database is already in use by researchers and curriculum-developers.

Communication and Outreach

The ICMI website, now hosted on the IMU server in Berlin, received some updates in 2012:

<http://www.mathunion.org/icmi/>. The ICMI Facebook page was established in 2011 and has more than 1825 'friends' and 583 'likes'.

Communication within ICMI is by direct email contact with the ICMI Representatives, and, for individuals, through ICMI News appearing every two months, alternating with *IMU-Net*. An annual ICMI Bulletin is the official organ of ICMI activities. All communications are under the Editorship of the ICMI Secretary-General.

ICMI Awards

In 2003 ICMI created two awards in mathematics education research: the Felix Klein Award, for lifelong achievement in mathematics education research, and the Hans Freudenthal Award, for a major programme of research on mathematics education. These awards are announced every two years and conferred at the opening ceremonies of ICMEs.

At the ICME opening ceremony in Seoul in July 2012, the 2009 and 2011 ICMI Awards were presented to Alan Schoenfeld (USA) and Gilah C. Leder (Australia) who received the Felix Klein Medal for lifetime achievement and Luis Radford (USA) and Yves Chevallard (**France**) who received the Hans Freudenthal Medal for a major cumulative programme of research.

Financial Summary

ICMI's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU) which receives its support from IMU member countries. Additionally ICMI is supported by a part-time staff member from the IMU Secretariat. The IMU Secretariat receives a subvention from the host country (Germany) to run all its administrative business. The other major sources of income for ICMI are grants from various organizations and foundations. The ICMI EC approves the ICMI budget and all its related spending. The financial report for 2012 can be found in the appendix 1.

ICMI would like to thank IMU for all the support and collaboration.

More information about ICMI can be found on the website:

www.mathunion.org/icmi

Appendix 1

ICMI Budget 2012 Transaction	Amount	Total	Account Balance (EURO)
ICMI Balance as of 31.12.2011 including the CAN Dollar Account, the USD Account and the Solidarity Fund	151,210.49 €	151,210.49 €	
INCOME 2012			
Interest EURO Account Berlin 2012	597.06 €		
IMU allocation ICMI for 2012	55,274.90 €		
IMU Grant for ICME12	10,000.00 €		
IMU GRANT FOR CANP CAMBODIA 2013	30,000.00 €		
IMU GRANT for COSTA RICA 2012	30,000.00 €		
CDC GRANT for CANP/ Costa RICA Project	3,830.83 €		
Springer Royalties	351.78 €		
ICSU Grant for CANP Costa Rica	30,000.00 €		
Total Income 2012		160,054.57 €	
Total Funds ICMI		311,265.06 €	
EXPENDITURE 2012			
ICMI Website	260.00 €		
Cost Credit Card Annual Fee	47.50 €		
BANK ACCOUNT Transfer Fees	1,543.14 €		
Total Administrative Cost		1,850.64 €	309,414.42 €
Total Conference Cambodia, on Science and Mathematics Education		4,232.16 €	305,182.26 €
Total ICMI Study 22, IPC Meeting Oxford, January 2012		3,670.70 €	301,511.56 €
Proceedings of Rome 2008 (60 copies)	1,000.00 €	1,000.00 €	300,511.56 €
Seminar Michele Artique, Paris		1,919.00 €	298,592.56 €
ICMI General Secretary various travel cost (ICMI Study 20, EMP, ICME12 Site visit)	1,622.08 €	1,622.08 €	296,704.48 €
ICME 12 (including EC and GA costs)	64,090.92 €	64,090.92 €	232,879.56 €
CANP 1, (EdiMATH 2 Senegal 2012)		4,926.93 €	227,952.63 €
AFRICME 2013 Grant	3,914.92 €	3,914.92 €	224,037.71 €
EARCOME 2013 Grant	4,099.15 €	4,099.15 €	219,938.56 €
CANP 2 (Central American and the Caribbean, Costa Rica 2012)		68,929.41 €	151,009.15 €
Nepal visit Bill Barton (ICMI President)	1,304.67 €	1,304.67 €	149,704.48 €
Translation Freudenthal Book*	3,000.00 €	3,000.00 €	146,704.48 €
ICMI Study 23 Grant*	4,100.00 €	4,100.00 €	142,604.48 €
Klein Project in Cambodia*	3,000.00 €	3,000.00 €	139,604.48 €

CANP 3 South East Asia (Cambodia 2013)*	50,000.00 €	50,000.00 €	89,604.48 €
CANP 3 South East Asia (Cambodia 2013), Grant for 2 Cambodians to participate at EARCOME*	2,000.00 €	2,000.00 €	87,604.48 €
Currency <i>disparency</i>	1,166.57 €	1,166.57 €	86,437.91€
Total funds unspent or undedicated in 2012			86,437.91€
Total spending ICMI in 2012	224,827.15 €		
Total spending ICMI in 2012 without CANP South East Asia (Cambodia 2013)	172,827.15 €		

(*) not transferred in 2012

Appendix 2

Member Countries of ICMI 2012:

A	Algeria	H	Hong Kong	P	Pakistan
	Argentina		Hungary		Peru
	Armenia	I	Iceland		Philippines
	Australia		India		Poland
	Austria		Indonesia		Portugal
B	Bangladesh (*)		Iran	R	Romania
	Belgium		Ireland		Russia
	Bosnia and Herzegovina		Israel	S	Saudi Arabia
	Botswana (*)		Italy		Senegal (*)
	Brazil		Ivory Coast		Serbia
	Brunei Darussalam (*)	J	Japan		Singapore
	Bulgaria	K	Kazakhstan		Slovakia
C	Cambodia (am)		Kenya (am)		Slovenia
	Cameroon		Republic of Korea		South Africa
	Canada		Kuwait (*)		Spain
	Chile		Kyrgyzstan (am)		Swaziland (*)
	China	L	Latvia		Sweden
	Colombia		Lithuania		Switzerland
	Costa Rica (*)		Luxembourg (*)	T	Thailand (am)
	Croatia	M	Madagascar (am)		Tunisia
	Cuba		Malawi (*)		Turkey
	Czech Republic		Malaysia (am)	U	Ukraine
D	Denmark		Mexico		United Kingdom
E	Ecuador (am)		Moldova (am)		United States of America
	Egypt		Montenegro		Uruguay
	Estonia		Mozambique (*)	V	Venezuela
F	Finland	N	Nepal (am)		Vietnam
	France		Netherlands	Z	Zambia (*)
G	Georgia		New Zealand		
	Germany		Nigeria		
	Ghana (*)		Norway		
	Greece	O	Oman (am)		

8. Commission for Developing Countries (CDC)

<http://www.mathunion.org/cdc/>

Report on CDC activities in 2012

Herb Clemens & Lena Koch



Throughout 2012 the Commission for Developing Countries (CDC) has continued to use the funds it receives from the International Mathematical Union (IMU) to support mathematics research and advanced mathematical teaching in developing countries, guided by the basic principles incorporated into its original charge:

- I. Work with and support local mathematical leadership in developing countries.
- II. Leverage resources through partnering and networking with other organizations with goals compatible with the CDC mandate.
- III. Set clear norms of quality, transparency and accountability.

Guided by these principles, the CDC allocated its funds in 2012 for the following purposes:

A) Project Support

Under this category CDC supported capacity building projects and programs in mathematics and mathematics education, be they of international origin or local initiatives in developing countries.

B) Volunteer Lecturer Program

The goal of this program is to offer universities in the developing world lecturers for intensive 3-4 week courses in mathematics at the advanced undergraduate or master's level.

C) Library Assistant Scheme

The IMU - CDC Library Assistant Scheme matches donors of mathematical materials with libraries in universities/research institutions in developing countries where there is a need for mathematical

research literature. CDC offers limited financial support for shipment costs to individual scientists or institutions wishing to donate books in the mathematical sciences to libraries in developing countries.

D) Grants for Conferences and Individual Research Travel Support

The Conference Support Program gives partial support to conferences organized in developing and economically disadvantaged countries. The Program also supports a few major international conferences occurring in developed countries to enable them to invite mathematicians from developing countries. The funds are for academic use only (travel or living expenses of invited speakers or participants coming from developing countries).

The Individual Research Support Program supports travel costs for research visits (minimum stay is four weeks) by mathematicians based in developing and economically disadvantaged countries.

E) Reports on mathematics research and graduate education in emerging nations

CDC is issuing three reports on the current state of mathematics in Africa, Asia and Latin America and on opportunities for new initiatives to support mathematical development.

More information can be found at: <http://www.mathunion.org/cdc>

Administrative Costs

Administrative costs are kept to no more than 10% of the CDC operating budget. This last year CDC administrative spending was much lower than in the past because the CDC Administrator salary and many other administrative expenses were covered through the IMU Secretariat budget.

A) Project Support

1. As in the previous years the Africa Mathematics Millennium Science Initiative (AMMSI) received support for its graduate student scholarship program. The African Mathematics Millennium Science Initiative (AMMSI) is a distributed network of mathematics research, training and promotion throughout sub-Saharan Africa. The total amount of USD 22,000 was awarded to AMMSI in 2012. [USD 20,000 for grants and USD 2,000 for administration].

It is the opinion of the CDC that funding this program provides a high benefit-to-cost ratio. It is an example of a program that, like many in mathematics, requires constancy more than innovation and should be maintained until alternative sources of funding can be found. The program will be much harder to re-launch and sustain if continuity is interrupted and reliability is lost.

More information can be found at: <http://www.ammsi.org/>

2. The Centre International de Mathématiques Pures et Appliquées (CIMPA) received USD 3,000 to support a workshop for Women and Mathematics in Africa which took place from October 26–27, 2012 at the University of Ouagadougou in Burkina Faso. More than seventy (70) people participated in the workshop, including at least forty (40) women, from the following countries: Benin, Burkina Faso, Congo Brazzaville, Congo Kinshasa, Ethiopia, France, Ghana, Ivory Coast, Kenya, Madagascar, Malawi, Mali, Morocco, Mozambique, Nigeria, Peru, Senegal, Tanzania, and Zimbabwe.

3. Kimsey Tor, a student from Cambodia who is now studying at Manhattan College in the USA received a partial grant of USD 400 to travel to Lyon, France August 20-30, 2012 to participate in the International Summer School of Mathematics for Young Students 2012 (www.issmys.eu).

4. Five outstanding students from the Master Program at the Royal University of Phnom Penh (RUPP) (four Cambodians and one Laotian student) received a scholarship to continue their graduate studies in the Philippines at the Institute of Mathematics, University of the Philippines. They started their program in October 2012. The total support was USD 8,000.

5. Wandera Ogana, CDC member travelled to Ghana to secure the negotiations between PGS

and KNUST for PGS support for the Ghanan National Institute of Mathematics. His total cost were USD 1,140. A report can be found in the appendix.

6. Alan Anderson received the amount of USD 8,500 for the drafting the report: The International Mathematical Union: A vision for the future. The report will be discussed at the CDC and IMU EC in Berlin in March 2013.

7. The London Mathematical Society received a grant of USD 4,600 to carry out a study about the MARM program and its effectiveness.

B) Volunteer Lecturer Program (VLP)

The CDC supported eight lectures under the Volunteer Lecturer Program.

1. Fidel Nemenzo from the Institute of Mathematics, University of the Philippines gave a course in Algebraic Number Theory as part of the Master of Mathematics program of RUPP from March 20 until April 11, 2012. His total costs were USD 2,400.

2. Victor Gonzalo Neumann (Universidad Federal de Uberlandia, Brazil) gave a course in Abstract Algebra at the Universidad Pedagógica Nacional Francisco Morazán in Tegucigalpa, Honduras as visiting professor from September 23 - October 22, 2012. His total costs were USD 2,100.

3. Ana María Bertone (Universidad Federal de Uberlandia, Brazil) gave a course in Linear Algebra at the Universidad Pedagógica Nacional Francisco Morazán in Tegucigalpa, Honduras as a visiting professor from October 14 - November 12, 2012. Her total costs were USD 2,865.

4. Brigitte Luqucin (Université Pierre et Marie Curie Paris 6, France) offered an intensive course on "Introduction to Partial Differential Equations and their Approximations" at the Royal University of Phnom Penh (RUPP) in Cambodia (January 21 - February 15, 2013). The amount of USD 1,955 was provided for her flight, her additional expenses were 1850 USD. Her total cost were USD 3805.

5. Brigitte Luqucin (Université Pierre et Marie Curie Paris 6, France) taught the course "Partial Differential equations and approximations" in the Masters program at the Royal University of Phnom Penh (RUPP), Cambodia from 23 January 2012 - 10 February 2012. Her additional cost were USD 296.

6. Gonzalo Aranda Pino (Universidad de Málaga, Spain) offered a course on "Applied Functional Analysis (MT 619)", January 28 – February 27, 2012 at University of Dar ES Salaam in Dar es Salaam, Tanzania. His additional cost were USD 1500.

7. Padmanabhan Seshaiyer (George Mason University, USA) gave a course on "Applied Mathematics," at NM AIST-Arusha from August 9, 2012 to September 6, 2012. During this time, he worked with faculty in the School of Mathematics, Communication, Computational Science and Engineering (MCCSE) to develop an introductory mathematical modelling and scientific computing course employing MATLAB that all future incoming students to NM-AIST will be expected to take in the first semester. All costs were covered by USNCM.

More information can be found here: <http://math.gmu.edu/~pseshaiy/nmaistvlp12.html>

8. Zair Ibragimov from California State University, Fullerton, gave a course in Real Analysis, / Complex Analysis, Differential Equations, p-adic Analysis course at the Urgench State University, Urgench City, Uzbekistan from August 6-24, 2012. All costs were covered by USNCM.

C) Library Assistant Scheme

1. The Pan African Centre of Mathematics, in Dar es Salaam, Tanzania, will receive Mathematical Reviews from January 1964 to December 1983, from Oxford University, UK. The shipment costs for the 2012 budget were USD 900.

More information can be found here: <http://www.mathunion.org/cdc/further-cdc-activities/library-assistance-scheme/library-assistant-scheme-press-release/>

D) Grants for Conferences

During the interval 1 January - 31 December 2012, the Grant Selection Committee of the Commission for Developing Countries received a total of 40 applications for financial support, in the three existing categories:

- (i) Conferences in developing countries²
- (ii) Conferences in developed countries³
- (iii) Individual research travel support

A total of **31 awards were made**, for a total value of USD **38,600**

- (i) Conferences in developing countries

Support was granted in **21 cases** for conferences taking place in the following developing countries:

Country	Number of Awards	Total value of awards (USD)
Armenia	1	\$ 2000
Benin	1	\$ 1500
Cameroon	1	\$ 2000
China	1	\$ 2000
Colombia	1	\$ 2000
Cuba	1	\$ 2000
Ghana	1	\$ 2000
India	2	\$ 3100
Kenya	1	\$ 1500
Madagascar	1	\$ 2000
Mongolia	1	\$ 2000
Morocco	2	\$ 4000
Serbia	1	\$ 1500
South Africa	1	\$ 1500
Tanzania	1	\$ 1000
Thailand	1	\$ 1500
Vietnam	2	\$ 4500
West bank	1	\$ 2500
Total	21	\$ 38,600

² In 2010, the IMU/CDC definition of a developing country was where the Per Capita Gross National Income according to the World Bank's Development Indicators (Atlas methodology) was not in excess of USD 7,500 (World Development Indicators database, World Bank, revised 9 July 2010.)

³ CDC 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 CDC by an equal amount from other sources also dedicated to the participation of mathematicians from developing countries.

(ii) Conferences in Developing Countries

Support was granted in **5 cases** for conferences taking place in the following **developed countries**:

Country	Number of Awards	Total value of awards (USD)
Argentina	2	\$ 4500
Germany	1	\$ 1500
Mexico	2	\$ 3500
Total	5	\$ 9,500

(iii) Individual research travel support

Individual research travel support was granted in **5 cases**, to mathematicians from

Country	Number of Awards	Total value of awards (USD)
Tunisia	1	\$ 660
Benin	1	\$ 1000
India	1	\$ 1500
Iran	1	\$ 800
Uzbekistan	1	\$ 1500
Total	5	\$ 5,460

The Grants Selection Committee had the amount of USD 54113 available for grants:

Income 2012	
CDC allocation to GSC (former CDE)	\$ 45000
unspend funds 2011	\$ 7213
returned funds	\$ 1900
Total fund available 2012	\$ 54,113

Income vs. Expenses:

Income	Expenses
\$ 54.113,00	\$ 53,560

Savings GSC 2012:	\$ 513
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E) Research

CDC is currently issuing three reports; a report on the state of mathematics in Latin America, one on selected countries in Asia, as well as updating the existing report on the state of mathematics in Africa.

The results are expected to be released by December 2013. The expected total costs of the reports are USD 19,000. All cost are covered from the 2011 CDC budget. A first draft of each report has been received and was discussed at the CDC meeting in Berlin in March 2013.

Administrative Expenses:

1. Bank Charges for transfers were USD 1,927 (this includes bank charges for all grants).

2. The CDC subcommittee for the MENAO project Ragni Piene, Herb Clemens and Wandera. Ogana travelled to Korea in June 2012. All cost were covered from the 2011 budget.

CDC Funds 2012				
		Year	Total Amount (\$ to Ind.)	Account Balance
Income				
CDC un-committed funds 2011	income		\$ 2515.57	
IMU allocation CDC for 2012 including Abel Grant in USD	income		\$ 141,384.00	
Japanese Mathematical Society Support (retrospectively for 2011)	income			
Swiss Mathematical Society (retrospectively for 2010)	income			
2011 Savings GCS			\$ 7,213.00	
Returned funds from 2011: Laos CIMPA School 2012	income		\$ 1,900.00	
interest on credit balance	income		\$ 1,051.00	
Total budget 2012 CDC			\$ 151,548.00	
Expenditure/ Transaction				
CDC allocation to GSC (former CDE)	Grants Program CDC	2012	\$ 45,000.00	\$ 106,548.00
CDC allocation to GSC (former CDE)	Grants Program CDC	2012	\$ 1,900.00	\$ 104,648.00
CDC allocation to GSC (former CDE) unspend funds 2011	Grants Program CDC	2012	\$ 7,213.00	\$ 97,435.00
VLP Cambodia, Brigitte Lucquin additional cost February 2012	VLP Cambodia	2012	\$ 296.00	\$ 97,139.00
VLP 2012, Tanzania Gonzalo Pino, additional costs	VLP Tansania	2012	\$ 1,500.00	\$ 95,639.00
Victor Gonzalo Neumann flight	VLP Honduras	2012	\$ 1,700.00	\$ 93,939.00
Victor Gonzalo Neumann additional cost	VLP Honduras		\$ 400.00	\$ 93,539.00
Ana Maria Bertone, flight	VLP Honduras	2012	\$ 1,500.00	\$ 92,039.00
Ana Maria Bertone Re-booking flight	VLP Honduras	2012	\$ 160.00	\$ 91,879.00
Ana Maria Bertone, additional cost	VLP Honduras	2012	\$ 1,205.00	\$ 90,674.00
VLP Fidel Nemenzo	VLP Cambodia	2012	\$ 2,400.00	\$ 88,274.00
VLP Brigitte Lucquin	VLP Cambodia	2013	\$ 1,850.00	\$ 86,424.00
VLP Brigitte Lucquin	VLP Cambodia	2013	\$ 1,955.00	\$ 84,469.00
Shipment support Oxford> Pan African Centre of Mathematics, in in Dar es Salaam, Tanzania (Bruye McLeod)	Library Assistant Scheme	2012	\$ 9.00	\$ 84,460.00
CIMPA to support Women and Mathematics in Africa	Project	2012	\$ 3,000.00	\$ 81,460.00
Kimsey Tor/ Cambodia Student	Project	2012	\$ 400.00	\$ 81,060.00

5 CAMBODIAN Student Scholarships	Project RUPP	2012	\$ 8,000.00	\$ 73,060.00
Wandera Ogasan Flight to Ghana (Project with PGS and KNUST)	Project	2012	\$ 1,140.00	\$ 71,920.00
London Mathematical Society, report and evaluation of MARM	Report	2012	\$ 4,600.00	\$ 67,320.00
Alan Anderson/ Study IMU	Report	2012	\$ 8,500.00	\$ 58,820.00
AMMSI	Project	2012/ 2013	\$ 22,000.00	\$ 36,820.00
Transfer Charges including for GSC	Administrative Cost	2012	\$ 1,765.00	\$ 35,055.00
Account Maintenance Charge	Administrative Cost	2012	\$ 162.00	\$ 34,893.00
Total expenditure in 2012			\$ 116,655.00	
Savings 2012				\$ 34,893.00

Acknowledgements and a new program ‘Abel Visiting Scholar Program’

IMU/CDC most gratefully acknowledges the continuing generous support provided by IMU for our efforts to promote and sustain mathematics in the developing world.

In 2013 the additional USD 15,000 to be received by the CDC from the Niels Henrik Abel Memorial Fund will be used for the 'Abel Visiting Scholar' appointment. A committee consisting of Ragni Piene (Norway), Kesavan (India) and a third member (to be named) will oversee the program. Advertisement will commence in mid 2013.

We look forward to future collaboration.

Appendix Reports

1. Detailed List GSC Grants in 2012:

	Country	Name of Conference or Host Country for Individual Support	Amount of Support USD
1	Argentina	IV Latin American Congress of Mathematicians (IV CLAM) to be held in Córdoba, Argentina, from 6 th to 10 th of August, 2012	2500
2	Argentina	CIMPA Research School: Stochastic dynamics of particles and queues to be held in Mar de Plata, Argentina from: 2012-11-19 until 2012-11-30	2000
3	Armenia	Workshop on Stochastic and PDE Methods in Financial Mathematics from 09/07/2012 to 09/12/2012.	2000
4	Benin>France	Leonard TODJIHOUNDE, Institut de Mathematiques et de Sciences Physiques, IMSP, Porto-Novo, Republique du BENIN researched at the Institut des Hautes Etudes Scientifiques, Paris – France from 09/28/2012 to 11/28/2012.	1000
5	Benin	Conference fourteenth Workshop GIRAGA14, December 3-15/2012.	1500

6	Cuba	CIMPA Research School , to be held in the Mathematics Department of the La Havana University, Cuba from 2013-06-24 - 2013-07-05.	2000
7	China	Computational Methods and Function Theory (CMFT 2013) conference to be held in Shantou University, Shantou, Guangdong, China from 2013-06-10 - 2013-06-14.	2000
8	Cameroon	Third Buea International Conference on the Mathematical Sciences and a School on Financial and Actuarial Mathematics with Applications Duration: 2013-05-01 - 2013-05-04	2000
9	Colombia	CIMPA Research School “Galois Theory and Multisummability”, to be held in Barranquilla (Colombia) in January 2013.	2000
10	Germany	21st International Symposium on Mathematical Programming, to be held from August 19-24, 2012 in Berlin, Germany.	1500
11	Ghana	2 nd African Bio-mathematics Workshop, to be held at the Department of Mathematics, University of Cape Coast, Ghana from 23-27 July, 2012.	2000
12	India	International Conference On Numerical Linear Algebra And Its Applications to be held at the Indian Institute of Technology Guwahati (IITG), India from 15-18 January, 2013.	2000
13	India	Indo-Slovenian Conference on Graph Theory and Applications (Indo-Slov-2013) jointly organized by the research groups in discrete mathematics of University of Kerala and Cochin University of Science and Technology from India and the Maribor research group from Slovenia during February 22-24, 2013 at Thiruvananthapuram, India.	1100
14	India Colombia	> Arijit Dey, Department of Mathematics, Indian Institute of Technology, Chennai, Tamil Nadu, India to visit the Department of Mathematics, Universidad de los Andes, Bogota, Colombia to work with Prof. Mainak Poddar on "Equivariant K-theory of topological toric manifolds" from 25.06.-25.7.2012.	1500
15	Iran Germany	> Javad Asadollahi from Department of Mathematics, University of Isfahan, Iran, visit the Faculty of Mathematics at Bielefeld University and to participate at the workshop and conference on representation theory of algebras in Bielefeld University 8-17.8.2012.	800
16	Kenya	International Mathematics Meeting “Enhancing Mathematics Research in African Universities through International Collaboration” to be held in July 23 - 27, 2012 in Kenya	1500
17	Madagascar	ECAM 2012 (Ecole de Combinatoire et Algorithmique à Madagascar) held in September 2012 in Antananarivo, Madagascar.	2000
18	Mexico	Conference Algebra for secure and reliable communication modeling (ASReCoM) to be held in October/1/2012 to October/13/2012	2000

19	Mexico	Conference on Moduli Spaces and Mathematical Physics to be held at CIMAT, Guanajuato, Mexico from January 28th - February 4th 2013	1500
20	Mongolia	CIMPA Research School in Mongolia at the Mongolian University of Science and Technology on July 15-28, 2013 in Ulaanbaatar.	2000
21	Morocco	Conference on Number Theory, Codes, Cryptography and communication systems to be held from 04/26/2012 – 04/28/2012 in Oujda, Morocco.	2000
22	Morocco	CIMPA Research School , EpiCasa12 – Introduction to epidemiology : mathematical and statistical models and methods to be held from 2-13 April 2012, in Casablanca, Morocco	2000
23	Serbia	XVII Geometrical Seminar from September 03 – 08, 2012.	1500
24	South Africa	Conference “Evolutionary Equations with applications in natural sciences” to be held 2013-07-22 - 2013-08-02 at the African Institute of Mathematical Sciences. The School will be a part of the Mathematics for the Planet Earth year initiatives.	1500
25	Tanzania	2 nd Eastern Africa Universities Mathematics Program (Eaump) Conference to celebrate the 10th Anniversary Of Eaump from August 22 nd to 25 th 2012 at Nelson Mandela African Institute of Science and Technology in Arusha Tanzania.	1000
26	Thailand	International Center of Pure and Applied Mathematics (CIMPA) Research School on Graphs, Codes, and Designs to be held at Ramkhamhaeng University in Bangkok, Thailand from May 20-31, 2013	1500
27	Tunisia France	> Ihsen Yengui, Department: Mathematics, University of Sfax, Tunisia to travel to the Université Pierre et Maris Curie (Paris 6), France from June 1- July 30, 2012. (Date was changed to January 2013)	660
28	Uzbekistan >Germany	GOLIBJON BOTIROV will visit Ruhr University of Bochum, Germany from January 16 until March 15 2013.	1500
29	Vietnam	20 th International on Finite or Infinite Dimensional Complex Analysis and Applications (=The 20 th ICFIDCAA) to be held in Hanoi July 29 to August 03, 2012.	2000
30	Vietnam	Conference on Quantum Topology and Hyperbolic Geometry Duration: 2013-05-13 - 2013-05-17	2500
31	West Bank/ Palestine	Numerical analysis and Differential geometry summer school to be held in the West Bank. Duration: 2013-06-29 - 2013-07-04.	2500

9. International Commission on the History of Mathematics (ICHM)

<http://www.unizar.es/ichm/>

Report on ICHM Activities in 2012

Craig Fraser, Chair

Activities:

The Executive Council of the ICHM had four E-meetings in 2012. Three subcommittees of the ICHM deliberated; two submitted reports to the Executive Committee in 2012 and the third submitted its report in March of 2013.

Projects:

1. The ICHM continues to maintain a webpage of its activities and of matters of interest to historians of mathematics internationally. See the ICHM website <http://www.unizar.es/ichm/home.htm>

2. The ICHM continues actively to solicit and to co-sponsor special sessions and conferences internationally.

3. The ICHM is co-sponsoring several symposia on the history of mathematics for the 24th International Congress of History of Science, Technology and Medicine that will be held in Manchester, UK in July of 2013. These symposia are:

a. Mathematics and Patronage

b. Mathematical Knowledge at Work in Ancient China

c. The History and Philosophy of Mathematical Optimization

d. Introduction of Modern Mathematics in Iberoamerica

e. The Institutionalization of Mathematics and the Founding of National Societies

f. Poincaré's Méthodes nouvelles de la mécanique céleste in historical context: bridging the frontiers of knowledge in mathematics, astronomy and wireless technology, 1892-1914

Publications:

Historia Mathematica is the official journal of the ICHM. It appears four times annually and publishes roughly 525 pages of original research in the history of mathematics from all times and cultures. The journal is currently edited by Niccolò Guicciardini (Italy) and Thomas Archibald (Canada). It is published by Elsevier Science and is available electronically to subscribers of IDEAL.

Conferences co-sponsored by the ICHM in 2011 and January of 2013

11th Austrian Symposium on the History of Mathematics, in Miesenbach, Lower Austria, April 22-28, 2012.

Organizer: Christa Binder

The 23rd Novembertagung on the History of Mathematics. A conference for junior scholars. Bergische Universität Wuppertal, Germany, November 7-10, 2012.

Organizers: Philipp Kranz, Desirée Kröger, Dagmar Mrozik, and Alfredo Ramírez

Two-day International Seminar on History of Mathematics, held jointly with the Indian Society for History of Mathematics (ISHM). Ramjas College, Delhi on November 19-20,

2012.

Organizer: Man Mohan

Sessions on history of mathematics at the Joint Meetings of the American Mathematical Society and the Mathematical Association of America, on January 9-12 of 2013 in San Diego. Organizers: Patti Hunter (Westmont College), Deborah Kent (Drake University), Adrian Rice (Randolph-Macon College).

Reports on these conferences are available on the ICHM website.

ICHM Prizes

The ICHM awards two prizes every four years at the International Congress of the History of Science and Technology. These are the Kenneth O. May Prize, awarded to historians of mathematics for outstanding contributions to the history of mathematics; and the Montucla Prize, awarded to the author of the best article by a junior scholar published in *Historia Mathematica* in the four years preceding the International Congress. Committees were established in 2012 to select winners of these prizes for 2013. The recommendation of the May Prize Committee was ratified by the Executive Council at the December E-meeting. The result will be announced at the 24th ICHSTM in Manchester in July of 2013. The recommendation of the Montucla Prize Committee was ratified at the March 2013 E-meeting of the EC. The result will also be announced at the Manchester Congress.

Subcommittee on Sponsorship of Conferences

A subcommittee to review ICHM policies on the sponsorship of conferences and to make recommendations for an updated statement of the policy was established in August of 2012 and deliberated in the following months. The subcommittee's members were: Craig Fraser (chair), Henrik Kragh-Sørensen and Luis Saraiva. The report of the committee was submitted to the Executive Council at its December E-meeting and the recommendations in it were accepted by a vote of the EC. A statement of the policy may be found at <http://www.unizar.es/ichm/cosponsor.htm>

Changes in Personnel at ICHM

In June Ahmed Djebbar resigned as the Algerian ICHM National Member. He was replaced by Malek Bourzari. Bourzari is an expert on the Conics of Al-Mutaman (11th c.), and is Maître de Conférences of the History of Mathematics at the Ecole Normale Supérieure of Algiers (Kouba).

In 2012 June Barrow-Green was replaced by Tom Archibald as an ex officio member of the Executive Committee in his capacity as co-editor of *Historia Mathematica*.

In July Jackie Stedall resigned as Vice-Chair of ICHM. This resignation came at the end of the third year of the four-year term of the position. Given that a committee was due to be formed in March of 2013 to nominate a slate of officers for the next four years, it was decided that the position could remain temporarily vacant. Nominations for this position as well as other ones on the Executive Committee that will become vacant or that are up for renewal are currently being solicited (March 2013) by the nomination committee. A slate of candidates will be voted on at the June E-meeting of 2013 and the terms of the new members will begin at the 24th International Congress in Manchester at the end of July.

10. Committee on Electronic Information and Communication (CEIC)

<http://www.mathunion.org/ceic/>

CEIC Activity Report 2012

Peter Olver, Chair

Members and terms

- Thierry Bouche, UFR de Mathématiques, Institut Fourier, Université de Grenoble I, Grenoble, France (2011-2014)
- Olga Caprotti, Department of Computer Science and Engineering, Chalmers and University of Gothenburg, Sweden (2008-2012)
- James Davenport, Department of Computer Science, University of Bath, UK (2008-2012)
- Carol Hutchins, Courant Institute, New York University, USA (2008-2012)
- László Lovász, Department of Computer Science, Eötvös Loránd University, Budapest, Hungary (2011-2014)
- Peter Olver, School of Mathematics, University of Minnesota, Minneapolis, USA (Chair) (2008-2014)
- Ravi Vakil, Department of Mathematics, Stanford University, USA (2011-2014)

Meetings

The annual meeting of the CEIC took place in Berlin on July 19-20, 2012.

Attending: Peter Olver (Chair), Thierry Bouche, Olga Caprotti, James Davenport, Carol Hutchins, László Lovász, Ravi Vakil.

Minutes can be found on the CEIC web page (see below).

The next meeting of CEIC has been scheduled for June 15-16 in Bath, UK.

CEIC web site

During 2012, the temporary CEIC web pages on the IMU Berlin web site were replaced by a permanent version incorporating the new IMU web page design. These were made active on January 28, 2013, with a link from the IMU home page, and are at

<http://www.mathunion.org/ceic>

The Backup of the IMU web server has now been realized. It saves the image of the web server (using httrack) every week and saves the changes in a version control system (git). Thus the state of the server each week can be reproduced. The image is clean HTML and does not depend on any CMS or special web server.

Also, the piwik based analytics server is currently in production state.

e-Archiving

The issue of e-Archiving of IMU materials (publications, correspondence, web sites, historical materials, etc.) was discussed at length at the CEIC meeting in Berlin. One challenge is the distinction between public, confidential and embargoed materials. The CEIC recommends that archived material be hosted by IMU rather than an outside server.

Copyright and ICMs

CEIC wrote a text to be signed by speakers at all recorded ICM lectures and events authorizing the taking of photos, videos, recordings, etc. and to publicly display such material, including reasonable modifications.

IMU Net

IMU Net is edited by Mireille Chaleyat-Maurel. Six regular issues plus two special issues on the International Launch of Mathematics of Planet Earth and the Heidelberg Laureate Forum appeared in 2012. One issue has so far appeared in 2013.

Journal blog

As a result of the IMU and the International Council for Industrial and Applied Mathematics (ICIAM) establishment of a Working Group to study the issue of Ranking of Mathematical Journals, in 2011 the IMU and ICIAM approved a blog on mathematical journals to be hosted by the IMU. The original moderators of the blog were

Doug Arnold (ICIAM)

Carol Hutchins (IMU)

Nalini Joshi (ICIAM)

Peter Olver (IMU)

Fabrice Planchon (IMU)

Tao Tang (ICIAM)

and Peter Olver was assigned the role of chairing the group.

Originally the blog was to be devoted to the question of journal ranking, but it was later decided to open the blog to all matters involving journals. The blog went live on November 18, 2011, and can be found at

<http://www.mathunion.org/journals>

The blog moderators have struggled with the difficulty of using the Typo3 software implemented by the IMU technician. While some initial difficulties were successfully resolved, the consensus is that any future blog or social media activity needs to be done in a more supportive and adaptable software environment, and also soliciting advice from mathematicians who are actively involved in social media platforms.

On January 12, 2012, Tao Tang was replaced by Ming-Chih Lai. After April, postings ceased and so on October 25, 2012, Ingrid Daubechies posted a final entry. The blog is now closed, although everything remains available on the IMU web pages.

There has been discussion of starting a new blog, for possibly other topics of interest to IMU, using a different software platform, but no firm decisions have been made to date.

Meanwhile, the Wordpress based blog server is in production state, and the Journal blog will be moved to the new server when ready.

WDML Workshop and Committee

The CEIC was awarded a \$73,000 grant by the Sloan Foundation to support the symposium The Future World Heritage Digital Mathematics Library: Plans and Prospects

that took place June 1-3 at the National Academy of Sciences (NAS) in Washington DC.

The grant funds were administered by the Friends of the International Mathematical Union (FIMU). The organizing committee consisted of the members of CEIC along with R. Keith Dennis (Cornell University), Michael Doob (University of Manitoba, Canada), and Ulf Rehmann (University of Bielefeld, Germany). Attendance was by invitation, and there were

total of 52 participants, with 11 keynote talks, 8 panel discussions, and several break out sessions. Details can be found on the workshop wiki

<http://ada00.math.uni-bielefeld.de/dml>

that includes slides from talks, summaries of panels and break out sessions, position statements, and a final report.

In addition, the NAS received a grant from Sloan to further develop the WDML, to produce a report and to plan prototypes and implementation, has also been funded. Ingrid Daubechies and Peter Olver are serving as members of the NAS committee. The report is due out in late 2013.

World Data System

On June 28, 2012, CEIC officially joined the International Council for Science (ICSU)'s World Data System (WDS) as an Associate Member.

Olga Caprotti served as the Committee's representative to the 23rd International CODATA Conference "Open Data and Information for a Changing Planet" held in Taipei on 28-31 October, 2012, where she sent contributions to the ongoing preparation of the policy brief on open access and brought a poster on the activities of the IMU.

Social Media: Facebook, Wikipedia, Twitter

In 2010, prior to the India Congress, Manwinder Kaur, a research student from Thapar University Patiala, India created an IMU Facebook page on his own initiative:

<http://www.facebook.com/pages/International-Mathematical-Union>

which, as of April 1, 2012, contains just a copy of the Wikipedia article on the IMU. There was some discussion about CEIC assuming administration of this page and adding content, but no action has so far been taken. Similarly for the discussions on expanding the IMU Wikipedia article and possibly starting an IMU Twitter account.

Finances

EUR 1,702.02 was received from the IMU budget to cover expenditure related to CEIC activities.

The CEIC's annual meeting in Berlin in 2012 was supported by funds of the grants from the German Federal Ministry of Education and Research (BMBF) and the State of Berlin.

11. Independent Auditor's Report



Berlin, 16 April 2013

Report No.: 62771/E

International Mathematical Union
Berlin

Audit Report on the
Annual Financial Statements as of 31 December 2012

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A. Audit Engagement

We were engaged by the Secretary of the

International Mathematical Union

Berlin

(hereinafter "IMU" or "Union")

to audit and report on the annual financial statements for the reporting year ending 31 December 2012.

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

The Union is not required by law to have its annual financial statements audited. In accordance with Article 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 German Commercial Code (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 explanations to the net assets, financial position and results of operations in our audit report (section D.)

The budget comparison ("Statement of Income and Expenditure 2012") 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.

In performing our audit, we observed the rules on independence under § 321 (4a) HGB.

This report was prepared under the auditing standard of the *Institut der Wirtschaftsprüfer in Deutschland e. V.* IDW PS 450 "Generally Accepted Standards for the Issuance of Longform Audit Reports for the Audit of Financial Statements".



This document is a translation of the German audit report, which is the sole legally binding version.

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 2012 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 Union's Treasurer. Our responsibility is to provide an opinion on the annual financial statements based on our audit.

As of 1 January 2011, the IMU has kept its permanent office in Berlin and is affiliated with the *Weierstraße Institut für Angewandte Analysis und Stochastik (WIAS)*, Berlin, for organisational purposes. The Federal Republic of Germany and the State of Berlin grant the IMU annual financial support, in particular by assuming personnel and material costs in the amount of approximately k€ 500 borne directly by the WIAS.

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, in our experience, non-compliance may result in risks that have an effect on the annual financial statements.

In addition, an audit is not intended to determine whether the Union 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) and administrative offences occurring beyond the scope of the financial accounting

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), in particular observing IDW PS 750 "Audits of Associations". 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.

We conducted our audit in January 2013 in the premises of the IMU Secretariat. The audit report was prepared in our office.

Our audit commenced with our unqualified independent auditor's report dated 24 April 2012 on the annual financial statements for the year ended 31 December 2011. The Statutes do not provide for an adoption of the annual financial statements. Instead, on the basis of every fourth annual financial statement (most recently on 31 December 2009), the preparation of a budget for the following four-year-period is anticipated. The budget for the period from 1 January 2011 to 31 December 2014 was approved by the 16th General Assembly in Bangalore/India on 16 and 17 August 2010.

We received information from:

- | | |
|------------------------------|-----------------------------|
| – Prof. Dr. Alexander Mielke | Treasurer of the IMU |
| – Ms. Sylwia Markwardt | Manager, IMU Secretariat |
| – Ms. Anita Orłowsky | Accountant, IMU Secretariat |

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 Union. 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 view of the net assets, financial position and results of operations of the Union.

C. Findings and Explanations on Accounting

1. Proper Accounting

1.1. Bookkeeping and Other Audited Documents

Financial bookkeeping is performed applying the principles of double-entry bookkeeping, using Lexware professional 2013 Version 13.04 software. Wage and salary accounting is not necessary because personnel expenses are borne by the *Weierstraß-Institut*, the organisation that employs the staff of the IMU Secretariat.

Records are properly kept and, together with the books and other documents, allow for a proper audit. In accordance with our findings, which are based on sampling, 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 corporations 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 issued by management, the annual financial statements include all required assets, liabilities and risks.

Recognition 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 bookkeeping.

Classification

The classifications used in the statement of assets and liabilities and statement of income and expenditure correspond to the provisions of §§ 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). Classifications were modified to conform to the requirements of the IMU.

Notes to the Annual Financial Statements

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

Contingent Liabilities, Off-balance Sheet Transactions and Other Financial Commitments

As per the information provided to us and our own findings, contingent liabilities requiring disclosure within the meaning of § 251 HGB, off-balance sheet transactions within the meaning of § 285 No. 3 HGB and other financial commitments within the meaning of § 285 No. 3a HGB did not exist on the balance sheet date.

1.3. Management Report

The Union 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 61, dated December 2011, was published in December 2012 and a printed version was provided to members. It is also available as an electronic document (<http://www.mathunion.org/publications/bulletins/archive/>).

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 the 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. Findings 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 Union in accordance with German principles of proper accounting.

As per § 321 (2) sent. 4 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 options and use of discretion, influence the presentation of the net assets, financial position and results of operations as a whole.

The influence of material measurement principles and changes thereto in the presentation of the 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 options and the use of discretion correspond to the prior year and do not indicate any tendency to improve or worsen the result or 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 exchange rate valid on the date of their accrual. Measurement on the balance sheet date is at the lower (for receivables), or higher (for liabilities), exchange rate valid on that date.

D. Other Classifications and Explanations to the Annual Financial Statement

1. Net Assets

In order to evaluate the net assets and changes thereto, the balance sheets of the last two financial years are compared in condensed form:

	31 Dec 2012		31 Dec 2011		Change
	k€	%	k€	%	k€
ASSETS					
Current assets					
Receivables from member contributions	119	9.4	80	7.4	39
Other assets	5	0.4	0	0.0	5
Cash and cash equivalents	1,139	90.2	995	92.6	144
	1,263	100.0	1,075	100.0	188
LIABILITIES					
Net assets (own funds)	1,199	94.9	1,024	95.2	175
Borrowed capital					
Provisions	8	0.6	20	1.9	-12
Liabilities from restricted donations	47	3.7	28	2.6	19
Other liabilities (including deferred income)	9	0.8	3	0.3	6
	64	5.1	51	4.8	13
	1,263	100.0	1,075	100.0	188



Receivables from member contributions are as follows:

Country	Year	Amount	
		€	CHF
Algeria	2012	1,270.46	1,531.00
Argentina	2012	2,743.71	3,340.00
Bosnia & Herzegovina	2012	1,371.85	1,670.00
Bulgaria	2012	1,371.85	1,670.00
Cameroon	2012	1,371.85	1,670.00
Cuba	2012	1,371.85	1,670.00
Egypt	2012	2,743.71	3,340.00
France	2012	16,462.30	20,040.00
Greece	2012	1,371.85	1,670.00
Hungary	2012	5,487.42	6,680.00
India	2012	10,974.80	13,360.00
Kazakhstan	2012	1,371.85	1,670.00
Latvia	2012	1,371.85	1,670.00
Mexico	2012	2,743.71	3,340.00
Montenegro	2012	1,371.85	1,670.00
Netherland	2012	10,974.80	13,360.00
Nigeria	2012	1,371.85	1,670.00
Pakistan	2012	1,371.85	1,670.00
Peru	2012	1,371.85	1,670.00
Philippines	2012	1,371.85	1,670.00
Serbia	2012	1,371.85	1,670.00
Spain	2012	10,974.80	13,360.00
Ukraine	2012	2,743.71	3,340.00
Venezuela	2012	1,371.85	1,670.00
Saudi Arabia	2012	1,371.85	1,670.00
Carry forward:		87,697.17	106,741.00

Country	Year	Amount	
		€	CHF
Carry forward		87,697.17	106,741.00
Bosnia & Herzegovina	2011	1,311.29	1,637.00
Bulgaria	2011	1,311.29	1,637.00
Cameroon	2011	1,311.29	1,637.00
Cuba	2011	1,311.29	1,637.00
Hungary	2011	5,245.14	6,548.00
Ivory Coast	2011	1,311.29	1,637.00
Montenegro	2011	1,311.29	1,637.00
Pakistan	2011	1,311.29	1,637.00
Peru	2011	1,311.29	1,637.00
Philippines	2011	1,311.29	1,637.00
		17,046.75	21,281.00
Cameroon	2010	1,080.82	1,605.00
Cuba	2010	1,080.82	1,605.00
Hungary	2010	4,323.29	6,420.00
Montenegro	2010	414.04	535.00
Nigeria	2010	1,080.82	1,605.00
Peru	2010	1,080.82	1,605.00
		9,060.61	13,375.00
Kazakhstan	2009	1,025.83	1,528.00
Peru	2008	477.43	717.00
Kazakhstan	2007	861.57	1,386.00
		2,364.83	3,631.00
		116,169.36	145,028.00
Specific allowance Kazakhstan and Peru	2007-2009	-1,182.42	-1,815.50
Exchange rate gain as of 31 Dec		3,912.37	
		118,899.31	143,212.50



At the end of 2012, outstanding member contributions were k€ 120 (kCHF 145), of which k€ 14 had been settled at the time of the audit. The membership contributions of Kazakhstan for 2007 and 2009 as well as for Peru for 2008 remain outstanding. Impairments of 50 % were taken on these receivables.

Cash and cash equivalents, 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 € (5113915 10)		358,338.54
Account in CHF (5113915 01)	CHF 494,764.43	409,661.00
Account in USD (5113915 00)	USD 82,961.17	62,763.80
Account in USD (5113915 06)	USD 14,259.00	10,787.60
Account in € - Ito Fund (5113915 01)		10,485.95
Account in € (5113915 00)		77,109.54
Account in € (5113915 05)		141,208.12
Account in € (5113915 04)		66,411.36
Cash in €		<u>2,716.97</u>
		<u>1,139,482.88</u>

The conversion of foreign currency into Euro occurs at the period-end exchange rate.

Net assets (own funds) at the period-end date are composed of the following:

	k€	k€
Association capital		307
Reserves		
– Annual surplus 2007 - 2011	549	
– Annual surplus 2012	175	
– ICMI und CDC (Commission Fund)	<u>168</u>	<u>892</u>
		<u>1,199</u>

The Statutes do not make reference to association net assets.

A total of € 307,465.98 of net assets of the IMU was accumulated prior to the transfer of the IMU legal domicile to Germany as of 1 January 2007. As per the suggestion of the Secretary, Prof. Dr. Grötschel, and the Treasurer, Prof. Dr. Mielke, net assets accrued as of 2007 are allocated to reserves at the end of the financial year.

Reserves are allocated as follows:

	k€
– Travel support	
– Fields Medal 2014	10
– ICM 2014 in Korea	150
– Co-financing of an ICSU funded Project 2013	90
– MENAO event 2014	100
– Project CANP 2014 in Tanzania	50
– Co-financing joint workshops with other ICSU members 2012-2014	35
– Co-financing MPE2013 Exhibition, UNESCO Paris	15
– ICMI and CDC	168
– Additional budget CDC until end 2014	<u>100</u>
	<u>718</u>

Funds are shown under **ICMI and CDC (Commission Fund)** that the IMU has made available to its ICMI and CDC commissions for their work. The restricted reserves for ICMI of € 105,874.32 and of € 62,286.97 for CDC correspond fundamentally to the respective bank accounts.



Liabilities from restricted donations developed as follows:

	€	€
Special Development Fund		
Per 1 Jan 2012		17,339.06
Contributions		
– AMS and Friends of IMU (FIMU)	2,306.98	
– London Mathematical Society (LMS)	4,073.42	
– Unione Matematica Italiana	<u>2,119.00</u>	<u>8,499.40</u>
Per 31 Dec 2012		25,838.46
Ito Fund		
Per 1 Jan 2012		10,459.97
Contribution interest revenue 2012 less account fees		<u>25.98</u>
Per 31 Dec 2012		10,485.95
IMU Developing Country Fund		
Per 1 Jan 2012		0.00
Contributions FIMU		<u>10,787.60</u>
		<u>10,787.60</u>
		<u><u>47,112.01</u></u>

The funds shown under **Special Development Fund (SDF)** are for the support of mathematicians from developing countries for travel to International Congresses of Mathematicians (ICM). An international committee decides on the grant applications. The last congress took place in Hyderabad/India in August 2010; the cash of the SDF collected between 2007 and 2010 was fully expended for this congress. The next congress shall take place in Seoul/Korea in 2014. The Korean Mathematical Society (KMS) is committed to providing kUSD 2,000 for travel assistance for mathematicians from developing countries. If additional travel costs for ICM participants from developing countries have to be financed, the IMU may expend additional funds from the SDF. Cash of SDF not required for ICM 2014 are to be used for the ICM 2018.

The cash received from Friends of IMU (FIMU) for the **IMU Developing Country Fund** are restricted to the support of mathematical research and scholarships in developing countries.

2. Financial Position

The IMU was in a position to meet its payment obligations in a full and timely manner. The cash flow from current activities amounts to k€ 144 and corresponds to the change in the amount of cash between 1 January 2012 (k€ 995) and 31 December 2012 (k€ 1,139).

3. Results of Operations

The summarized statements of income and expenditure for the past two financial years show the following structure and changes in the results of operations:

	2012		2011		Change
	k€	%	k€	%	k€
Revenue	449	100.0	474	100.0	-25
Administrative expenses	-24	-5.3	-43	-9.0	19
Expenses for scientific activities	-253	-56.4	-206	-43.5	-47
Other expenditures	-277	-61.7	-249	-52.5	-28
Operating result	172	38.3	225	47.5	-53
Interest	3	0.7	3	0.6	0
Result before taxes on income	175	39.0	228	48.1	-53
Taxes on income	0	0.0	0	0.0	0
Annual surplus	175	39.0	228	48.1	-53
Allocation to reserves	-175	-39.0	-228	-48.1	53
Unallocated cash balance	0	0.0	0	0.0	0

The IMU had **revenue** of k€ 449 in the reporting year, consisting largely of member contributions. In addition, the IMU received donations which, as a rule, come from scientific organizations.



Revenue is composed of the following:

	€
Member contributions	367,387.09
Third-party contributions	75,583.50
Other income	<u>6,364.43</u>
	<u>449,335.02</u>

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

Third-party donations are composed of the following:

	€
International	
Niels Henrik Abel Memorial Fund, Norway (thereof approx. k€ 11.6 [kUSD 15] for awarding the Ramanujan Prize)	45,583.50
ICSU grant	<u>30,000.00</u>
	<u>75,583.50</u>

Other income (k€ 6) largely involves exchange rate gains (k€ 5).

Other expenditures of approximately k€ 277 (prior year: k€ 249) are shown in detail in the statement of income and expenditure (Annex 2).

Interest represents the interest paid on the bank balances by the Berliner Bank AG.

E. Reproduction of the Independent Auditor's Report and Concluding Statement

We have issued the following unqualified opinion dated 16 April 2013 for the annual financial statements as of 31 December 2012 of the International Mathematical Union, Berlin. The annual financial statements are enclosed in this report under Annexes 1 to 2.

“Independent Auditor’s Report

To the International Mathematical Union, Berlin

We have audited the annual financial statements, consisting of the statement of assets and liabilities and the statement of income and expenditure, together with the bookkeeping system of the International Mathematical Union for the reporting year from 1 January 2012 to 31 December 2012. 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 Union’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 generally 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 Union 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 for 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 Union in accordance with German principles of proper accounting.”



The above audit report is submitted in compliance with statutory provisions and Generally Accepted Standards for the Issuance of Long-form Audit Reports for the Audit of Financial Statements (IDW PS 450).

Use of the above independent auditor's report outside of this audit report requires our prior consent. Publication or distribution of the annual financial statements of the International Mathematical Union, Berlin, in a form different from the certified form also requires our consent if our independent auditor's report is quoted or if reference is made to our audit. We herein refer to § 328 HGB.

Berlin, 16 April 2013

RBS RoeverBroennerSusat GmbH & Co. KG
Wirtschaftsprüfungsgesellschaft
Steuerberatungsgesellschaft

In the original German version signed by:

Helmut Schuhmann
Wirtschaftsprüfer

Annexes

International Mathematical Union, Berlin

STATEMENT OF ASSETS AND LIABILITIES as of 31 December 2012

ASSETS	per 31 Dec 2012	Prior Year	LIABILITIES	per 31 Dec 2012	Prior Year
Current Assets	€	€	A. Net Assets	€	€
I. Receivables and other assets			I. Association net assets	307.465,98	307.465,98
1. Receivables from member contributions	118.899,31	80.277,11	II. Reserves	891.814,18	717.077,55
2. Other assets	5.139,10	0,00		1.199.280,16	1.024.543,53
			B. Provisions	7.735,00	19.317,90
II. Cash-in-hand, bank balances*	1.139.482,88	994.541,31	C. Liabilities		
			1. Liabilities from restricted donations	47.112,01	27.799,03
			2. Other liabilities	6.677,92	1.793,98
				53.789,93	29.593,01
Total Assets	1.263.521,29	1.074.818,42	D. Deferred Income	2.716,20	1.363,98
			Total Liabilities	1.263.521,29	1.074.818,42

* contained therein ICMU € 141,208.12 and CDC € 66,411.36

International Mathematical Union, Berlin

Income Statement for 2012

			2012	Prior Year
	€	€	€	€
Revenues			449.335,02	474.262,80
Member contributions	367.387,09			350.266,92
Donations - international	75.583,50			65.194,13
Other income	6.364,43			58.801,75
Other Expenditures			-277.107,78	-248.788,68
Administrative Expenses		-24.132,07		-42.256,55
Reimbursement personnel expenses	-2.484,09			-405,22
Travel	-406,91			-17.117,73
Advisory fees	0,00			-628,64
Audit fees	-7.735,00			-7.735,00
Member contributions	-9.700,00			-7.020,00
Postage	-400,51			-83,62
Bank fees	-480,78			-1.317,75
Other	<u>-2.924,78</u>			-7.948,59
Expenditures for Scientific Activities		-252.975,71		-206.532,13
Promotion of scientific activities	-235.579,92			-169.835,24
Expenditures ICM	-5.175,49			-6.752,64
Travel grants	0,00			-17.339,06
Expenditures Prize Awards	-12.220,30			-11.582,90
Other	<u>0,00</u>			-1.022,29
Interest and Similar Income			2.731,67	2.723,29
<u>Result of Association Activities</u>			174.958,91	228.197,41
Taxes			0,00	0,00
<u>Annual Surplus</u>			174.958,91	228.197,41
Allocation to Reserves			-174.958,91	-228.197,41
<u>Unallocated Cash Balance</u>			0,00	0,00

International Mathematical Union

Schedule of Member Contributions 2012

Country	Amount EUR	Amount CHF
Algeria	1.270,46	1.531,00
Argentina	2.743,71	3.340,00
Armenia	1.371,85	1.670,00
Australia	5.487,42	6.680,00
Austria	2.743,71	3.340,00
Belgium	5.487,42	6.680,00
Bosnia & Herzegovina	1.371,85	1.670,00
Brazil	10.974,80	13.360,00
Bulgaria	1.371,85	1.670,00
Cameroon	1.371,85	1.670,00
Canada	16.462,30	20.040,00
Chile	2.743,71	3.340,00
China Taipei	9.877,38	12.024,00
China, Beijing	6.584,92	8.016,00
Colombia	1.371,85	1.670,00
Croatia	1.371,85	1.670,00
Cuba	1.371,85	1.670,00
Czech Republic	5.487,42	6.680,00
Denmark	2.743,71	3.340,00
Egypt	2.743,71	3.340,00
Estonia	1.371,85	1.670,00
Finland	5.487,42	6.680,00
France	16.462,30	20.040,00
Georgia	1.371,85	1.670,00
Germany	16.462,30	20.040,00
Greece	1.371,85	1.670,00
Hong Kong	1.371,85	1.670,00
Hungary	5.487,42	6.680,00
Iceland	1.371,85	1.670,00
India	10.974,80	13.360,00
Indonesia	1.371,85	1.670,00
Iran	5.487,42	6.680,00
Ireland	2.743,71	3.340,00
Israel	16.462,30	20.040,00
Italy	16.462,30	20.040,00

Ivory Coast	1.371,85	1.670,00
Japan	16.301,60	19.848,00
Kazakhstan	1.371,85	1.670,00
Korea	10.974,80	13.360,00
Latvia	1.371,85	1.670,00
Lithuania	1.371,85	1.670,00
Mexico	2.743,71	3.340,00
Montenegro	1.371,85	1.670,00
Netherland	10.974,80	13.360,00
New Zealand	1.371,85	1.670,00
Nigeria	1.371,85	1.670,00
Norway	5.487,42	6.680,00
Pakistan	1.371,85	1.670,00
Peru	1.371,85	1.670,00
Philippines	1.371,85	1.670,00
Poland	10.974,80	13.360,00
Portugal	2.743,71	3.340,00
Romania	1.371,85	1.670,00
Russia	16.462,30	20.040,00
Saudi Arabia	1.371,85	1.670,00
Serbia	1.371,85	1.670,00
Singapore	1.371,85	1.670,00
Slovakia	2.743,71	3.340,00
Slovenia	1.371,85	1.670,00
South Africa	2.743,71	3.340,00
Spain	10.974,80	13.360,00
Sweden	10.974,80	13.360,00
Switzerland	10.974,80	13.360,00
Tunisia	1.371,85	1.670,00
Turkey	1.371,85	1.670,00
Ukraine	2.743,71	3.340,00
United Kingdom	16.462,30	20.040,00
Uruguay	1.371,85	1.670,00
USA	16.462,30	20.040,00
Venezuela	1.371,85	1.670,00
Vietnam	1.363,98	1.670,00
Total	367.387,09	447.229,00

INTERNATIONAL MATHEMATICAL UNION

Statement of Income and Expenditure 2012

	Budget 2012 CHF			Actual 2012 CHF			Budget 2012 EUR			Actual 2012 EUR		
	General	Special	Sum	General	Special	Sum	General	Special	Sum	General	Special	Sum
INCOME												
I. General												
Membership Dues												
Sum General Income	444.220			443.557			367.936			367.387		
II. Special												
Special Development Fund		30.000			10.261			24.848			8.499	
Donations		56.000			55.035			46.383			45.584	
Grants					36.220						30.000	
Sum Special Income from Third Parties												
Income from IMU bank accounts		1.000			3.298			828			2.732	
Other Income		300			7.684			248			6.364	
Sum Special Income from Other Sources												
TOTAL INCOME	444.220	87.300	531.520	443.557	112.498	556.055	367.936	72.308	440.244	367.387	93.179	460.566
EXPENDITURE												
1. Commissions & Committees (C&C)												
1.1 CDC	89.734	45.000		90.838	40.281		74.324	37.272		75.239	33.364	
1.2 CEIC	22.434			2.056			18.581			1.702		
1.3 ICM	67.300			115.028	36.220		55.744			95.275	30.000	
1.4 Ad hoc committees	13.460			0			11.149			0		
1.5 Special support	0			0			0			0		
C&C Expenditure	192.928	45.000	237.928	207.922	76.501	284.423	159.798	37.272	197.070	172.216	63.364	235.580
2. ICM												
2.1 Site Committee	4.487			0			3.716			0		
2.2 Program Committee	8.974			6.248			7.433			5.175		
2.3 Prize Committees	8.974			0			7.433			0		
2.4 Congress Subvention	22.434			0			18.581			0		
2.5 Travel Grants (Young & Senior)	31.407	30.000		0			26.015	24.848		0		
2.6 ICM related admin., outreach	22.434			0			18.581			0		
ICM Expenditure	98.710	30.000	128.710	6.248	0	6.248	81.759	24.848	106.607	5.175	0	5.175
3. Union Administration												
3.1 General Assembly	4.487			0			3.716			0		
3.2 President & Secretary	35.894			3.490			29.730			2.891		
3.3 Executive Committee	35.894			0			29.730			0		
3.4 Other	13.460			0			11.149			0		
Union Administration Expenditure	89.735	0	89.735	3.490	0	3.490	74.325	0	74.325	2.891	0	2.891
4. Outreach												
4.1 ICSU Union Member Contributio	8.974			11.711			7.433			9.700		
4.2 Awards	0	11.000		0	14.754		0	9.111		0	12.220	
4.3 Website Support, Media Relatio	8.974			0			7.433			0		
4.4 Bulletin	0			0			0			0		
4.5 Other	4.487			0			3.716			0		
4.6 Scientific activity support	0			0			0			0		
Outreach Expenditure	22.435	11.000	33.435	11.711	14.754	26.465	18.582	9.111	27.693	9.700	12.220	21.920
5. Overhead												
5.1 Office Expenses	4.487			0	2.279		3.716	0		0	1.888	
5.2 Bank Charges	4.487			0	581		3.716	0		0	481	
5.3 Legal Advice, Audit Fees	17.947			2.953	6.386		14.865	0		2.446	5.289	
5.4 Other	17.947	1.300		0	1.736		14.866	1.076		0	1.438	
Overhead Expenditure	44.868	1.300	46.168	2.953	10.982	13.935	37.163	1.076	38.239	2.446	9.096	11.542
TOTAL EXPENDITURE			535.976			334.561			443.934			277.108
Draw from Reserves			4.456			0			3.690			0
Return to Reserves			0			0			0			0
Income less expenses			0			221.494			0			183.458
											Transfer to liabilities from donations not yet spent	-8.499
											Excess of income over expenditure	EUR 174.959

Actual Euro Income and Expenses converted to Swiss Franc, using the 31 December 2012 rate of 1 Euro = 1.20733 Swiss Franc

Legal and Tax Position

1. Legal Position

Association, Legal Domicile

International Mathematical Union, Berlin/Germany

The IMU is an international association. According to German law, the IMU is an “ideal” association (§ 21 German Civil Code (BGB)) since 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 legal domicile of the IMU was located in Princeton/USA, until 31 December 2006. According to article 29 of the IMU Statutes, as amended in 2010, the legal domicile of the Union shall be located at the offices of the Union.

The permanent Secretariat shall be located in Berlin/Germany as of 1 January 2011.

Place of Management

IMU Secretariat, Markgrafenstraße 32, 10117 Berlin/Germany.

The IMU Secretariat transacts the entire routine operative business of the IMU. This includes the administrative support of the Commission on Mathematical Instruction (ICMI) and the Commission for Developing Countries (CDC). In addition, the IMU Secretariat is also responsible for bookkeeping and monetary transactions; it prepares the annual financial statements and operates the IMU archives.

Statutes

The Statutes were amended on 16 and 17 August 2010 in Bangalore/India by the 16th General Assembly. The amendments included article 28 (Treasurer) and article 29 (Legal Domicile). A certified German translation is on file.

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 amounted to k€ 307 on 1 January 2007, the time when the legal domicile was transferred from Princeton/USA to Berlin/Germany.

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 institution or association of institutions, or an appropriate agency of its government. At the end of 2012, the IMU had 70 regular members (voting), 10 associate members (non-voting) and 4 affiliate members (non-contributory).

Executive Committee

Since January 2011, the Executive Committee consists of the following persons:

- Ms. Ingrid Daubechies, USA (President)
- Mr. Martin Grötschel, Germany (Secretary)
- Ms. Christiane Rousseau, Canada (Vice-President)
- Mr. Marcelo Viana, Brazil (Vice-President)
- Mr. Manuel de León, Spain (Member-at-Large)

- Mr. Yiming Long, China (Member-at-Large)
- Ms. Cheryl E. Praeger, Australia (Member-at-Large)
- Mr. Vasudevan Srinivas, India (Member-at-Large)
- Mr. John Francis Toland, Great Britain (Member-at-Large)
- Mr. Wendelin Werner, France (Member-at-Large)
- Mr. László Lovász, Hungary (Ex-officio, because he is the former President of the IMU)

Prof. Dr. Alexander Mielke was appointed Treasurer of the IMU at the meeting of the Executive Committee in Perth, Australia on 27 and 28 February 2011.

Reporting Year

The reporting year corresponds to the calendar year.

Reports to members are made annually by dispatching the Bulletin of the IMU as well as through publication on the IMU homepage www.mathunion.org. The next General Assembly of all members will take place in 2014.

General Assembly

The General Assembly resolved the following in August 2010:

- Appointments to various committees and commissions
- Budget for the time between 2011 and 2014
- Amendments to the IMU Statutes (see “Statutes”)
- Increase in member contributions
- The next General Assembly will take place in 2014 in Gyeongju/Republic of Korea.

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, no tax assessment notifications had been issued for the Association, which has had its legal domicile in Germany since 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 on 4 May 2007. This was done upon the instruction of the Senatsverwaltung für Finanzen, Berlin, before it issued a notice of exemption for 2007 and 2008 on 9 June 2009.

On 28 November 2012 it issued a notice of exemption for 2009 to 2011 in which the current income of the IMU is exempt from corporate and trade tax. In addition, revenue from capital of the IMU is not subject to withholding tax on capital up to 31 December 2016. The IMU is entitled to issue donation confirmations.

[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 therefore 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 the 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 - especially 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 statement (long-form 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 Mängel [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*

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 also exists in relation to a uniform damage arising from a number of breaches 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 on a source of error of 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.

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 Wirtschaftsprüfer's 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 Wirtschaftsprüfer, on a timely basis, all supporting documents and records - especially tax assessments - material to meeting the deadlines, so that the Wirtschaftsprüfer 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 legal decisions and administrative interpretations into account.

- (4) If the Wirtschaftsprüfer receives a fixed fee for continuous tax advice, in 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 prerequisites 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 in 2012 to the IMU Special Development Fund and the Fund to foster mathematics research and scholarship in developing countries.

American Mathematical Society	EUR 13,094,58
London Mathematical Society	EUR 4,073.42
Unione Matematica Italiana	EUR 2,119.00
<i>Total</i>	<i>EUR 19,287.00</i>

13. The IMU Secretariat

Since 2011, the International Mathematical Union has a permanent secretariat at Weierstrass Institute in Berlin (<http://www.wias-berlin.de/imu/index.jsp>). The IMU archive is also hosted here. The IMU Secretariat is supported by a grant of about half a million euros per year provided by the German Federal Ministry of Education and Research (BMBF) and the Berlin Senate.

IMU Secretariat staff

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14. IMU Bank accounts

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Berliner Bank

Niederlassung der Deutsche Bank Privat- und Geschäftskunden AG

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BIC (SWIFT) code: DEUTDEDB110

<u>CHF transfer</u> to account No.:	<u>EUR transfer</u> to account No.:	<u>USD transfer</u> to account No.:
IBAN code:	IBAN code:	IBAN code:
DE58100708480511391501	DE85100708480511391500	DE85100708480511391500

15. Impressum

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