## **IMU**

# **BULLETIN OF THE**

# INTERNATIONAL MATHEMATICAL UNION

No. 64

**July 2014** 

# **Secretariat:**

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

http://www.mathunion.org

Dear Members of the International Mathematical Union,

This Bulletin together with its Appendices I and II includes the supporting material for the General Assembly (GA) of IMU which will take place on August 10-11, 2014 in Gyeongju, Korea.

Further information on the General Assembly is available at:

http://www.icm2014.org/en/events/imu/imuga2014.

All documents that are relevant for the General Assembly are available for download at:

http://www.mathunion.org/GA2014/.

For this password protected Web site the user name and the password have been provided by the IMU Secretary.

The narrative reports by the EC, ICMI, CDE, ICHM, and CEIC cover, in principle, the period 2011–2014 whereas financial reports are for the years 2010–2013.

This Bulletin will not be distributed at the GA in printed form but will only be electronically available. Those who prefer to have a print copy are asked to download the document and bring it along to the GA.

with best wishes

Martin Grötschel IMU Secretary

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## Contents of Bulletin No. 64, Appendix I:

## **Selected Documents**

- 1. GA Committees 2014
- 2. Resolutions proposals
- 3. Evaluation of Individuals
- 4. Guidelines for Joint Commissions
- 5. GA Guidelines
- 6. ICM Bidding Guidelines
- 7. Guidelines for Handling Conflicts of Interest
- 8. Archiving Guidelines
- 9. IMU Membership Guidelines

# Contents of Bulletin No. 64, Appendix II:

## **General Information Material**

- 1. IMU Booklet 2014
- 2. The IMU in the Developing Word, White paper 2014
- 3. Bringing ICM to Rio de Janeiro

## 1. Agenda of the 17th IMU General Assembly

# 17<sup>th</sup> General Assembly of the International Mathematical Union August 10-11, 2014 Gyeongju, Korea - Hotel Hyundai

## **AGENDA**

## SUNDAY, AUG. 10

08:15 – 09:00 Group photo, Convention Hall (B1F), Hyundai Hotel, Artificial Waterfall 09:00 – 10:30 GA meeting, 1<sup>st</sup> session

- 1. Opening of the 16th General Assembly (I. Daubechies)
  - 1.1. Welcome (I. Daubechies and local hosts)
  - 1.2. Approval of agenda and guide through the GA documents (M. Grötschel)
  - 1.3. Countries in arrears: Decision on voting rights (M. Grötschel), Bulletin 64, No. 3.3
- 2. Appointment of the following Subcommittees, Bulletin 64, App I, No. 1
  - 2.1. Credentials Committee (C. Praeger)
  - 2.2. Finance and Dues Committee (M. de León)
  - 2.3. Election Committee (R. Piene)
  - 2.4. Resolutions Committee (C. Rousseau)
  - 2.5. Tellers Committee (Y. Long)
- 3. Review of the activities of the Union
  - 3.1. Overview on Union activities (report of the IMU EC) (I. Daubechies, M. Grötschel), *Bulletin 64, No. 2.1, 2.2., 4.1; Bulletin 64, App II, No. 1*
  - 3.2. IMU Circle (C. Rousseau)
  - 3.3. CDC presentation, including introduction of MENAO (S. Kesavan), *Bulletin 64*, *No. 4.3, 4.3.1; Bulletin 64, App II, No. 2*

## 10:30 - 11:00 Coffee/tea break

## 11:00 – 12:30 GA meeting, 2<sup>nd</sup> session

- 4. IMU Awards
  - 4.1. Review of Fields Medals rules (L. Lovász)
  - 4.2. Making IMU Prize winners public (L. Lovász), Bulletin 64, App I, No. 2 (D)
  - 4.3. Leelavati and Ramanujan Prizes (V. Srinivas)
  - 4.4. Overview of award selection procedures (M. Grötschel)
- 5. Diversity in excellence in IMU activity (UK proposal) (T. Lyons), *Bulletin 64*, *App I*, *No. 2 (A)*
- 6. Recommendation "Evaluation of individual researchers in the mathematical sciences" (W. Werner), *Bulletin 64*, *App I, No. 3*

#### 12:30 - 13:50 Lunch

# 13:50 – 15:45 GA meeting, 3<sup>rd</sup> session

- 7. Review of the activities of the Union (cont'd)
  - 7.1. CEIC presentation, WDML, CEIC Terms of Reference 2015-2018 (P. Olver), *Bulletin 64, No. 4.5., 4.5.1*
  - 7.2. ICMI overview (F. Arzarello), Bulletin 64, No. 4.2
  - 7.3. ICHM aspects and Joint Committee Guidelines (C. Praeger), *Bulletin 64*, *App I*, *No. 2 (B), 4; Bulletin 64, No. 4.4*
  - 7.4. Presentation of the GA, ICM Bidding, Handling Conflicts of Interest, Archiving, and IMU Membership Guidelines (M. Grötschel), *Bulletin 64*, *App I*, *No. 5*, *6*, *7*, *8*,
  - 7.5. IMU finances/dues (A. Mielke), *Bulletin 64, No. 3*7.5.1. presentation of the proposal on reserves, *Bulletin 64, App I, No. 2 (C)*

### 15:45 - 16:15 Coffee/tea break

## **16:15 – 18:15 GA meeting, 4<sup>th</sup> session**

- 8. Nominating Committee (R. Piene)
  - 8.1. Introduction of the Nominating Committee, explanation of the nominating process
  - 8.2. Presentation of slates proposed by the Nominating Committee, Bulletin 64, No. 2.5
    - 8.2.1. IMU President
    - 8.2.2. IMU Secretary
    - 8.2.3. IMU Vice Presidents and IMU EC Members-at-Large
    - 8.2.4. President, Secretaries and Members-at-Large of CDC
    - 8.2.5. IMU Representatives to ICHM
  - 8.3. Very brief presentations of the nominated persons present at the GA
  - 8.4. Nominations from the floor
  - 8.5. Changes of the timeline of the nomination process (item 4. of the Procedures for the Election ...) (I. Daubechies)
- 9. Office Committee report and discussion (J. Toland), Bulletin 64, No. 4.8

#### Subcommittee meetings in the evening by individual appointment

19:00 – 21:30 Gala Dinner at Gyeongju Hyundai Hotel, hosted by the Local Organizing Committee and supported by the provincial government, Gyeongsankbuk-do

### MONDAY, AUG. 11

- 08:30 09:30 Subcommittee sessions
- 09:30 11:00 GA meeting, 5<sup>th</sup> session
- 10. Presentation of the Election Committee's proposals and Elections (Chair of the Election Committee)
  - 10.1. Executive Committee (EC) of IMU
  - 10.2. Commission for Developing Countries (CDC)
  - 10.3. International Commission on the History of Mathematics (ICHM)
  - 10.4. Election of the 2015-2018 EC, CDC, and ICHM officers
- 11. Finance and Dues Committee (Chair of the Finance and Dues Committee)
- 12. Balloting on 10. and 11. (written) (Chair of the Tellers Committee)
- 13. ICM 2014
  - 13.1. Report of the ICM 2014 Program Committee (C. Kenig)

### 13.2. Report of the ICM-EOC (H. Park)

### 11:00 - 11:30 Coffee/tea break

## 11:30-13:30 GA meeting, $6^{th}$ session

- 14. Affiliate IMU Members and IMU related Organizations
  - 14.1. ICSU (J. Ball)
  - 14.2. ICSU-IMU relations (e.g., ROLAC, ROAP, ROA) (M. de León)
  - 14.3. ICIAM (R. Jeltsch)
  - 14.4. AMU (D. Makinde)
  - 14.5. EMS (M. Sanz-Solé, J. Kramer)
  - 14.6. SEAMS (E. Tri Baskoro)
  - 14.7. UMALCA (J. Seade)
  - 14.8. Friends of IMU (I. Daubechies)
  - 14.9. MPE 2013 (C. Rousseau)
- 15. Presentation of Resolutions Committee (Chair of the Resolutions Committee)

#### 13:30 - 14:30 Lunch

## 14:30 – 16:40 GA meeting, 7<sup>th</sup> session

- 16. Ballot results of Elections, Finance and Dues voting (Chair of the Tellers Committee, I. Daubechies)
- 17. Resolutions balloting (Chair of the Resolutions Committee)
- 18. ICM 2018
  - 18.1. IMU EC Site Recommendation for ICM 2018 (M. Grötschel), Bulletin 64, No. 4.7
  - 18.2. Presentation of the Committee for Rio de Janeiro ICM 2018 (M. Viana), *Bulletin* 64, App II, No. 3
  - 18.3. Location of ICM 2018 balloting (Chair of the Tellers Committee)
  - 18.4. Meeting of the 18th IMU General Assembly (M. Viana)
  - 18.5. ICM 2022, invitation to announce interest to bid
- 19. IMU Membership, Bulletin 64, No. 2.3, 2.4
  - 19.1. New Members (M. Grötschel)
  - 19.2. Group changes (M. Grötschel)
  - 19.3. Applications for Membership/Associate Membership,
    Presentations of new members (Representatives of applicants), *Bulletin 64, No. 2.6*
  - 19.4. Membership applications balloting (Chair of the Tellers Committee): Papua New Guinea, Senegal
- 20. Miscellaneous (I. Daubechies)
- 21. Any other item with the permission of the President (I. Daubechies)

## 17:10 Meeting Time for Farewell Dinner, Lobby of Hyundai Hotel

17:30 Depart Time for Short guided tour for the Cheomseongdai and the Daereungwon before the Farewell dinner, busses leave from Hyundai Hotel

19:00 – 21:30 Farewell Dinner at Gyeongju East Palace Garden, hosted by the Local Organizing Committee and supported by Gyeongju City

## 2. IMU leadership and membership information

## **2.1.Executive Committee 2011-2014**

### 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 (Switzerland)

Ex-officio Member

(Past President)

László Lovász (Hungary)

## **Meetings of the Executive Committee 2011-2014:**

81st EC Meeting, Perth, Australia, February 27-28, 2011

82<sup>nd</sup> EC Meeting, Rio de Janeiro, Brazil, April 22-23, 2012

83<sup>rd</sup> EC Meeting, Berlin, Germany, March 11-12, 2013

84<sup>th</sup> EC Meeting, Princeton, USA, March 8-9, 2014

85<sup>th</sup> EC Meeting, Gyeongju, Korea, August 9, 2014

# 2.2.IMU Leadership 2011 - 2014

## **IMU EXECUTIVE COMMITTEE (EC)**

January 1, 2011 - December 31, 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)

January 1, 2011 - December 31, 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 MATHEMATICAL INSTRUCTION (ICMI)

January 1, 2010 - December 31, 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 Mombon et Longo	Italy:
Marioilla Dartoilli Dussi	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

<sup>\*</sup> The transition process according to the changed election model ended in 2012, four-year terms of service started in 2013.

## January 1, 2013 - December 31, 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

<sup>\*\*</sup> Elected at the ICMI General Assembly meeting, August 8, 2012, Seoul, Korea.

# COMMITTEE ON ELECTRONIC INFORMATION AND COMMUNICATION (CEIC)

July 1, 2008 – December 31, 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

<sup>\*\*\*</sup> CEIC terms of membership are staggered. Starting 2013, CEIC membership is 8 persons.

# INTERNATIONAL COMMISSION ON THE HISTORY OF MATHEMATICS (ICHM)

January 1, 2011 - December 31, 2014

Jesper Lützen ICHM Denmark Kim Plofker ICHM USA

## 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

## 2.3. Members of the Union

The following 81 countries are members of IMU:

	8		
Group I	Algeria	Armenia	Bosnia & Herzegovina
	Bulgaria	Cameroon	Colombia
	Croatia	Cuba	Ecuador
	Estonia	Georgia	Greece
	Hong Kong	Iceland	Indonesia
	<b>Ivory Coast</b>	Kazakhstan	Latvia
	Lithuania	Montenegro	New Zealand
	Nigeria	Pakistan	Peru
	Philippines	Romania	Saudi Arabia
	Serbia	Singapore	Slovenia

	Tunisia Venezuela	Turkey Vietnam	Uruguay
Group II	Austria Egypt Slovakia	Chile Ireland South Africa	Denmark Portugal Ukraine
Group III	Argentina Finland Norway	Belgium Hungary	Czech Republic Mexico
Group IV	Australia Iran Poland Switzerland	Brazil Republic of Korea Spain	India Netherlands Sweden
Group V	Canada Germany Japan United States	China Israel Russia	France Italy United Kingdom
Associate Membership	Cambodia Kyrgyzstan Moldova Thailand	Gabon Madagascar Nepal	Kenya Malaysia Oman

The following 4 organizations are members of IMU:

African Mathematical Union (AMU) **Affiliate** European Mathematical Society (EMS) South East Asian Mathematical Society (SEAMS) Membership

Unión Matemática de América Latina y el Caribe (UMALCA)

# 2.4. Adhering Organizations and votes

<b>Member Country</b>	Adhering Organization	Votes
Algeria <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Société Mathématique d'Algérie /members/countries/list/sorted-by-names/algeria/	1
Argentina <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Unión Matemática Argentina /members/countries/list/sorted-by-names/argentina/	3
Armenia http://www.mathunion.org	Institute of Mathematics, National Academy of Sciences of RA /members/countries/list/sorted-by-names/armenia/	1
Australia <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Australian Academy of Science /members/countries/list/sorted-by-names/australia/	4
Austria <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Austrian Academy of Sciences /members/countries/list/sorted-by-names/austria/	2
Belgium  http://www.mathunion.org	The Royal Academies for Science and the Arts of Belgium /members/countries/list/sorted-by-names/belgium/	3
Bosnia&Herzegovina <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Bosnian Mathematical Society /members/countries/list/sorted-by-names/bosnia-and-herz	1 egovina/
Brazil <a href="http://www.mathunion.org/m">http://www.mathunion.org/m</a>	Sociedade Brasileira de Matemática embers/countries/list/sorted-by-names/brazil/	4
Bulgaria <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Bulgarian Academy of Sciences /members/countries/list/sorted-by-names/bulgaria/	1
Cambodia <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Cambodian Mathematical Society /members/countries/list/sorted-by-names/cambodia/	0
Cameroon <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Société Mathématique Camerounaise /members/countries/list/sorted-by-names/cameroon/	1
Canada <a href="http://www.mathunion.org">http://www.mathunion.org</a>	National Research Council of Canada /members/countries/list/sorted-by-names/canada/	5
Chile	Sociedad de Matemática de Chile	2

# $\underline{http://www.mathunion.org/members/countries/list/sorted-by-names/chile/}$

China	Chinese Mathematical Society	3
	Mathematical Society located in Taipei, China	2
http://www.mathunion.org	/members/countries/list/sorted-by-names/china/	
Colombia	Sociedad Colombiana de Matemáticas	1
	/members/countries/list/sorted-by-names/colombia/	-
	•	
Croatia	Croatian Mathematical Society	1
http://www.mathunion.org	/members/countries/list/sorted-by-names/croatia/	
Cuba	Universidad de la Habana	1
	/members/countries/list/sorted-by-names/cuba/	1
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Czech Republic	Academy of Sciences of the Czech Republic	3
http://www.mathunion.org	/members/countries/list/sorted-by-names/czech-republic/	
Denmark	Det Kongelige Danske Videnskabernes Selskab	2
http://www.mathunion.org	<u>//members/countries/list/sorted-by-names/denmark/</u>	
Ecuador	Sociedad Ecuatoriana de Matemática	1
	nembers/countries/list/sorted-by-names/ecuador/	1
<u></u>	The state of the s	
Egypt	Academy of Scientific Research and Technology	2
http://www.mathunion.org	/members/countries/list/sorted-by-names/egypt/	
Estonia	Estonian Academy of Sciences	1
http://www.mathunion.org	<u>//members/countries/list/sorted-by-names/estonia/</u>	
Finland	Council of Finnish Academies	3
	/members/countries/list/sorted-by-names/finland/	3
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France	Académie des Sciences	5
http://www.mathunion.org	/members/countries/list/sorted-by-names/france/	
Gabon	Gabon Mathematical Society	0
http://www.mathunion.org	/members/countries/list/sorted-by-names/gabon-associate-me	mber
Georgia	Georgian Mathematical Union	1
- C	//members/countries/list/sorted-by-names/georgia/	•
	y mente of the contract of the	
Germany	Deutsche Mathematiker-Vereinigung	5
http://www.mathunion.org	/members/countries/list/sorted-by-names/germany/	
_		
Greece	Academy of Athens	1

# $\underline{http://www.mathunion.org/members/countries/list/sorted-by-names/greece/}$

Hong Kong http://www.mathunion.	The Hong Kong Mathematical Society org/members/countries/list/sorted-by-names/hong-kong/	1
Hungary http://www.mathunion.	J. Bolyai Mathematical Society org/members/countries/list/sorted-by-names/hungary/	3
Iceland http://www.mathunion.	Icelandic Mathematical Society org/members/countries/list/sorted-by-names/iceland/	1
India http://www.mathunion.	Indian National Science Academy org/members/countries/list/sorted-by-names/india/	4
Indonesia http://www.mathunion.	The Indonesian Mathematical Society org/members/countries/list/sorted-by-names/indonesia/	1
Iran http://www.mathunion.	Iranian Mathematical Society org/members/countries/list/sorted-by-names/iran/	4
Ireland http://www.mathunion.	The Royal Irish Academy org/members/countries/list/sorted-by-names/ireland/	2
Israel http://www.mathunion.	Israel Academy of Sciences and Humanities org/members/countries/list/sorted-by-names/israel/	5
Italy  http://www.mothunion	Istituto Nazionale di Alta Matematica "Francesco Severi"	5
Ivory Coast	Societé Mathematique de Cote d'Ivoire  org/members/countries/list/sorted-by-names/ivory-coast/	1
Japan http://www.mathunion.	Science Council of Japan org/members/countries/list/sorted-by-names/japan/	5
Kazakhstan http://www.mathunion.	Center of Physical and Mathematical Researches org/members/countries/list/sorted-by-names/kazakhstan/	1
Kenya http://www.mathunion.	Mathematics Association of Kenya org/members/countries/list/sorted-by-names/kenya/	0
Korea, Rep. of <a href="http://www.mathunion.">http://www.mathunion.</a>	Korean Mathematical Society org/members/countries/list/sorted-by-names/korea-republic-of/	4
Kyrgyzstan	Mathematical Society of Kyrgyzstan	0

http://www.mathunion.org/r	members/countries/list/sorted-by-names/kyrgyzstan-associate-1	member/
Latvia http://www.mathunion.or	Latvijas Matematikas Society g/members/countries/list/sorted-by-names/latvia/	1
Lithuania	Lithuanian Mathematical Society g/members/countries/list/sorted-by-names/lithuania/	1
Madagascar http://www.mathunion.or	Malagasy Mathematical Society g/members/countries/list/sorted-by-names/madagascar-as	0 sociate-
member/ Malaysia http://www.mathunion.or	The Malaysian Academy of Mathematical Scientists g/members/countries/list/sorted-by-names/malaysia-assoc	0 ciate-member/
Mexico http://www.mathunion.or	Sociedad Matemática Mexicana g/members/countries/list/sorted-by-names/mexico/	3
Moldova http://www.mathunion.or	Mathematical Society of the Republic of Moldova g/members/countries/list/sorted-by-names/moldova/	0
Montenegro <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Society of Mathematicians and Physicists of Montenegro g/members/countries/list/sorted-by-names/montenegro/	1
Netherlands http://www.mathunion.or	Het Koninklijk Wiskundig Genootschap g/members/countries/list/sorted-by-names/netherlands/	4
Nepal <a href="http://www.mathunion.org">http://www.mathunion.org</a>	Nepal Mathematical Society g/members/countries/list/sorted-by-names/nepal/	0
New Zealand http://www.mathunion.or	The Royal Society of New Zealand g/members/countries/list/sorted-by-names/new-zealand/	1
Nigeria http://www.mathunion.or	Mathematical Association of Nigeria g/members/countries/list/sorted-by-names/nigeria/	1
Norway http://www.mathunion.or	The Norwegian Academy of Science and Letters g/members/countries/list/sorted-by-names/norway/	3
Oman http://www.mathunion.or	Sultan Qaboos University g/members/countries/list/sorted-by-names/oman/	0
Pakistan http://www.mathunion.or	The Pakistan Academy of Sciences g/members/countries/list/sorted-by-names/pakistan/	1
Peru http://www.mathunion.or	Sociedad Peruana de Matematica g/members/countries/list/sorted-by-names/peru/	1

Philippines	National Research Council of the Philippines	1
http://www.mathunic	on.org/members/countries/list/sorted-by-names/philippines/	
Poland	Polish Academy of Sciences, Inst. Math.	4
http://www.mathunic	on.org/members/countries/list/sorted-by-names/poland/	
D. A I	Francis Ciancia Translacia	2
Portugal	Fundação para a Ciência e Tecnologia on.org/members/countries/list/sorted-by-names/portugal/	2
nup.//www.mamume	on:org/memoers/countries/nst/sorted-by-names/portugal/	
Romania	Romanian Academy	1
http://www.mathunio	on.org/members/countries/list/sorted-by-names/romania/	
Russia	Russian Academy of Sciences	5
	on.org/members/countries/list/sorted-by-names/russia/	J
integrit www.internation	mong memoris countries not solice by manes, russia	
Saudi Arabia	King Abdulaziz City for Science and Technology	1
http://www.mathunic	on.org/members/countries/list/sorted-by-names/saudi-arabia/	
Serbia	Mathematical Society of Serbia	1
	on.org/members/countries/list/sorted-by-names/serbia/	1
ittp://www.mathame	memoers/ countries/ hist softed by hames/ softed	
Singapore	Singapore Mathematical Society	1
http://www.mathunic	on.org/members/countries/list/sorted-by-names/singapore/	
Slovakia	Union of Slovak Mathematicians and Physicists	2
http://www.mathunio	on.org/members/countries/list/sorted-by-names/slovakia/	
~.		
Slovenia	Drustvo Matematikov, Fizikov in Astronomov Slovenije	1
http://www.mathunic	on.org/members/countries/list/sorted-by-names/slovenia/	
	<del>-</del>	
South Africa	National Research Foundation	2
http://www.mathunio	on.org/members/countries/list/sorted-by-names/south-africa/	
Spain	Subdirección General de Relaciones Internacionales	4
Spani.	y con Europa, Ministerio de Economía y	·
	Competitividad	
http://www.mathunic	on.org/members/countries/list/sorted-by-names/spain/	
Sweden	The Royal Swedish Academy of Sciences	4
	on.org/members/countries/list/sorted-by-names/sweden/	•
Switzerland	Swiss Mathematical Society	4
http://www.mathunic	on.org/members/countries/list/sorted-by-names/switzerland/	
Thailand	Mathematical Association of Thailand	0
- HUHUHU	Maniemania i i i i i i i i i i i i i i i i i i	J

1 Tunisia Societé Mathématique de Tunisie http://www.mathunion.org/members/countries/list/sorted-by-names/tunisia/ Turk Matematik Denergi 1 **Turkey** http://www.mathunion.org/members/countries/list/sorted-by-names/turkey/ Ukraine Ukrainian Mathematical Society 2 http://www.mathunion.org/members/countries/list/sorted-by-names/ukraine/ **United Kingdom London Mathematical Society** 5 http://www.mathunion.org/members/countries/list/sorted-by-names/united-kingdom/ **United States of** U.S. National Academy of Sciences 5 America http://www.mathunion.org/members/countries/list/sorted-by-names/united-states-of-america/ Sociedad Uruguaya de Matemática y Estadística 1 Uruguay http://www.mathunion.org/members/countries/list/sorted-by-names/uruguay/ Asociación Venezolana de Matemáticas 1 Venezuela http://www.mathunion.org/members/countries/list/sorted-by-names/venezuela/ Vietnam Vietnam Mathematical Society 1 http://www.mathunion.org/members/countries/list/sorted-by-names/vietnam/

http://www.mathunion.org/members/countries/list/sorted-by-names/thailand/

#### **2.5. Slates**

#### At the URL:

http://www.mathunion.org/GA2014/

applying the user name and password provided by the Secretary the

Slates for the General Assembly

can be viewed.

## 2.6. Applications for IMU membership

## 2.6.1. Papua New Guinea's application for Associate Membership





President: Dr. Samuel J.L. Kopamu University of Goroka P O Box 1078, Goroka, EHP, Papua New Guinea

Mobile: (+675) 76962696 Telephone (+675) Email: samkopamu@gmail.com Secretary General: Dr. Cecilia Nembou Divine Word University P O Box 582, Konedobu, NCD, Papua New Guinea

Mobile: (+675) 72142619 Telephone: (+675) 3257598 Email: cnembou@gmail.com

April 30, 2014

The Secretary
International Mathematical Union (IMU)
Email: secretary@mathunion.org

Dear Prof. Martin Groetschel

#### RE APPLICATION OF PNG MATHEMATICAL SOCIETY FOR IMU ASSOCIATE MEMBERSHIP

Papua New Guinea is a developing island country of the South Pacific, located just north of Australia and shares border with Indonesia. For this country, access to science, technology and mathematics stands as a national priority, under the Vision 2050 of the national government.

On behalf of the Papua New Guinea Mathematical Society (PNGMS), I, Dr. Samuel Kopamu, the founding President of the PNGMS, I would like to apply for the admission of PNGMS as an associate member of the International Mathematical Union (IMU).

Would you please find below the

#### Description of the state of mathematics in Papua New Guinea

There are six universities in the country of which four are state owned and two are privately owned. The Pacific Adventist University (PAU), located in Port Moresby, and the Divine Word University, located in Madang, are the two privately owned universities. While these private universities do not offer undergraduate degree programs in mathematics, they do however teach considerable mathematics courses relevant for other degree programs they offer.

The first and largest state university is the University of Papua New Guinea, located also in Port Moresby in the nation's capital. Undergraduate and postgraduate degree programs are offered in mathematics are offered there.

The University of Technology is the second oldest and the second largest, and being a university of technology, a lot of applied mathematics is taught at undergraduate level.

The University of Goroka is located in the Highlands and specializes in education and teacher training courses, while the University of Vudal located near Rabaul specializes in natural resource development.

There are three national PhD holders in mathematics currently serving in the country, with possibly another three PhD holders in mathematics education. All of them did their PhD studies overseas, and exactly one non-national completed his Phd studies at the University of PNG. There are at least ten PhD holders in mathematics serving in the country both nationals and expatriate, and another 10 people who are Master's degree holders in mathematics.

There are no regular monthly meetings or weekly seminars in mathematics. Mathematical research has been individual effort, but with the formation of the PNG Mathematical Society we are looking forward to increasing both collaboration and mathematical activity.

The first International Conference on Pure and Applied Mathematics (ICPAM-LAE 2013) was held at University of Technology, attracted international mathematicians numbering about 30 from 20 countries. It was organized by Professor Kenneth Nwabuze, and that conference led to the formation of the PNG Mathematical Society. Prominent mathematicians who attended the inauguration ceremony of PNGMS included Professor Claude Leveque, Professor Aderemi Kuku and the Secretary General Professor O.D. Makinde of the African Mathematical Union.

Our next first International Conference on Pure and Applied Mathematics (ICPAM-GOROKA 2014) will be held between 24<sup>th</sup> -28<sup>th</sup> November 2014. It is currently being advertised at the following AMS and EMS websites:

http://www.ams.org/meetings/calendar/2014 nov24-28 papua.html

http://www.euro-math-soc.eu/node/4640

<u>Please find below further details about mathematics education and research in Papua New</u> Guinea

#### PNG Mathematical Society

- -Created in 2013
- Currently in the process of incorporated PNGMS as an association under the Company's Act.
- -President founder: Dr. Samuel Kopamu
- -Number of Members: 50

#### • Institutions in which research mathematics happens: 6

- -University of PNG
- -PNG University of Technology
- -University of Goroka
- -Divine Word University
- -Pacific Adventist University
- -University of Vudal

#### · Number of research publications per year produced recently

2013 5 papers

2012 3 papers

As a developing country, there are a lot of impediments to students and researchers in Papua New Guine to obtaining the kind of education and research they need. We hope that the acceptance of our application for IMU associate membership will be a great opportunity for us to interact with mathematicians of the world.

Yours sincerely,

Dr. Samuel Kopamu

President,

PNG Mathematical Society,

E-mail: <a href="mailto:samkopamu@gmail.com">samkopamu@gmail.com</a>



## **ICPAM-GOROKA 2014**

# INTERNATIONAL CONFERENCE ON PURE AND APPLIED MATHEMATICS

Eastern Highlands Province, Papua New Guinea

24 -28 NOVEMBER 2014

University of Goroka

"Contemporary Developments in the Mathematical Sciences as Tools for Scientific and Technological Transformation of Papua New Guinea"



## FIRST ANNOUNCEMENT

ICPAM-GOROKA 2014, aims at bringing together experts in different fields of pure and applied mathematics, as well as researchers, undergraduates and postgraduate students from around the world to discuss mathematical questions, exchange high level knowledge of methods and investigate diverse applications of Pure and Applied Mathematics to astronomy, biology, business, banking, chemistry, computer science, education, engineering, geosciences, health care, medicine, physics, security, the military, etc. Academia and industries are invited to participate.

#### PUBLIC LECTURES (Yet to be confirmed) BY:

Fred Van Oystaeyen (Universiteit Antwerpen, BELGIUM)

Jean-Pierre Serre (Centre National de la Recherche Scientifique Collège de France, FRANCE)

Barry Mazur (Harvard University, USA)

INVITED SPEAKERS: Adewale Solarin (National Mathematical Centre, Abuja, NIGERIA); Samuel J.L. Kopamu (University of Goroka, PNG); Aderemi O. Kuku (Grambling State University, USA); Omar Kihel (Broke University, St Catherines, CANADA); Stefaan Caenpeel (Vrije Universiteit Brussel, BELGIUM); Michel Waldschmidt (Universite Pierre et Marie Curie, FRANCE); Claude Levesque (Universite Laval, CANADA); Cecilia Nembou (Divine Word University, PNG); Henri Darmon (Mcgill University, CANADA); Kenneth K. Nwabueze (University of Papua New Guinea, PNG); David Easdown (Sydney University, AUSTRALIA); K.P Shum (The Chinese University of Hong Kong, HONG KONG); Mikhail V. Volkov (Ural State University, RUSSIA); John C. Meakin (University of Nebraska, USA); Thomas Hall (Monash University, AUSTRALIA); Daniel O. Makinde (Faculty of Military Science, Stellenbosch University, South Africa); Miroslav Kures (Brno University of Technology, CZECH REPUBLIC); Mihail Ursul (PNG University of Technology, PNG); MGM Khan (University of South Pacific, FUI); Stanford Shateyi (Unversity of Venda, SOUTH AFRICA); Yinhuo Zhang (university of Hasselt, BELGIUM); Sergey Sekatskii (Ecole Polytechique Federale de Lausanine, SWITZERLAND); Surindar Uppal (Jomo Kenyatta University of Agriculture and Technology, KENYA); Josef Slapal (Brno University of Technology, CZECH REPUBLIC); Walter Roth (University of Brunei, BRUNEI); Michal Cerny (University of Economics, Prague, CZECH REPUBLIC); Jian-Jun Shu (Nanyang Technological University, SINGAPORE); Adam Gillard (Pacific Adventist University, PNG); Milan Hladik (University of Economics, Prague, CZECH REPUBLIC); Kay Owens (Charles Sturt University, AUSTRALIA)

CALL FOR PAPERS: Original research papers from postgraduate students, research scholars, academics, scientists, engineers, medical practitioners, etc, in the field of mathematics, and disciplines related to the conference theme are invited for presentation at the Conference.

CALL FOR SPONSORS AND EXHIBITORS: Space for expositions will be available at the conference venue for publishers, and other companies. We invite corporate and institutional sponsorship. Sponsors will receive: space for demonstration or exhibition, free conference registration, free conference programme booklet, and free events. Furthermore, the name and the logo of the company will be in the final program and in the web page with indication of the level of sponsorship.

REGISTRATION FEE: Regular registration fee until October, 10, 2014 will be USD300 for international participants and K400 (PNG Kina) for PNG participants. From October 11, 2014 the registration fee for international participants will be USD350 for international participants and K600 (PNG Kina) for PNG participants. There will be a reduced fee for students. The registration fee will cover admittance to the conference, conference facilities, conference program booklet, refreshments and any scheduled reception or banquet during the conference.

SOCIAL PROGRAMME: Social and cultural programmes, promoting informal contacts between participants and the rich cultural heritage of Papua New Guinea will be important components of conference activities. Welcome reception, conference tour, and banquet are planned.

#### IMPORTANT DATES AND DEADLINES

Deadline for Submission of Abstracts: 30 July 2014
Notification of Acceptance of Abstracts: 29 August 2014
Notification of Acceptance of Papers for Presentation & Publication in Proceedings: 10 October 2014

Deadline Early Bird Registration: 10 October 2014

For more information visit www.uog.ac.pg or write to: DR. SAMUEL KOPAMU,

Chairperson, ICPAM-GOROKA (2014) University of Goroka,

P O Box 1078 | Goroka 441 | EHP | Papua New Guinea. **E-mail**: samkopamu@gmail.com



## 2.6.2. Senegal's application for Associate Membership

# Associate Membership Application to the International Mathematical Union

«Société Mathématique du Sénégal (SMS)» Senegalese Mathematical Society

PROF. DR. MARTIN GRÖTSCHEL IMU SECRETARY INTERNATIONAL MATHEMATICAL UNION

Dear Prof. Grötschel,

On behalf the Senegalese Mathematical Society, I hereby submit the application of Senegal to become an associate of the International Mathematical Union. The mathematical community in Senegal is increasing in size and the activities organized have shown a very positive evolution during the last years, as it can be seen in the annex document.

We strongly believe that, starting with an associate membership, will reinforce the current development, give an important impulse to mathematics in Senegal and other sub-Saharan countries.

With best regards,

The President,

Professor Mamadou Sanghare

# Associate Membership Application to the International Mathematical Union

\*\*\*\*\*\*

# «Société Mathématique du Sénégal (SMS)» Senegalese Mathematical Society

\*\*\*\*\*\*

## Short history

The beginning of the academic mathematics history in Senegal goes back to the year 1957, when the first University Cheikh Anta Diop of Dakar (UCAD) was founded by the French colonial administration. It is one of the oldest francophone universities in West Africa and it is among the most prestigious. Its initial academic activities (teaching and academic program) were coordinated by the French administration until the year 1970.

The first Senegalese researchers who published their first papers (in the 1960's) did their undergraduate, graduate and postgraduate studies in universities in France. Many of them returned back to Senegal, after obtaining their PhD degrees, and were hired in the only existing university at that time, UCAD. It should be noted that these Senegalese shared the mathematics department with French Mathematicians at UCAD who occupied the strategic positions until the 1970<sup>th</sup>. A new generation of Senegalese mathematicians—emerged as descendents of the aforementioned group who build up their own research groups and, taking advantages to globalizations of sciences, they collaborate with several laboratories worldwide. Now Senegal counts 5 universities with a Mathematics department each and 2 institutes with branches in mathematics. The oldest after UCAD is the "Université Gaston Berger" (UGB) of Saint-Louis founded in 1990. Originally, it was reserved to the best students in Senegal and was intended to boost applied sciences. The 3 other universities founded in 2007 are in their beginning and right now running master programs in pure and applied mathematics.

## Achievements

The following table contains the overall number of permanent members in mathematics faculty department at the Senegalese universities and institutions.

Universities/ Institutions	Number of permanent members
UCAD	40
UGB	14
University Assane Seck of Ziguinchor (UASZ)	11
University Alioune Diop of Bambey (UADB)	9
University of Thiès and the Polytechnic School	6
Faculté des Sciences et Technologies de l'Education et de la Formation (FASTEF)	9
African Institute for Mathematical Sciences in Senegal (AIMS Senegal):	4

There are two doctoral schools in Mathematical Sciences in UCAD (in 2008) and UGB (in 2012) created by Senegalese nationals with more than 80 PhD students in total. Each doctoral school is constituted by several research laboratories in mathematics and their applications:

- In UCAD: Laboratoire D'algèbre, De Cryptologie, De Géométrie Algébrique Et Applications (LACGAA); Laboratoire de Géométrie et Applications (LGA); Laboratoire de Mathématiques Appliquées (LMA); Laboratoire de Mathématiques de la Décision et d'Analyse Numérique (LMDAN).
- In UGB: Laboratoire d'Analyse Numérique et d'Informatique (LANI);
   Laboratoire d'Etudes et de Recherches en Statistiques et Développement (LERSTAD).
   Since their implementations, more than 25 PhD students defended their PhD in mathematics.

The SMS was formed in December 19<sup>th</sup>, 1987 from the initiative of some professors interested in the fostering of mathematics in Senegal. The first President was Pr. Ahmet Seydi from 1987-1998. Then Pr. Mary Teuw Niane became president from 1998 to 2001. In 2001 Pr. Mamadou Sanghare was elected as the president of the Society, a position he occupies until today. In the General Assembly held in 2008, mathematicians from all Senegalese universities became members. Originally, the main goal of the SMS was the improvement of the quality of education in mathematics at all levels countrywide and to provide an environment where Senegalese mathematicians can exchange ideas and devise concrete actions aiming at the enhancement of the general background conditions for both

research and education in mathematics in Senegal. Now it has 93 members and will be opened to high school teachers in mathematics.

Over the last 5 years several international workshops, schools and conferences in mathematical sciences were organized in the country. Most of them were sponsored by national and international organisms such as: the German Exchange Service (DAAD), The Alexander von Humboldt Foundation (AvH), International Center for Pure and Applied Mathematics (ICPAM-CIMPA), International Development Research Centre (IDRC), Simons Foundation, Word Bank, Agence Universitaire de la Francophonie (AUF), International Mathematical Union (IMU), The Senegalese Ministry of High Education Research, International Science Program (ISP), Fondation Sonatel, Institut de Recherche pour le Developpement-Unité de Modélisation Mathématique et Informatique des Systèmes Complexes (IRD-UMMISCO), International Center for Theoretical Physics (ICTP), Simons Foundations, etc. We can cite:

- 1. In 2014: AIMS Senegal (3), UCAD (4), UASZ (1)
- 2. In 2013: AIMS Senegal (3), UCAD (1), UGB (1)
- 3. In 2012: UCAD (2), UASZ (1), UGB (3)
- 4. In 2011: UCAD (3), UGB (1)
- 5. In 2010: UCAD (1), UASZ (1), UGB (2)
- 6. In 2009: UCAD (2)

Research in pure and applied mathematics in Senegal has increased significantly during the recent years and the Senegalese researchers published papers in leading journals with high impact factors such as: SIAM Journal on Control and Optimization, Journal of Mathematical Fluid Mechanics, Communications in Algebra, Nonlinearity, Journal of Functional Analysis, Annales de l'Institut Henri Poincaré, Journal of Mathematical Physics, SIAM Journal on Applied Mathematics, Discrete and Continuous Dynamical Systems. Series A, Journal of Applied Probability, Mathematische Nachrichten, Advances in Geometry, Nonlinear Analysis. Real World Applications, Calculus of Variations and PDEs, etc.

According to the mathscinet databases mathematicians from Senegal have published approximately 544 papers from 2008 to 2014 (only from January to June 2014, we recorded 47 papers). It is dispatched in the following table:

M.S

Year	Number of published papers (from Mathscinet)
2009	82
2010	80
2011	109
2012	112
2013	114

## Perspectives

It is clear from the above achievements how the Senegalese community of mathematicians increases in size and in variety. In the last 15 years strong research partnerships have been initiated. Many of the above laboratories share their master programs and sandwich PhD programs with western laboratories: Canada, France, Germany, Spain, United States, Italy, Sweden, Switzerland, etc. The impact of the Senegalese mathematical school in the sub-Saharan region is immense. In fact several countries in sub-Saharan Africa do not have doctoral programs and many researchers in the sub-Saharan region did their doctoral studies in Senegal (UCAD due to its age and the fact that Dakar was the capital of the French West Africa until the year 1960). For instance, there are agreements between Senegal and each country Chad and the Comoros (without doctoral schools) in which the students from these countries are considered as Senegalese students therefore they can benefit on low registration and subsistence fees.

Besides the individual commitment of Senegalese mathematicians that attract foreign researchers for scientific collaborations, there are other perspectives from:

- The donors: Since the 2008 crisis research funding has decreased. However the Humboldt foundation; German Academic Exchange Service; IDRC (International Development Research Centre); Simons foundation; World Bank; UNESCO-BREDA; IRD; DFID (Department for International Development); Qatar Foundation; Robert Bosch Foundation; AFD (Agence Francaise de Development); AUF (Agence Nationale de la Francophonie), etc. continue the funding of mathematical research activities in the country.
- The politics: The National Consultation for Higher Education recently held and its results approved by the recent Presidential Council on Higher Education convened in August 2013 recommends in this respect that the percentage of the University budgets for research be increased through:
  - 1) Increasing endowment through additional State contribution.
  - 2) The increase of the budgets for research groups and laboratories.

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# 3. Financial Information

# 3.1.Approved membership dues 2011-2014

	Internat	ional Mathematic	al Union	
A	Approved member	ship dues 2011 – 2	014 (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

# 3.2.Approved IMU budget 2011-2014

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

		Inte	ernatio	nal Math	nemati	cal Uni	on					
	Propose	ed new	Budget	for 2011	-2014,	in Swis	s 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												
TOTALINCOME	435.442	87.300	522.742	444.220	87.300	<u>531.520</u>	452.998	87.300	<u>540.298</u>	462.042	87.300	549.34
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	237.92
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			31.407	30.000		31.407	30.000		31.407	30.000	
2.6 ICM related admin., outreach	22.434	30.000		22.434	30.000		22.434	30.000		22.434	30.000	
ICM Expenditure		30.000	128.710		30.000	128.710		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	89.73
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	33.43
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			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	46.16
TOTAL EXPENDITURE			535.976			535.976			535.976			535.97
Draw from Reserves			13.234			4.456			0			
Return to Reserves			0			0			4.322	1		13.36

# **3.3.**Countries in arrears

## **Countries in arrears**

Country	2008	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	CHF	EUR
Algeria				1.531		1.737	3.268	2.687,30
Argentina						5.501	5.501	4.493,59
Armenia						1.737	1.737	1.416,84
Australia						4.053	4.053	3.319,03
Belgium						6.948	6.948	5.667,35
Bosnia & Herzegovina			1.637	1.670	1.703	1.737	6.747	5.510,40
Bulgaria			1.637	1.670	1.703	1.737	6.747	5.510,40
Cameroon		1.605	1.637	1.670	1.703	1.737	8.352	6.591,22
China, CMS Beijing						12.506	12.506	10.201,20
China, Math Soc. Taipei						8.338	8.338	6.800,82
Cuba		1.605	1.637	1.670	1.703	1.737	8.352	6.591,22
Ecuador						1.013	1.013	829,55
Egypt				3.340		3.474	6.814	5.577,38
France						20.844	20.844	17.002,00
Greece				1.670	1.703		3.373	2.782,27
India						13.896	13.896	11.334,70
Iran					6.812	9.843	16.655	13.688,62
Kazakhstan				1.670		1.737	3.407	2.788,69
Latvia				1.670	1.703		3.373	2.782,27
Mexico						2.027	2.027	1.659,92
Montenegro		535	1.637	1.670	1.703	1.737	7.282	5.924,44
Peru	717	1.605	1.637	1.670	1.703	1.737	9.069	7.068,65
Philippines						1.737	1.737	1.416,84
Portugal						3.474	3.474	2.833,67
Russia						20.844	20.844	17.002,00
Saudi Arabia				1.670	1.703	1.737	5.110	4.199,11
Serbia						1.737	1.737	1.416,84
Slovakia					3.406		3.406	2.820,84
Spain				13.360	13.624	13.896	40.880	33.592,90
Ukraine		_			_	3.474	3.474	2.833,67
Venezuela				1.670	1.703	1.737	5.110	4.199,11
Total							246.074	200.542,82

# 3.4.Proposed membership dues 2015 - 2018

	No. of Unit Contributions	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Unit Contribution		1,395 €	1,395 €	1,395€	1,395 €
Group I	1	1,395 €	1,395 €	1,395 €	1,395 €
Group II	2	2,790€	2,790€	2,790€	2,790€
Group III	4	5,580€	5,580€	5,580€	5,580€
Group IV	8	11,160€	11,160€	11,160€	11,160€
Group V	12	16,740€	16,740€	16,740€	16,740€

# 3.5.Proposed budget plan for the term 2015-2018

		lata				I I I I I I						30, 2014
				nal Math								
	Propos	ed new	Budge	t for 201	5-2018	in Ει	ıro (E	JR)		1		
		2015			2016			2017			2018	
	General	Special	Sum									
INCOME												
I. General												
Membership Dues	386.415			386.415			386.415			386.415		
Sum General Income II. Special	386.415			386.415			386.415			386.415		
Special Development Fund		10.000			10,000			10.000			10.000	
Donations		44.000			44.000			44.000			44.000	
Grants												
Sum Special Income from Third Parties		54.000			54.000			54.000			54.000	
Income from IMU bank accounts		1.000			1.000			1.000			1.000	
Other Income		9.600			9.600			9.600			9.600	
Sum Special Income from Other Sources TOTAL INCOME	386.415	10.600 <b>64.600</b>	451.015	386.415	10.600 <b>64.600</b>	451.015	386.415	10.600 <b>64.600</b>	451.015	386,415	10.600 <b>64.600</b>	451.015
TOTAL INCOME	300.413	64.600	451.015	300.413	04.000	451.015	300.413	04.000	451.015	300.413	04.000	451.015
EXPENDITURE												
1. Commissions & Committees (C&C)												
1.1 CDC	77.283	44.000	<u>121.283</u>									
1.2 CEIC	19.321			19.321			19.321			19.321		
1.3 ICMI	57.962			57.962			57.962			57.962 19.321		
1.4 Ad hoc committees 1.5 Special support	19.321 0			19.321 0			19.321 0			19.321		
C&C Expenditure	173.887	44.000	217.887	173.887	44.000	217.887		44.000	217.887	173.887	44.000	217.887
2. ICM												
2.1 Site Committee	3.864			3.864			3.864			3.864		
2.2 Program Committee	7.728			7.728			7.728			7.728		
2.3 Prize Committees	7.728			7.728			7.728			7.728		
2.4 Congress Subvention	19.321	40.000		19.321	40.000		19.321	40.000		19.321	40.000	
2.5 Travel Grants (Young & Senior) 2.6 ICM related admin., outreach	27.049 19.321	10.000	<u>37.049</u>									
ICM Expenditure		10.000	95.011		10.000	95.011	85.011	10.000	95.011		10.000	95.011
ion Expenditure	05/011	10,000	30.011	05.011	10,000	30.011	05.011	10.000	30.011	05.011	20.000	33.011
3. Union Administration												
3.1 General Assembly	3.864			3.864			3.864			3.864		
3.2 President & Secretary	46.370			46.370			46.370			46.370		
3.3 Executive Committee	23.185			23.185			23.185			23.185		
3.4 Other	3.864 77.283	0	77 202	3.864 77.283	0	77.283	3.864 77.283	0	77 202	3.864 77.283	0	77 202
Union Administration Expenditure	//.283	U	77.283	//.283	U	//.283	//.283	U	77.283	//.283	U	77.283
4. Outreach												
4.1 ICSU Union Member Contribution	7.728			7.728			7.728			7.728		
4.2 Awards	3.864	0		3.864	0		3.864	0		3.864	0	
4.3 Website Support, Media Relations	7.728			7.728			7.728			7.728		
4.4 Bulletin	0	_		0			0	_		0	_	
4.5 Other	3.864	5.600	9.464	3.864	5.600	<u>9.464</u>	3.864	5.600	<u>9.464</u>	3.864	5.600	9.464
4.6 Scientific activity support  Outreach Expenditure	23.185	5 600	20 705	22 195	5.600	28.785	22 195	5.600	20 705	22 195	5 600	28.785
Outreach Expenditure	23.185	5.600	28.785	23.185	3.000	20./85	23.185	3.000	28.785	23.185	5.600	26.785
5. Overhead												
5.1 Office Expenses	3.864	1.600	<u>5.464</u>	3.864	1.600	5.464	3.864	1.600	<u>5.464</u>	3.864	1.600	5.464
5.2 Bank Charges	3.864	1.000	<u>4.864</u>	3.864	1.000	4.864	3.864	1.000	4.864	3.864	1.000	4.864
5.3 Legal Advice, Audit Fees	7.728	1.600	<u>9.328</u>	7.728	1.600	<u>9.328</u>		1.600	<u>9.328</u>	7.728	1.600	<u>9.328</u>
5.4 Other	11.592	800	12.392	11.592	800	12.392	11.592	800	12.392	11.592	800	12.392
Overhead Expenditure	27.049	5.000	32.049	27.049	5.000	32.049	27.049	5.000	32.049	27.049	5.000	32.049
TOTAL EXPENDITURE			451.015			451.015			451.015			451.015
INCOME LESS EXPENSES			Q			0			0			0

# 3.6.Independent Auditor's Reports 2010 -2013

## <u>Independend Auditor's Report 2010 – Excerpt</u>

Annex 1

STATEMENT OF ASSETS AND LIABILITIES as of 31 December 2010

International Mathematical Union, Berlin

Prior Year	€		482,784.76	16,758.73		499,543.49		18,235.00		75,197.80	3,139.79	78,337.59	1,095.09	597,211.17
per 31.12.2010	ŧ					627,962.55		53,750.00				10,648.42	3,019.13	695,380.10
per 31.	€		499,543.49	128,419.06						10,428.07	220.35			
LIABILITIES		A. Net Assets	I, Association net assets	II. Annual surplus				597,211.17 B. Provisions	0.00 C. Liabilities	1. Donations	2. Other liabilities		D. Deferred Income	Total Liabilities
Prior Year	æ					42,067.93	555,143.24	l	0.00					597,211.17
per 31.12.2010	€							691,142.60	4,237.50					695,380.10
per 31.	ŧ					25,476.14	665,666.46							
ASSETS		A. Current Assets	I, Receivables and other	assets	Receivables from member	contributions	II. Bank Balances		B, Prepaid Expenses					Total Assets

## Annex 2

## International Mathematical Union, Berlin

## STATEMENT of INCOME and EXPENDITURE for 2010

			2010	Prior Year
	€	€	€	€
Income			454,746.26	338,503.16
Member contributions	290,991.90			267,752.58
Donations - national	9,032.65			8,539.09
Donations - international	79,186.14			40,357.45
Other income	75,535.57			21,854.04
Other Expenditures Administrative Expenses		-104,651.57	-329,462.54	-326,302.93 -127,727.83
Reimbursement personnel expenses	-44,699.34			-59,150.29
Travel	-27,715.57			-31,100.16
Print	-1,195.95			-2,380.00
Audit fees	-7,735.00			-10,205.00
Other activities CDE / ICMI	-13,497.96			-10,568.32
Member contributions	-6,815.00			-6,617.00
Postage	-573.59			-1,031.14
Bank fees	-839.17			-2,263.93
Other	-1,579.99			-4,411.99
Expenditures for Scientific Activities		-224,810.97		-198,575.10
Promotion of scientific activities	-85,738.25			-106,295.40
Expenditures ICM	-29,559.26			-75,152.50
Travel grants	-72,571.19			0.00
Expenditures Prize Award	-11,318.20			-10,500.00
Other	-25,624.07			-6,627.20
Interest and Similar Income			3,135.34	4,715.32
Interest and Similar Expenditures		_	0.00	-0.41
Result of Association Activities			128,419.06	16,915.14
Taxes		_	0.00	-156.41
Annual Surplus			128,419.06	16,758.73
		=		_

#### INTERNATIONAL MATHEMATICAL UNION

#### Annex 4

#### Statement of Income and Expenditure\*- 2010 for the year ended December 31, 2010

	Budget 2010	•	Budget 2010 Actual 2010			
	CHF (Swi	ss Franc)	EUR (	Euro)		
Expenses						
Schedule A:						
Secretarial help, IMU office	22,660	14,957	18,174	12,000		
Secretarial help, President	5,150	8,495	4,131	6,815		
Accountant	9,270	7,479	7,435	6,000		
ICMI	15,450	15,446	12,392	12,392		
CDE	6,180	1,379	4,957	1,106		
Office expenses (including postage)	16,480	758	13,218	608		
Travel expenses of the EC	30,900	19,432	24,783	15,590		
President's and Secretary's expenses	4,120	3,374	3,304	2,707		
Contribution to ICSU	9,785	8,495	7,848	6,815		
IMU Bulletin	1,500	1,491	1,203	1,196		
Audit fee	8,755	9,641	7,022	7,735		
General Assembly	4,120	11,313	3,304	9,076		
World Directory of Mathematicians	0	0	0	0		
Contingencies	2,060	14,712	1,652	11,803		
Subtotal of Schedule A	136,430	116,972	109,423	93,843		
Schedule B:						
IMU non-CDE conference support	20.000	0	16.041	0		
ICMI scientific activities	27,810	27,802	22.305	22.305		
CDE scientific activities	115.000	72.057	92.236	57.810		
CDE support staff	56,000	24,786	44,915	19,885		
CEIC scientific activities	25,000	7.009	20.051	5,623		
Website support	6.253	3,739	5,015	3,000		
ICM Site Committee	2.000	111	1.604	3,000		
Program Committee for ICM	8.240	0	6,609	0		
Subvention to ICM	28.840	25.420	23,131	20.394		
Prize Committees (subvention)	11,100	14.081	8,903	11,297		
Awards	0	14,107	0,000	11,318		
Travel grants (young & senior)	61,000	90.456	48,925	72,571		
Media Relations	3,500	14,119	2.807	11,327		
Subtotal of Schedule B	364,743	293,687	292,542	235,619		
Total Expenses (A & B)	501,173	410,659	401,965	329,462		
Income						
Membership dues	390,015	362,707	312,812	290,992		
ICSU Grant	0	0	0	0		
Special Development Fund	32,000	44,958	25,666	36,069		
Interest on bank accounts	16,000	3,908	12,833	3,135		
Donations	59,220	53,743	47,497	43,117		
Other income	0	105,410	0	84,568		
Draw from Reserves	3,938	0	3,158	0		
Return to Reserves	0	0	0	0		
Total Income	501,173	570,726	401,965	457,881		
Income less Expenses	0	160.067	0	128,419		
income iess Expenses	U	100,007	U	120,419		

Transition to P&L Statement:

Transfer to liabilities from donations not yet spent

Excess of income over expenditure

128,419

Actual Euro Income and Expenses converted to Swiss Franc, using the December 31, 2010 rate of 1 Euro = 1.24645 Swiss Franc

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

International Mathematical Union, Berlin

STATEMENT OF ASSETS AND LIABILITIES as of 31 December 2011

ASSETS	per 31.12.2011	11	Prior Year	LIABILITIES	per 31.12.2011	2.2011	Prior Year
	ŧ	€	€		€	€	€
A. Current Assets				A. Net Assets			
I. Receivables and other				I. Association net assets	307.465,98		307.465,98
Receivables from member				II. 10001 VO	00,710,717		320.430,37
contributions	80.277,11		25.476,14			1.024.543,53	627.962,55
II. Bank Balances	994.541,31*		665.666,46				
	1.07	1.074.818,42	691.142,60	691.142,60 B. Provisions		19.317,90	53.750,00
B. Prepaid Expenses		0,00	4.237,50	C. Liabilities 1. Liabilities from restricted donations 4.237,50 2. Other liabilities	27.799,03		10.428,07
						29.593,01	10.648,42
				D. Deferred Income		1.363,98	3.019,13
Total Assets	1.07	1.074.818,42	695.380,10	Total Liabilities	I	1.074.818,42	695.380,10

\* contained therein ICMI € 153,573.69 und CDC €84,936.69

## Annex 2

## International Mathematical Union, Berlin

## STATEMENT of INCOME and EXPENDITURE for 2011

			2011	Prior Year
	€	€	€	€
Revenues			474.262,80	454.746,26
Member contributions	350.266,92			290.991,90
Donations - national	0,00			9.032,65
Donations - international	65.194,13			79.186,14
Other income	58.801,75			75.535,57
Other Expenditures Administrative Expenses		-42.256,55	-248.788,68	-329.462,54 -104.651,57
Reimbursement personnel expenses	-405,22			-44.699,34
Travel	-17.117,73			-27.715,57
Print	0,00			-1.195,95
Advisory fees	-628,64			0,00
Audit fees	-7.735,00			-7.735,00
Other activities CDE / ICMI	0,00			-13.497,96
Member contributions	-7.020,00			-6.815,00
Postage	-83,62			-573,59
Bank fees	-1.317,75			-839,17
Other	-7.948,59			-1.579,99
Expenditures for Scientific Activities		-206.532,13		-224.810,97
Promotion of scientific activities	-169.835,24			-85.738,25
Expenditures ICM	-6.752,64			-29.559,26
Travel grants	-17.339,06			-72.571,19
Expenditures Prize Awards	-11.582,90			-11.318,20
Other	-1.022,29			-25.624,07
Interest and Similar Income			2.723,29	3.135,34
Interest and Similar Expenditures		-	0,00	0,00
Result of Association Activities			228.197,41	128.419,06
Taxes		-	0,00	0,00
Annual Surplus			228.197,41	128.419,06
Allocation to Reserves		_	-228.197,41	-128.419,06
Unallocated Cash Balance			0,00	0,00
	27	=		

#### INTERNATIONAL MATHEMATICAL UNION

## Budget Comparison Statement of Income and Expenditure\* for the year ended 31 December 2011

	Budget 2011 CHF (Swi		Budget 2011	Actual 2011 Euro)
Expenses	OIII (OWI	33 1 14110)	Loit	Luioj
Schedule A:				
Secretarial help, IMU office	20,000	0	16.433	0
Secretarial help, President	8.000	493	6.573	405
Accountant	9.500	0	7.805	0
ICMI	16.000	19.523	13.146	16.045
CDC	6.300	1.380	5.176	1.134
Office expenses (including postage)	16.800	263	13.803	216
Travel expenses of the EC	32.000	13.680	26.292	11.243
President's and Secretary's expenses	5.000	3.043	4.108	2.501
Contribution to ICSU	9.785	8.542	8.040	7.020
MU Bulletin	2.200	0.0.2	1.808	0
Audit fee	17.000	9.411	13.967	7.735
General Assembly	5.000	0.411	4.108	0
MU office transfer	17.500	2.708	14.379	2.226
Contingencies	50.000	13.276	41.082	10.911
Subtotal of Schedule A	215.085	72.319	176.720	59.436
Danielle. Of Collegeic A	210.000	72.019	1.5.720	55.450
Schedule B:				
MU non-CDC conference support	3.750	15.633	3.081	12.848
CMI scientific activities	40.000	35.142	32.865	28.882
CDC scientific activities	120.000	133.867	98.596	110.020
CDC support staff	7.500	0	6.162	0
CEIC scientific activities	21.000	1.102	17.254	906
Website support	8.000	0	6.573	0
ICM Site Committee	3.000	0	2.465	0
Program Committee for ICM	10.000	8.217	8.216	6.753
Subvention to ICM	29.420	0	24.172	0.750
Prize Committees (subvention)	12.000	1.113	9.860	915
Awards	0	14.094	0	11.583
Travel grants (young & senior)	62,220	0	51.122	0
Media Relations	4.000	130	3.287	107
Subtotal of Schedule B	320.890	209.298	263.653	172.014
Subtotal of Concurre B	020.000	200.200	200.000	172.014
Total Expenses (A & B)	535.975	281.617	440.373	231.450
ncome				
Membership dues	435.442	426.187	357.772	350.267
CSU Grant	0	0	0	0
Special Development Fund	30.000	21.097	24.649	17.339
Interest on bank accounts	1.000	3.313	822	2.723
Donations (Abel Fund)	56.000	54.183	46.011	44.531
Other income	0	75.593	0	62.126
Draw from Reserves	13.533	0	11.119	0
Return to Reserves	0	0	0	0
	ļ			
Total Income	535.975	580.373	440.373	476.986
			I	

Transition to P&L Statement:

Transfer to liabilities from donations not yet spent -17.339
Excess (deficit) of income over expenditures: 228.197

Actual Euro Income and Expenses converted to Swiss Franc, using the 31 December 2011 rate of 1 Euro = 1,21675 Swiss Franc

<sup>\*</sup> This statement of income and expenditure is made on the basis of the IMU budget applied so far.

Starting with the year ending 31 December 2012, the statement of income and expenditure will be prepared on the basis of the new budget structure approved by postal ballot No. 01/11.

## <u>Independend Auditor's Report 2012 – Excerpt</u>

Annex1

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	ec 2012	Prior Year
	Э Э	€		€	€	€
Current Assets			A. Net Assets			
I. Receivables and other assets			I. Association net assets II. Reserves	307.465,98		307.465,98
<ol> <li>Receivables from member contributions</li> <li>Other assets</li> </ol>	118.899,31	80.277,11			1.199.280,16	<u> </u>
	124.038,41		80.277,11 B. Provisions		7.735,00	19.317,90
II. Cash-in-hand, bank balances*	1.139.482,88	88 994.541,31	<ul><li>C. Liabilities</li><li>1. Liabilities from restricted donations</li></ul>	47.112,01		27.799,03
			2. Other liabilities	6.677,92	53.789,93	1.793,98 <b>29.593,01</b>
			D. Deferred Income		2.716,20	1.363,98
Total Assets	1.263.521,	1.263.521,29 1.074.818,42	Total Liabilities	1	1.263.521,29	1.263.521,29 1.074.818,42

\* contained therein ICMI € 141,208.12 and CDC € 66,411.36

## Annex 2

## 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 Administrative Expenses		-24.132,07	-277.107,78	-248.788,68 -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	-2.924,78			-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	0,00			-1.022,29
Interest and Similar Income Result of Association Activities		-	2.731,67 174.958,91	2.723,29 228.197,41
Taxes		-	0,00	0,00
Annual Surplus			174.958,91	228.197,41
Allocation to Reserves		-	-174.958,91	-228.197,41
Unallocated Cash Balance		<u>-</u>	0,00	0,00

Annex 4

#### INTERNATIONAL MATHEMATICAL UNION

## Statement of Income and Expenditure 2012

	Bu	idget 201	12	A	Actual 2012	2	Ві	ıdget 201	12	A	ctual 201	.2
		CHF			CHF			EUR			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												
TOTALINCOME	444.220	87.300	<u>531.520</u>	443.557	112.498	<u>556.055</u>	367.936	72.308	440.244	367.387	93.179	<u>460.56</u>
EXPENDITURE	-									<b> </b>		
	C)											
1.1 CDC Commissions & Committees (C&	89.734	45.000		90.838	40.281		74.324	37.272		75.239	33.364	
1.2 CEIC	22.434	45.000		2.056	40.201		18.581	31.212		1.702	33.304	
1.3 ICMI	67.300			115.028	36.220		55.744			95.275	30.000	
1.4 Ad hoc committees	13.460			0	30.220		11.149			93.273		
1.5 Special support	13.400			0			11.149			0		
C&C Expenditure		45,000	237.928		76 501	284.423		37 272	197.070	_	63 364	235.58
ede Experiarea	132.320	45.000	237.320	207.322	70.501	201.123	133.730	37.272	137.070	172.210	03.304	233.30
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	5.17
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	<u>89.735</u>	3.490	0	3.490	74.325	0	74.325	2.891	0	2.89
4. Outreach												
4.1 ICSU Union Member Contribution				11.711			7.433			9.700		
4.2 Awards		11.000		0	14.754		0	9.111			12.220	
4.3 Website Support, Media Relatio				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	44.000	22	0	44 == :	20.00-	0	0.11:	2= 000	0 700	42.22	24.0-
Outreach Expenditure	22.435	11.000	<u>33.435</u>	11.711	14.754	<u>26.465</u>	18.582	9.111	27.693	9.700	12.220	21.92
5 Quark and												
5. Overhead	4.40=			_	2 270		2.740			<del>  _</del>	1 000	
5.1 Office Expenses	4.487			0	2.279		3.716	0		0		
5.2 Bank Charges 5.3 Legal Advice, Audit Fees	4.487			2.053	581		3.716	0		2 446		
5.4 Other	17.947 17.947	1.300		2.953	6.386 1.736		14.865 14.866	1.076		2.446		
Overhead Expenditure		1.300	46.168		10.982	13.935		1.076	38.239			11.54
Overnead Experiurture	44.008	1.300	40.108	2.933	10.982	13.533	37.103	1.070	36.233	2.440	3.030	11.54
												•==
TOTAL EXPENDITURE			535.976			334.561			443.934	1		277.10
Draw from Reserves			4.456			0			3.690	l .		
Return to Reserves			0			0			0			
Income less expenses			<u>0</u>			221.494			<u>0</u>	!		<u>183.45</u>
	•					Transfer	to liabiliti	es from c	donations	s not yet s	pent	-8.49
						Excess of	fincome o	ver expe	nditure		EUR	174.95

## **Independent Auditor's Report 2013**



Berlin, 12 May 2014 Report No.: 65600/E

# **International Mathematical Union**Berlin

Audit Report on the Annual Financial Statements as of 31 December 2013



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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 2013.

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 for 2013") included in Appendix 4 was, per agreement, not audited.

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

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".



## 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 2013 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 Weierstraß-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 2014 in the premises of the IMU Secretariat. Subsequently the audit report was prepared in our office.

Our audit commenced with our unqualified independent auditor's report dated 16 April 2013 on the annual financial statements for the year ended 31 December 2012. 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 16<sup>th</sup> 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 Orlowsky
 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 14.04 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 analogous application 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 62, dated December 2012, was published in December 2013 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.



We have not found any changes to the material measurement bases (exercise of accounting and measurement options as well as scopes of discretion) or grooming transactions significantly affecting the net assets, financial position and results of operations of the Union within the framework of our audit.

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.

## 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:

	1				
	31 De	ec 2013	31 De	c 2012	Change
	k€	%	k€	%	k€
ASSETS					
Current assets					
Receivables from member contributions	122	8.4	119	9.4	3
Other assets (including prepaid expenses)	5	0.3	5	0.4	0
Cash and cash equivalents	1,323	91.2	1,139	90.2	184
	1,450	100.0	1,263	100.0	187
LIABILITIES					
Net assets (own funds)	1,349	93.0	1,199	94.9	150
Borrowed capital					
Provisions	8	0.6	8	0.6	0
Liabilities from restricted donations	81	5.6	47	3.7	34
Other liabilities (incl. deferred income)	12	0.8	9	0.7	3
	101	7.0	64	5.1	37
	1,450	100.0	1,263	100.0	187



## Receivables from member contributions are as follows:

	Year	Amount	
		€	CHF
Country			
Argentina	2013	1,324.55	1,493.00
Bosnia & Herzegovina	2013	1,410.42	1,703.00
Bulgaria	2013	1,410.42	1,703.00
Cameroon	2013	1,410.42	1,703.00
Cuba	2013	1,410.42	1,703.00
France	2013	16,925.10	20,436.00
Greece	2013	1,410.42	1,703.00
Iran	2013	5,641.69	6,812.00
Ivory Coast	2013	1,410.42	1,703.00
Latvia	2013	1,410.42	1,703.00
Montenegro	2013	1,410.42	1,703.00
Pakistan	2013	1,410.42	1,703.00
Peru	2013	1,410.42	1,703.00
Philippines	2013	1,410.42	1,703.00
Saudi Arabia	2013	1,410.42	1,703.00
Slovakia	2013	2,820.84	3,406.00
Spain	2013	11,283.40	13,624.00
Venezuela	2013	1,410.42	1,703.00
		56,331.04	67,910.00
Algeria	2012	1,270.46	1,270.46
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
Greece	2012	1,371.85	1,670.00
Hungary	2012	5,487.42	6,680.00
Kazakhstan	2012	1,371.85	1,670.00
Latvia	2012	1,371.85	1,670.00
Montenegro	2012	1,371.85	1,670.00
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
Venezuela	2012	1,371.85	1,670.00
Saudi Arabia	2012	1,371.85	1,670.00
Joaudi Alabia	2012	· · · · · · · · · · · · · · · · · · ·	-
Court forwards		43,797.85	53,040.46
Carry forward:		100,128.89	120,950.46



	Year	Amo	unt
		€	CHF
Country			
Carry forward		100,128.89	120,950.46
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
Montenegro	2010	414.04	535.00
Nigeria	2010	1,080.82	1,605.00
Peru	2010	1,080.82	1,605.00
Peru	2008	477.43	717.00
		5,214.75	7,672.00
		122,390.39	149,903.46
Specific allowance Peru	2008	-292.44	-358.50
Exchange rate loss as of 31 December		-109.64	
		121,988.31	149,544.96

At the end of 2013, outstanding member contributions were  $k \in 122$  (kCHF 150), of which  $k \in 28$  had been settled at the time of the audit. The membership contribution of Peru for 2008 remains outstanding. The impairment of 50 % is retained.

**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)		151,140.31
Account in CHF (5113915 01)	CHF 666,712.43	543,855.00
Account in USD (5113915 00)	USD 81,872.64	66,785.70
Account in USD (5113915 06)	USD 21,408.50	21,408.50
Carry forward		783,189.51



Carry forward	783,189.51
Account in €- Ito Fund (5113915 01)	10,498.75
Account in € (5113915 00)	159,904.86
Account in € (5113915 05)	190,099.21
Account in € (5113915 04)	177,652.71
Cash in KRW	1,717.47
Cash in €	1.97
	<u>1,323,064.48</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€
As	sociation capital		307
Re	eserves		
-	Annual surplus 2007 - 2012	725	
-	Annual surplus 2013	150	
-	ICMI und CDC (Commission Fund)	<u>167</u>	<u>1,042</u>
			<u>1,349</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. The General Assembly takes decision regarding the allocation of reserves every four years.

Reserves are allocated as follows:

	k€
Travel support	
- Fields Medal 2014	10
- ICM 2014 in Korea	60
MENAO Conference 2014	<u>100</u>
Carry forward	170



Carry forward	170
Project CANP 2014 in Tanzania	50
Co-financing joint workshops with other ICSU members 2012-2014	10
ICMI and CDC 2014	177
ICM default reserve	362
Free reserve	<u>273</u>
	<u>1,042</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 in the coming year. The restricted reserves for ICMI amount to  $\le$  62,000.00 and to  $\le$  115,000.00 for CDC.

## Liabilities from restricted donations developed as follows:

	€
Special Development Fund	
Per 1 Jan 2013	25,838.46
Contributions	
<ul> <li>London Mathematical Society (LMS)</li> </ul>	3,774.00
Per 31 Dec 2013	29,612.46
Ito Fund	
Per 1 Jan 2013	10,485.95
Contribution interest revenue 2013 less account fees	12.80
Per 31 Dec 2013	10,498.75
Simons Foundation	
Per 1 Jan 2013	0.00
Contribution (kUSD 25)	<u>18,661.74</u>
Per 31 Dec 2013	18,661.74
	<u></u>
Carry forward	58,722.95



Carry forward	58,722.95
IMU Developing Country Fund	
Per 1 Jan 2013	10,787.60
Contribution FIMU	<u>11,378.14</u>
Per 31 Dec 2013	22,165.74
	80,938.69

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 the **Simons Foundation** during the reporting year is designated as a Travel Fellowship for research stays of mathematicians from developing countries.

The cash received from the Friends of IMU (FIMU) included in the **IMU Developing Country Fund** are for the promotion 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  $k \in 184$  and corresponds to the change in the amount of cash between 1 January 2013 ( $k \in 1,139$ ) and 31 December 2013 ( $k \in 1,323$ ).



## 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:

	·					
	2 0 1	3	201	1 2	Change	
	k€	%	k€	%	k€	
Revenue	470	100.0	449	100.0	21	
Administrative expenses	-53	-11.3	-24	-5.3	-29	
Expenses for scientific activities	-269	-57.2	-253	-56.3	-16	
Other expenditures	-322	-68.5	-277	-61.7	-45	
Operating result	148	31.5	172	38.3	-24	
Interest	2	0.4	3	0.7	-1	
Result before taxes on income	150	31.9	175	39.0	-25	
Taxes on income	0	0.0	0	0.0	0	
Annual surplus	150	31.9	175	39.0	-25	
Allocation to reserves (net)	-150	-31.9	-175	-39.0	25	
Unallocated cash balance	0_	0.0	0	0.0	0	

The IMU had **revenue** of k€ 470 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	377,993.54
Third-party contributions	77,115.40
Other income	<u>15,261.98</u>
	<u>470,370.92</u>

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



### **Third-party donations** are composed of the following:

€

Niels Henrik Abel Memorial Fund, Norway (thereof approx. k€ 11.6 [kUSD 15] to be used for Abel Visiting Scholar Program) ICSU grant

47,115.40

30,000.00

77,115.40

Other income (k€15) largely involves revenue for ICMI (k€7) and from publications (k€2).

**Other expenditures** of approximately k€ 322 (prior year: k€ 277) are shown in detail in the statement of income and expenditure (Appendix 2) as well as in the Budget Comparison (Appendix 4).

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 for the annual financial statements as of 31 December 2013 of the International Mathematical Union, Berlin. The annual financial statements are enclosed in this report under Appendices 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 2013 to 31 December 2013. 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 analogous application 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, for the reporting year form 1 January 2013 to 31 December 2013 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, 12 May 2014 RBS RoeverBroennerSusat GmbH & Co. KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft

In the original German version signed by:

Helmut Schuhmann Wirtschaftsprüfer

Appendix 1

International Mathematical Union, Berlin

STATEMENT OF ASSETS AND LIABILITIES as of 31 December 2013

ASSETS	per 31.12.2013	Prior Year	LIABILITIES	per 31.12.2013	2013	Prior Year
	3	€		Э	€	3
A. Current Assets			A. Net Assets			
I. Receivables and other			I. Association net assets	307.465,98		307.465,98
assets			II. Reserves	1.042.236,56		891.814,18
1. Receivables from member contributions	121.988,31	118.899,31			349.702,54	1.349.702,54 1.199.280,16
2. Other assets	2.449,13	5.139,10				
	124.437,44	124.038,41	B. Provisions		7.735,00	7.735,00
II. Cash-in-hand, bank balances*	1.323.064,48	1.139.482,88	C. Liabilities 1.323.064,48 1.139.482,88 1. Liabilities from restricted			
	37 633 6		donations	80.938,69		47.112,01
D. Trepaid Expenses	67,555,75	Ď,		0.201,44	87.220,13	53.789,93
			D. Deferred Income		5.398,00	2.716,20
Total Assets	1.450.055,67	1.263.521,29	Total Liabilities	<del>-</del>	1.450.055,67	1.263.521,29

\* contained therein ICMI  $\in$  190,099.29 and CDC  $\in$  177,652.71

## International Mathematical Union, Berlin

## STATEMENT OF INCOME AND EXPENDITURE for 2013

			2013	Prior Year
	€	€	€	€
Revenues			470.370,92	449.335,02
Member contributions	377.993,54			367.387,09
Donations - international	77.115,40			75.583,50
Other income	15.261,98			6.364,43
Other Expenditures Administrative Expenses		-52.797,95	-321.583,59	-277.107,78 -24.132,07
Reimbursement personnel expenses	-10.581,51			-2.484,09
Travel expenses	-6.582,26			-406,91
Audit fees	-7.790,00			-7.735,00
Member contributions	-9.991,00			-9.700,00
Postage	-118,52			-400,51
Bank fees	-1.169,41			-480,78
Other	-16.565,25			-2.924,78
Expenditures for Scientific Promotion and Activities		-268.785,64		-252.975,71
Promotion of scientific activities	-228.622,51			-235.579,92
Expenditures ICM	-34.409,74			-5.175,49
Expenditures for prize awards	-5.753,39			-12.220,30
Interest and Similar Income		_	1.635,05	2.731,67
Result of Association				
Activities			150.422,38	174.958,91
Taxes		-	0,00	0,00
Annual Surplus			150.422,38	174.958,91
Allocation to Reserves		-	-150.422,38	-174.958,91
Unallocated Cash Balance		_	0,00	0,00

Appendix 3/1

# International Mathematical Union Schedule of Member Contributions 2013

Country	Amount EUR	Amount CHF
	!	
Algeria	1.410,42	1.703,00
Argentina	2.820,84	3.406,00
Armenia	1.410,42	1.703,00
Australia	5.641,69	6.812,00
Austria	2.820,84	3.406,00
Belgium	5.641,69	6.812,00
Bosnia & Herzegovina	1.410,42	1.703,00
Brazil	11.283,40	13.624,00
Bulgaria	1.410,42	1.703,00
Cameroon	1.410,42	1.703,00
Canada	16.925,10	20.436,00
Chile	2.820,84	3.406,00
CMS, Beijing	10.155,40	12.261,60
Math Society, Taipei	6.769,69	8.174,40
Colombia	1.410,42	1.703,00
Croatia	1.410,42	1.703,00
Cuba	1.410,42	1.703,00
Czech Republic	5.641,69	6.812,00
Denmark	2.820,84	3.406,00
Egypt	2.820,84	3.406,00
Estonia	1.410,42	1.703,00
Finland	5.641,69	6.812,00
France	16.925,10	20.436,00
Georgia	1.410,42	1.703,00
Germany	16.925,10	20.436,00
Greece	1.410,42	1.703,00
Hong Kong	1.410,42	1.703,00
Hungary	5.641,69	6.812,00
lceland	1.410,42	1.703,00
India	11.283,40	13.624,00
Indonesia	1.410,42	1.703,00
lran	5.641,69	6.812,00
Ireland	2.820,84	3.406,00
Israel	16.925,10	20.436,00
Italy	16.925,10	20.436,00
lvory Coast	1.410,42	1.703,00
Japan	ı <u>16.925,10</u> ı	<u>20.436,0</u> 0
Kazakhstan	1.410,42	1.703,00
Korea, Repub of	11.283,40	13.624,00

Latvia	1.410,42	1.703,00
Lithuania	1.410,42	1.703,00
Mexico	2.820,841	3.406,00
Montenegro	1.410,42	1.703,00
Netherlands	11.283,40	13.624,00
New Zealand	1.410,42	1.703,00
Nigeria	1.410,421	1.703,00
Norway	5.641,69 <sup>l</sup>	6.812,00
Pakistan	1.410,42	1.703,00
Peru	1.410,42	1.703,00
Philippines	1.410,42ı	1.703,00
Poland	11.283,40 <sup>l</sup>	13.624,00
Portugal	2.820,84	3.406,00
Romania	1.410,42	1.703,00
Russia	16.925,10ı	20.436,00
Saudi Arabia	1.410,42	1.703,00
Serbia	1.410,42	1.703,00
Singapore	1.410,42	1.703,00
Slovakia	2.820,841	3.406,00
Slovenia	1.410,42	1.703,00
South Africa	2.820,84	3.406,00
Spain	11.283,40	13.624,00
Swedeni	11.283,40ı_	13.624,00
Switzerland	11.283,40	13.624,00
Tunisia	1.410,42	<u>1.703,00</u>
Turkey	1.410,42	1.703,00
Ukraine	2.820,841_	3.406,00
United Kingdom	16.925,10	20.436,00
Uruguay	1.410,42	1.703,00
USA	16.925,10	20.436,00
Venezuelai	1.410,421_	1.703,00
Vietnam	1.410,42 <sup>1</sup>	1.703,00
Total	377.993,54	456.404,00

Appendix 4

#### INTERNATIONAL MATHEMATICAL UNION

## Budget Comparison Statement of Income and Expenditure for the year ended 31 December 2013

	В	udget 2013		,	Actual 2013	3	Е	udget 2013		,	Actual 2013	
		CHF			CHF			EUR			EUR	
	General	Special	Sum	General	Special	Sum	General	Special	Sum	General	Special	Sum
INCOME												
. General	452.000						200 007			277.004		
.a Membership Dues	452.998			460.077			369.607			377.994		
Sum General Income	452.998			463.277			369.607			377.994		
II. Special		20,000			4.626			24.477			3.774	
I.a Special Development Fund		30.000 56.000			57.745			45.691			3.774 47.115	
I.b Donations I.c Grants		30.000			73.586			45.091			60.040	
					135.957						110.929	
Sum Special Income from Third Parties I.d Income from IMU bank accounts		1.000			2.004		ł	816			1.635	
I.e Other Income		300			18.705			245			15.262	
Sum Special Income from Other Sources		300			20.709			243			16.897	
TOTAL INCOME	452.998	87.300	540.298	463.277		619.943	369.607	71.229	440.836	377.994	127.826	505.82
TOTAL INCOME	452.996	87.300	340.296	403.2//	150.000	619.943	309.007	/1.229	440.830	3/7.994	127.020	303.82
EXPENDITURE												
1. Commissions & Committees (C&C)												
1.1 CDC	89.734	45.000		67.414	57.745		73.215	36.716		55.004	47.115	
1.2 CEIC	22.434	45.000		10.555	37.743		18.304	30.710		8.612	47.113	
1.3 ICMI	67.300			85.459			54.911			69.727		
1.4 Ad hoc committees	13.460			85.459			10.983			09.727		
1.5 Special support	13.460			22.262	36.769		10.983			18.164	30.000	
C&C Expenditure	192.928	45.000	237.928	185.690		280.204	157.413	36.716	194.129	151.507	77.115	228.62
C&C Experiurture	132.320	43.000	237.320	163.050	54.514	200.204	137.413	30.710	134.123	131.307	//.113	220.02
2. ICM												
2.1 Site Committee	4.487			7.541			3.661			6.153		
2.2 Program Committee	8.974			13.557			7.322			11.061		
2.3 Prize Committees	8.974			21.076			7.322			17.196		
	22.434			21.070			18.304			17.190		
2.4 Congress Subvention		20.000						24 477				
2.5 Travel Grants (Young & Senior)	31.407	30.000		0			25.626	24.477		0		
2.6 ICM related admin., outreach	22.434	20.000	400 740	0			18.304	24.477	405.046	0		
ICM Expenditure	98.710	30.000	128.710	42.174	0	42.174	80.539	24.477	105.016	34.410	0	34.41
N. Harton Administration												
3. Union Administration 3.1 General Assembly	4.487			0			3.661			0		
										14.188		
3.2 President & Secretary	35.894			17.389			29.286					
3.3 Executive Committee	35.894			1.871			29.286			1.526		
3.4 Other	13.460		00 725	1.777	0	24 027	10.983	0	72 246	1.450	0	47.40
Union Administration Expenditure	89.735	0	89.735	21.037	0	21.037	73.216	U	73.216	17.164	0	<u>17.16</u>
4. Outreach												
4.1 ICSU Union Member Contribution	8.974			12.245			7.322			9.991		
4.2 Awards	0.374	11.000		7.051			7.322	8.975		5.753		
4.3 Website Support, Media Relations	8.974	11.000		7.031			7.322	0.373		3.733		
4.4 Bulletin	0.374			0			7.322			0		
	4.487			0						0		
4.5 Other							3.661					
4.6 Scientific activity support	0	11 000	22 425	10.200		10 200	10.205	0.075	27 200	0	0	45.74
Outreach Expenditure	22.435	11.000	33.435	19.296	0	19.296	18.305	8.975	27.280	15.744	0	15.74
5. Overhead												
	4 407			F 02.	4 500		3.001			4 000	1 200	
5.1 Office Expenses	4.487			5.024	1.593		3.661	0		4.099	1.300	
5.2 Bank Charges	4.487			40			3.661	0		33	1.136	
5.3 Legal Advice, Audit Fees	17.947	4 200		7.954	1.593		14.643	0		6.490	1.300	
5.4 Other	17.947	1.300	46.460	12.034		24.420	14.643	1.061	27.660	9.819	1.467	25.66
Overhead Expenditure	44.868	1.300	<u>46.168</u>	25.052	6.377	31.429	36.608	1.061	<u>37.669</u>	20.441	5.203	<u>25.64</u>
TOTAL EXPENDITURE	1		535.976	1		394.140	1		437.310	1		321.58
Draw from Reserves	1		0	1		0			0	1		
Return to Reserves	1		4.322	1		0	l		3.526	1		
ncome less expenses	1		<u>o</u>	1		225.803			<u>o</u>	1		184.23
						Transfer t	o liabilities	from donat	tions not	et spent		-33.8
						Excess of	income ove	r expendit	ire		EUR	150.4

Actual Euro Income and Expenses converted to Swiss Franc, using the December 31, 2013 rate of 1 Euro = 1,22562 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 International 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 16<sup>th</sup> General Assembly. The amendments included article 28 (Treasurer) and article 29 (Legal Domicile). A certified German translation is on file.

Appendix 5/2

## **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 2013, the IMU had 70 regular members (voting), 10 associate members (non-voting) and 4 affiliate members (non-contributory and non-voting).

#### **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, Switzerland (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.

Appendix 5/4

#### 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 - expecially quantity and cost computations - prepared by the Wirtschaftsprüfer within the scope of the engagement will be used only for his own purposes.

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

- (1) The transmission of a Wirtschaftsprüfer's professional 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 Mangel [deficiencies associated with technicalities] contained in a Wirtschaftsprüfer's professional statements (long-form reports, expert opinions and the like) may be corrected and also be applicable versus third parties by the Wirtschaftsprüfer at any time. Errors which may call into question the conclusions contained in the Wirtschaftsprüfer's professional statements entitle the Wirtschaftsprüfer to withdraw also versus third parties such statements. In the cases noted the Wirtschaftsprüfer should first hear the client, if possible.

#### 9. Liability

- (1) The liability limitation of § ["Article"] 323 (2)["paragraph 2"] HGB [,Handelsgesetzbuch": German Commercial Code] applies to statutory audits required by law.
- (2) Liability for negligence: An individual case of damages

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  $\rm 6.4~million$ ; 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  $\rm 6.5~million$ . 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.

## 3.7.IMU Special Development Fund

Contributions to the IMU Special Development Fund 2010-2013:

2010	
American Mathematical Society, USA	14,388.58 EUR
London Mathematical Society, United Kingdom	4,073.65 EUR
Mathematical Society of Japan, Japan	17,607.19 EUR
2011	
American Mathematical Society, USA	13,680.80 EUR
London Mathematical Society, United Kingdom	3,658.26 EUR
2012	
American Mathematical Society	2,306,98 EUR
London Mathematical Society	4,073.42 EUR
Unione Mathematica Italiana	2,119.00 EUR
2013	
London Mathematical Society, United Kingdom	3,774.00 EUR

# **3.8.Third-Party Donations (monetary contributions)**

2010 Deutsche Forschungsgemeinschaft, Germany Mathematical Society of Japan Niels Henrik Abel Memorial Fund, Norway	52,832.65 EUR 1,348,25 EUR 43,116.72 EUR
2011 Mathematical Society of Japan Niels Henrik Abel Memorial Fund, Norway	1,458.63 EUR 44,531.20 EUR
Swiss Mathematical Society, Switzerland	516.99 EUR
2012	
American Mathematical Society ICSU	10,787.60 EUR 30,000.00 EUR
Niels Henrik Abel Memorial Fund, Norway	45,583.50 EUR
2013	
American Mathematical Society	11,378.14 EUR
ICSU	30,000.00 EUR
Mathematical Society of Japan, Japan	1,037.78 EUR
Niels Henrik Abel Memorial Fund, Norway	47,115.40 EUR
Simons Foundation	18,661.74 EUR
Swiss Mathematical Society, Switzerland	525.39 EUR

# 3.9.IMU Bank accounts

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

Berliner Bank

Niederlassung der Deutsche Bank Privat- und Geschäftskunden AG

Hardenbergstr. 32, D-10623 Berlin, Germany

BIC (SWIFT) code: DEUTDEDB110

CHF transfer to account No.: | EUR transfer to account No.: | USD transfer to account No.:

IBAN code: IBAN code: IBAN code:

DE58100708480511391501 DE85100708480511391500 DE85100708480511391500

# 4. Reports of commissions and committees

# **4.1.** Report of the IMU Executive Committee

# Report of the IMU EC for the period 2011 – 2014 by Martin Grötschel

# **Union membership**

Immediately after the 16th General Assembly (GA) in Bangalore, India in 2010 four countries (Cambodia, Moldova, Nepal, and Oman) became new Associate Members of the IMU. The applications of these countries had been approved by the General Assembly. The Associate Membership of Cambodia, Moldova and Nepal was meanwhile extended until August 2018. Madagascar, Malaysia and Gabon have also requested to become IMU Associate Members. Their applications were approved by the Adhering Organizations by postal ballot. Montenegro and Algeria have been admitted as full members of the IMU, Ecuador has changed its membership status from Associate Member to full Member.

As a result of the 16th GA, the South East Asian Mathematical Society (SEAMS) became IMU Affiliate Member.

Currently IMU membership is 81, of which are 10 Associate Members. Four organizations are affiliated with IMU.

The majority of the Union members have been paying their membership dues properly, however, the number of countries in arrears and amounts of outstanding membership fees went up compared to the previous four year term.

## **Permanent IMU Secretariat**

Since January 2011, the Secretariat of the International Mathematical Union is permanently based in Berlin, Germany. Host of the Secretariat is the Weierstrass Institute for Applied Analysis and Stochastics (WIAS). The operation of the Secretariat is supported by grants from the German Federal Ministry of Education and Research (BMBF) and the State of Berlin.

Under the supervision of the IMU Executive Committee, the Secretariat ran IMU's day-to-day business. It provided support for a great range of IMU operations, including administrative assistance for the International Commission on Mathematical Instruction (ICMI) and the Commission for Developing Countries (CDC). It was responsible for the Union's budget management, supported outreach activities, and maintained and supported the

Web site of the IMU and its commissions/committees. The IMU Secretariat was in charge of building up and maintaining the archive of the Union.

The Inauguration of the IMU Secretariat was on February 1, 2011, the IMU Archive which is now located in the Secretariat was officially opened on November 10, 2011.

The IMU Secretariat received a number of visitors and hosted various meetings, such as meetings of the CDC, ICMI, CEIC.

The Secretariat has been visited by the Office Committee whose mission is to get a view of how the Secretariat is performing its function and report its findings to the GA.

On the occasion of the establishment of the IMU Secretariat in Berlin the IMU Berlin Einstein Foundation Program (EFP) has been established aiming to support interactions of young mathematicians from developing and economically disadvantaged countries with mathematics in Berlin.

The IMU Secretariat was instrumental in setting up a commemorative bronze plaque for Niels Henrik Abel in Berlin. This was a joint project of the IMU and Norway. The plaque was inaugurated on the occasion of the 185th anniversary of Abel's death on April 6, 2014.

## **Commissions and Committees**

The Executive Committee (EC) of IMU, the Commission for Developing Countries (CDC), and the IMU representatives to the International Commission on the History of Mathematics (ICHM), who have been elected at the GA in Bangalore in 2010 started work in January 2011. The IMU EC appointed four new members of the Committee on Electronic Information and Communication (CEIC), a standing committee of the EC, thus substituting members who left the committee. The IMU EC also appointed representatives of the IMU to various organizations and bodies.

The International Commission on Mathematical Instruction (ICMI) held its General Assembly in Seoul in 2012. The new leadership for the next four years was elected. The International Congress on Mathematical Education (ICME) was organized in Seoul in 2012.

# **EC** meetings

Meetings of the IMU Executive Committee 2011-2014:

81st EC Meeting, Perth, Australia, February 27-28, 2011

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

83rd EC Meeting, Berlin, Germany, March 11-12, 2013

84th EC Meeting, Princeton, USA, March 8-9, 2014

85th EC Meeting, Gyeongju, Korea, August 9, 2014

The IMU EC expresses its gratitude to the hosts of the EC meetings who were the University of Western Australia in Perth, the Instituto Nacional de Matemática Pura e

Aplicada in Rio de Janeiro, the Weierstrass Institute for Applied Analysis and Stochastics Berlin, and the Princeton University Mathematics Department.

The 85<sup>th</sup> IMU EC meeting that will take place in Gyeongju, Korea, August 9, 2014 will be hosted by the ICM 2014 local organizers.

The IMU EC has appointed a treasurer. The IMU treasurer took over execution of finance management from the IMU Secretary.

The IMU budget was adjusted to the new budget structure approved by the 2010 GA and now operates under the new structure.

EC members represented the IMU in meetings/conferences of various organizations, e.g., ICMI, ICSU and ICSU Regional Offices, ICIAM.

When the IMU EC met in Berlin in 2013, there was also a gathering of the members of the Commission for Developing Countries and several guests. The EC and the CDC had a half day joint meeting. The IMU EC and the CDC jointly decided to host with the support of the ICM 2014 organizers a MENAO event (MENAO stands for "Mathematics in Emerging Nations: Achievements and Opportunities") on August 12, 2013 in Seoul, Korea, aiming at finding additional support for mathematics in developing countries (see also below).

# **Scientific activities / Conference subvention**

Support of scientific activities - conferences or travel support – of applicants from developing countries, was essentially dealt with by IMU's Commission for Developing Countries (see CDC report). In order to increase CDC's support activities, the commission was granted an additional budget.

Additional budget funds have been granted to ICMI for its International Congress on Mathematical Education and its CANP projects in Costa Rica, Cambodia, and Tanzania.

# Other matters

Special grant programs were launched by CDC. The *Abel Visiting Scholar Program*, funded by the Niels Henrik Abel Board, invites mathematicians professionally based in developing countries to visit an international research collaborator for a period of one month. The program is designed for post doctoral mathematicians in the early stages of their professional careers. The *IMU-Simons Travel Fellowship Program*, funded by the Simons Foundation, supports mathematicians working in a developing or economically disadvantaged country to travel to a center of excellence in any part of the world for collaborative research.

The Committee on Electronic Information and Communication (CEIC) organized a symposium on *The Future World Heritage Digital Mathematics Library* at the National Academy of Sciences, US. The meeting was supported by a grant from the Alfred P. Sloan Foundation, a <u>final report</u> about the symposium was published.

The IMU has endorsed the *Mathematics of Planet Earth 2013 (MPE2013)* initiative whose objectives were to identify fundamental research questions about Planet Earth and reach out to the general public. The initiative continues as *Mathematics of Planet Earth (MPE)*. The IMU contributed to the organization of MPE2013's official European launch.

The IMU became part of the *Heidelberg Laureate Forum (HLF)*. The Heidelberg Laureate Forum brings together winners of the Abel Prize, the Fields Medal, the Nevanlinna Prize, and the Turing Award with young scientists from all over the world. The HLF is established and sponsored by the Klaus Tschira Foundation and organized in collaboration with the Association for Computing Machinery (ACM; Turing Award), the International Mathematical Union (IMU; Fields Medal and Nevanlinna Prize), and the Norwegian Academy of Science and Letters (DNVA; Abel Prize). The one week conference, held in Heidelberg, Germany, is modeled after the annual Lindau Nobel Laureate Meetings established more than 60 years ago.

First steps were made to establish the *IMU Circle*. The IMU Circle connects mathematicians who have done sustained and distinguished contributions to the International Mathematical Union. Their nomination on the IMU Circle is a recognition of their past commitment to IMU and institutional memory of IMU, and an appreciation of IMU of their valuable experience, support and advices. IMU Circle members are seen as an extraordinary resource when advice is needed. A launching personal gathering is organized at ICM 2014.

# **Reports and Recommendations**

<u>Best Current Practices for Journals</u>. IMU's Committee on Electronic Information and Communication (CEIC) has produced a revised version of the Best Current Practices for Journals. The original document had listed various recommendations relating to the changing environment of peer-reviewed journals. The current revised version returns to the subject and offers more details on how journals can best serve the mathematical community and it focusses on how a good mathematics journal should be organized and managed.

Report of the IMU/ICIAM Working Group on Journal Ranking. The International Mathematical Union and the International Council for Industrial and Applied Mathematics (ICIAM) had jointly constituted a Working Group to study the issue of whether and (in the affirmative case) how both organizations should go forward with a Ranking of Mathematical Journals. After discussing the report at ICIAM 2011 in Vancouver IMU and ICIAM decided to start a blog\* on mathematical journals.

\*The blog on mathematical journals served as a forum to exchange opinions about the issue. After two years of "life" at the IMU Web page the blog switched to the WordPress platform.

<u>The INTERNATIONAL MATHEMATICAL UNION in the DEVELOPING WORLD: Past, Present and Future.</u> This report, commissioned by The Friends of IMU (FIMU) and the Commission for Developing Countries (CDC), offers a broad view of the role of the IMU in supporting the progress of mathematics and advanced mathematical education in developing nations.

Reports about "Mathematics in Africa, Latin America and the Caribbean and Southeast Asia: Challenges and Opportunities". The Commission for Developing Countries released an update

of the Report "Mathematics in Africa: Challenges and Opportunities" as well as two new reports about the current state of mathematics in Latin America and the Caribbean and Southeast Asia. The reports include opportunities and recommendations for new initiatives to support mathematical development in those three regions.

# IMU Web page / electronic life

Considerable efforts have been made to improve the Web page of the IMU. The CDC Web page was completely redesigned and adapted to the current needs. The CEIC Web page migrated to the IMU server and was updated and adjusted to the new environment. IMU has established a page specially devoted to Women in Mathematics (WiM), that is hosted by the IMU Server and administrated by an Advisory Group. IMU has set up a page on Facebook.

## **IMU Prizes**

Leelavati Prize sponsored by Infosys. The Leelavati Prize, sponsored by Infosys, was awarded for the first time at the closing ceremony of ICM 2010. The Leelavati Prize, sponsored by Infosys, is intended to accord high recognition and great appreciation of the International Mathematical Union (on behalf of the international mathematical community) 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. The Executive Organising Committee (EOC) of the ICM 2010 in Hyderabad had decided, with the endorsement of the IMU EC, to give a one-time international award, named the Leelavati Prize, for outstanding public outreach work for mathematics at the ICM Closing Ceremony. It was decided to continue the Leelavati Prize sponsored by Infosys. The next Prize will be presented at the ICM 2014 closing ceremony.

Ramanujan Prize. The Ramanujan Prize for young mathematicians from developing countries, awarded annually since 2005 and originally instituted by the Abdus Salam International Centre for Theoretical Physics (ICTP), the Niels Henrik Abel Memorial Fund, and the International Mathematical Union (IMU) now continues with funding from the Department of Science and Technology of the Government of India.

# **ICM 2014**

All activities necessary have been launched.

The ICM 2014 Program Committee has been duly appointed and carried out its work successfully. It has defined the program structure of ICM 2014, decided on the number/descriptions of sections and the number of lectures and decided on the list of plenary and sectional invited speakers at ICM 2014.

The IMU Executive Committee has appointed the selection committees for the IMU prizes to be awarded at the Opening Ceremony of ICM 2014 in Seoul, Korea. The prize committees have selected the awardees for the Fields Medals, Nevanlinna Prize, Gauss Prize, Chern Medal, and Leelavati Prize.

The IMU Nominating Committee has been set up and has successfully completed its work. It has collected, from the IMU Adhering Organizations, proposals for the offices of the IMU President, IMU Secretary, IMU Vice-Presidents, and IMU Members-at-Large, as well as for the offices of the CDC President, CDC Secretaries, and CDC Members, and for IMU Representatives to the ICHM, who will have to be elected at the GA meeting.

The ICM 2014 Organizing Committee has set up all processes necessary for the organization of the congress. Events accompanying the congress will be the *Bridges* Conference, an interdisciplinary conference on mathematics and art; *IMAGINARY*, an interactive mathematics exhibition; and a *math calendar* serving the popularization of mathematics. The International Congress of Women Mathematicians 2014 (*ICWM 2014*) is an associated meeting of ICM 2014.

One highlight is the *MENAO* (Mathematics in Emerging Nations: Achievements and Opportunities) Symposium which is organized by the CDC. The MENAO Symposium will take place the day before the ICM Opening Ceremony, it will feature personal stories of mathematicians as well as country specific development stories, both from the perspective of mathematicians in those countries and from the perspective of their international partners. International leading economists will explore the relationship between mathematical development and economic development.

A particular effort has been undertaken with the *NANUM 2014 program* that the Organizing Committee of ICM 2014 offered to invite 1,000 mathematicians in developing countries to Korea to participate in ICM 2014. Travel grants awarded were in the range of approximately US\$1,500 - US\$2,500 per person according to the regional groups, making the total sum of US\$2 million under this program.

# **ICM 2018**

The IMU has received the bid from Rio de Janeiro, Brazil, to organize the International Congress of Mathematicians in 2018. The ICM 2018 Site Visiting Committee appointed by the EC visited the proposed site. The EC, based on the report of the Site Visiting Committee, decided to recommend to the GA Rio de Janeiro as the location of ICM 2018. The Brazilian colleagues will present their proposal for ICM 2018 to the delegates of the 2018 General Assembly at Gyeongju.

# 4.2.International Commission on Mathematical Instruction (ICMI)

http://www.mathunion.org/icmi

# Quadrennial Activity and Financial Report on ICMI activities in the period 1 January 2010 - 31 December 2013 prepared by Ferdinando Arzarello, Abraham Arcavi, and Lena Koch

#### 1. ORGANISATION

The International Commission on Mathematical Instruction was established at the Fourth International Congress of Mathematicians in Rome, 1908. Following interruptions in activity as a result of the First and Second World Wars, ICMI was reconstituted in 1952 and became an official commission of the International Mathematical Union (IMU).

# **ICMI General Assembly and ICMI EC**

In the period 2010-13, two Executive Committees of the International Commission on Mathematical Instruction were in office: The 2010-12 ICMI EC and the 2013-16 ICMI EC. The 2010-12 ICMI EC was elected for a three-year term of office, instead of the usual four, because of the new procedure for the election of the ICMI EC adopted by the 2006 IMU General Assembly (GA) and bringing a shift for the election from the IMU GA to the ICMI GA.<sup>1</sup>

The **First General Assembly of ICMI** was held in Monterrey on July 6, 2008, on the day prior to the opening of ICME-11. The costs for hosting the General Assembly were generously supported by the ICME-11 organisers. For the first time, the ICMI General Assembly was responsible for the election of the ICMI Executive Committee. The ICMI Nominating Committee was composed of Jeremy Kilpatrick (USA), chair, Michèle Artigue (France), László Lovász (Hungary), Attia Ashour (Egypt), Lee Peng Yee (Singapore), and Evgenia Sendova (Bulgaria). The Chair of the ICMI Nominating Committee, Jeremy Kilpatrick, attended the General Assembly in order to present the slate of candidates proposed by the Committee.

The elected members of the EC 2010-12 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)

<sup>&</sup>lt;sup>1</sup> An important consequence of the new procedure is that the election of the ICMI EC takes place at the General Assembly of ICMI (the first election was held in 2008 in Monterrey and the 2010-2012 ICMI EC was subsequently elected). The principles of the new election procedure had been agreed upon by the IMU and ICMI ECs in 2004, and refined in 2006. During these latter discussions, a new rule was then introduced stipulating, in accordance with the IMU tradition that the President of ICMI should serve for only one term (plus a term as Past President). The Terms of Reference of ICMI were amended accordingly — the new Terms were adopted by the IMU EC early in 2007.

- Renuka Vithal (South Africa)
- Zhang Yingbo (China)

## Ex officio:

- Michele Artique (France, former ICMI President)
- Ingrid Daubechies (President of IMU)
- Martin Grötschel (Secretary of IMU)

As a consequence of the shift in the ICMI EC election from the IMU GA to the ICMI GA, the term of this EC was three years, beginning on January 1, 2010 and ending on December 31, 2012.

The 2010-2012 EC took office on January 1, 2010. The first meeting was held in Auckland on April 5-8, 2010, with all members present. Cheryl Praeger represented the IMU. It was decided to intensify contacts in order to increase the number of countries, which are members of ICMI, and to have the maximum number of active representatives. The financial situation of ICMI was discussed and it was decided to wait until a new IMU office was established by the IMU General Assembly to define the new structure. The possibility of the President being supported by his university with a half-time administrative assistant also arose. The need for close cooperation with IMU was reaffirmed and the continued expansion of ICMI development activities was agreed upon.

The second meeting of the 2010-2012 EC took place in Beijing, China on February 21-25, 2011. Cheryl Praeger represented the IMU. The major decision was the continued expansion of ICMI development activities in the form of the CANP (see below).

The third meeting of the 2010-2012 EC took place in Seoul, South Korea, on July 6-7 AND 15, 2012. The major conclusions reached focused on 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. Cheryl Praeger represented the IMU.

The Second General Assembly of ICMI was held in Seoul on July 5, 2012, on the day prior to the opening of ICME-12. The costs for hosting the General Assembly were generously supported by the ICME-12 organisers. For the second time this General Assembly was responsible for the election of the ICMI Executive Committee. The ICMI Nominating Committee was composed of Bernard R. Hodgson, Chair (Canada)\*, Bill Barton (New Zealand)\*, Ingrid Daubechies (USA)\*², Jill Adler (South Africa), Shobha Madan (India), Nguyen Chi Thanh (Vietnam) and Dirk Siersma (The Netherlands). The Chair of the ICMI Nominating Committee for this election, Bernard Hodgson, attended the General Assembly in order to present the slate of candidates proposed by the Nominating Committee.



GA 2012, Seoul, Korea

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.

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<sup>&</sup>lt;sup>2</sup> \*Core members.

The ICMI Executive Commission (2013-2016) members are:

- PRESIDENT: Ferdinando Arzarello (Italy)
- SECRETARY-GENERAL: Abraham Arcavi (Israel)
- VICE-PRESIDENTS (2): Cheryl Praeger (Australia) and Angel Ruiz (Costa Rica)
- MEMBERS AT LARGE (5):
- Jean-Luc Dorier (Switzerland)
- Yuriko Baldin (Brazil)
- Roger Howe (USA)
- Catherine P. Vistro-Yu (Philippines)
- Zahra Gooya (Iran)

## Ex officio:

- Bill Barton (New Zealand) (Past President of ICMI)
- Ingrid Daubechies (President of IMU)
- Martin Grötschel (Secretary of IMU)

The next ICMI General Assembly will take place in Hamburg, Germany on Saturday, July 23, 2016.

The first meeting of the 2013-2016 EC took place in Berlin, Germany, on May 22-24, 2013 and was generously supported by the IMU Secretariat. Cheryl Praeger represented the IMU, also IMU Secretary Martin Grötschel participated partially in the meeting. The major conclusions reached were the continued expansion of ICMI development activities in the form of the Capacity and Network Project (CANP), the expansion of the Klein Project; ICMI's involvement in the IMU symposium "Mathematics in Emerging nations, Achievements and Opportunities (MENAO)" at ICM in August 2014 and to strengthen the cooperation with Springer (ICMI Studies Publishing House). Furthermore the guidelines of ICMI Studies were finalized and ICMI channels of communication were reorganized.

Ferdinando Azarello attended the conference "21<sup>st</sup> Century Mathematics" in Stockholm, in April 2013. The meeting was considered to be of great importance (funded by Bill Gates, attended by prominent scholars), but did not produce a definite agenda for action.

Ferdinando Azarello attended a meeting in Moscow on the 2-6 October 2013 organized by Guenter Toerner (ICMI representative Germany) of the EMS Commission for Didactics.

Bill Barton participated on behalf of ICMI in the 2013 IMU- Committee for electronic information communication (CEIC) meeting in June 2013 in the UK.

## **IMU General Assembly**

The President and the Secretary-General of ICMI were invited as ex officio observers to the General Assembly of IMU held in Bangalore in 2010. The President of ICMI presented a Report on ICMI activities to the General Assembly, and numerous contacts were made with the delegates of different countries. We can say that relations with IMU are excellent. In this General Assembly IMU decided to establish its new permanent office in Berlin. During the ICM, the President and the Secretary-General of ICMI had a meeting with the Secretary-General of IMU to prepare the transition to the new office that was established in early 2011.

# IMU Secretariat

The IMU Secretariat based in Berlin, Germany started working in January 2011 and supports all ICMI activities. Lena Koch is the ICMI administrator and 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 and the IMU Archivist.

In 2013, two important ICMI events were held in the premises of the IMU Secretariat: The ICMI EC meeting in May as well as the Klein Meeting in September 2013. Both were financially supported by the funds of the IMU Secretariat (German Ministry of Education and Research and the City of Berlin). In January 2014, the IPC meeting of ICMI Study 23 was held in Berlin as well.

# **ICMI** members and Representatives

Currently ICMI has 92 member countries. 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 representatives also inform the national communities of developments within ICMI.

In 2009 ICMI had 85 member countries. In the General Assembly of IMU in 2010, 4 new countries (*Cambodia, Moldova, Nepal, and Oman*) were admitted as Associate Members and 1 as full member (*Montenegro*). These countries automatically became members of ICMI. In 2011 ICMI had 90 member countries, 69 of which are also members of IMU and eight are associate members of IMU. In 2012 ICMI had 92 member countries, 70 of which are also IMU members and 10 are IMU associate members. Finally three new members were welcomed to the ICMI community in 2013: *Nepal, Madagascar, and Oman*.

# 2 THE INTERNATIONAL CONGRESS ON MATHEMATICAL EDUCATION (ICME)

#### ICME-11

The preparation of the Proceedings of ICME-11 has experienced substantial delay with respect to the planned schedule, and the past-ICMI EC met some difficulties at maintaining communication with those in charge of their preparation in Mexico. As of July 2014, the process has been re-established and publication (online only) is expected towards the end of 2014.

# ICME-12

The ICMI Executive Committee had announced by the end of 2007 its decision to accept the invitation from Korea to host ICME-12 in 2012. Professor Sung Je Cho, of the Seoul National University, chaired the International Programme Committee of ICME-12. This IPC, whose composition was announced in the *ICMI Bulletin No. 63*, had its first meeting in Seoul on June 14-17, 2009. A first set of decisions was made during the meeting regarding the plenary activities of the congress as well as the list of Topic Study Groups. It was also decided to reorganise the functioning of some of the activities, such as the Discussion Groups. The IPC held its second meeting in February, 2011, in Jeju, Korea.

The congress itself took place in the COEX Convention Centre, in Seoul, on July 8-15, 2012. More than 3,600 participants from 84 countries participated. Information about the congress is available at: http://www.icme12.org.

The proceedings for ICME-12 will be published in 2014 or early 2015.

# ICME-13

A call for bids for ICME-13, to be held in 2016, was made by the Secretary-General at the closing ceremony of ICME-11 and in *ICMI Bulletin (No. 63)*. Potential bidders were invited to announce their intention by November 1, 2009, and three countries did so. Formal bids were due by November 1, 2010. The site visits were conducted in 2011 and the decision for ICME-13 was announced in 2011. Hamburg, Germany will host the next ICME-13 from 24-31, July, 2016. Professor Gabriele Kaiser of the University of Hamburg is chairing the International Programme Committee (IPC). The first IPC meeting was held from June 15-21, 2013 in Schlossgut Gross Schwansee, on the Baltic Sea near Hamburg. The President, Ferdinando Arzarello, and the Secretary General, Abraham Arcavi were present at the meeting. More than 3000 participants from 80 countries are expected to participate in ICMI-13. Information about the congress is available at: <a href="http://icme13.org">http://icme13.org</a>

#### ICME-14

A call for intention to bid for ICME-14 in 2020 was distributed in 2012 globally and resulted in three "declarations of intent to host ICME-14, 2020".

# **ICME Solidarity Fund**

Each ICME devotes at least 10% of the registration fees to the ICME Solidarity Fund that allows organisers providing support to participants from developing countries for attending the Congress. For ICME-12, 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 organisers and the ICMI Executive Committee. The composition of the ICME-13 Solidarity Fund Committee consists of three ex-officio members: the Chairperson of the IPC (Gabrielle Kaiser), the Chairperson of the LOC (Marianne Nolte), the ICMI Secretary-General and three other members respectively representing the IPC (chosen by the IPC Chairperson), the LOC (chosen by the LOC Chairperson) and the ICMI EC (chosen by the EC). In 2013 the ICMI EC decided that ICMI Vice President Angel Ruiz and ICMI Secretary-General Abraham Arcavi will represent the ICMI EC. The Grants Committee will meet in February 2016 to make decisions.

# 3. ICMI AFFILIATE ORGANISATIONS

The Terms of Reference of ICMI were amended in 2009 to allow affiliation to ICMI not only to Study Groups focusing on a specific field of interest in mathematics education, as has been the case since 1976, but also to multi-national mathematical education societies, or to multi-national societies having a formal mathematical education subgroup.

ICMI's organisational outreach includes multi-national organisations with interest in mathematics education, operating consistently with the aims and values of the Commission. Affiliated organizations 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 Organizations 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 affiliated 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: Intl. 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)

# 4. ICMI STUDIES

The ICMI Studies are a major ICMI programme. 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 21 volumes have been published between 1986 and 2012.

The 2010-2012 series editors were ICMI President Bill Barton and ICMI Secretary-General Jaime Carvalho E Silva. The series editors for 2013-2016 are ICMI President Ferdinando Azarello, Secretary-General Abraham Arcavi and ICMI Vice President Cheryl Praeger.

ICMI Studies published in 2010-2013 are:

ICMI Study 18: Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education (August 2011) Editors: Carmen Batanero, together with Gail Burrill and Chris Reading. (NISS 14).

ICMI Study 19: The Role of Mathematical Reasoning and Proving in Mathematics Education (July 2012) Editors: Gila Hanna and Michael de Villiers (NISS 15).

ICMI Study 20: Educational Interfaces between Mathematics and Industry (organised jointly with the International Council for Industrial and Applied Mathematics (ICIAM), December 2013). Editors: Alain Damlamian Rudolf Sträßer and José Francisco Rodrigues (NISS 16).

ICMI Studies currently being published are:

ICMI Study 21: Mathematics Education and Language Diversity, Editors: Mamokgethi Setati and Maria do Carmo Domite (Universidade de São Paulo). The first meeting of the IPC was held in February 2009 and the Discussion Document was available early in 2010. The Study Conference took place in Águas de Lindóia, São Paulo, Brazil, on 16-20 September 2011. Both Co-chairs have since stepped down due to personal reasons. The website is <a href="http://www.icmi-21.co.za">http://www.icmi-21.co.za</a>. The volume is now jointly edited by members of the IPC, coordinated by IPC member Richard Barwell (Canada) will be published in early 2015 (NISS 17).

**ICMI Study 22:Task Design**, The 2010-2012 Executive Committee launched this Study in 2010 on Task Design. The co-chairs are Anne Watson and Minoru Ohtani/ The IPC met in January 2012 in Oxford, UK. The Study Conference was held from July 22-26 2013 at the Department of Education, University of Oxford, UK and Ferdinando Arzarello and Abraham Arcavi represented the ICMI EC. Publication of the Study Volume is expected in early 2015.

#### Next ICMI Study:

**ICMI Study 23**: Primary Mathematics Study on Whole Numbers. The 2010-2012 EC launched this Study on December 2012and appointed the Co-Chairs Mariolina Bartolini Bussi (Italy), and <u>Sun Xuhua (China)</u>. The IPC has been appointed and started working in January 2013 when the first IPC meeting took place in Berlin, Germany. Abraham Arcavi, Ferdinando Arzarello and Roger Howe presented the ICMI EC. The study conference will take place in Macau, China in June 2014.

# 5. ICMI REGIONAL CONFERENCES

Launched in the mid-seventies, ICMI Regional Conferences aim to facilitate wider discussion of mathematical education issues in particular regions. They foster reflection, action and co-operation among mathematicians, mathematics educators and teachers. These meetings are supported morally by ICMI, sometimes with a modest financial contribution.

The ICMI EC accompanies the organisation of the following conferences so that they will be granted the status of ICMI Regional Conferences:

**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 3 (the Third Africa Regional Congress of ICMI on Mathematical Education) under the theme "Mathematics

as a Leading edge in the Education for All (EfA) Framework" in Gaborone, Botswana, on May 18-21, 2010. Renuka Vithal, member of the ICMI EC was a member of the Scientific Committee. The president of ICMI was present at this Congress. AFRICME 3 gathered 121 participants from 14 different countries, including 15 teachers. AFRICME-4 was hosted by the Lesotho College of Education, Faculty of Science on the 11-14 June, 2013 in Lesotho. Michele Artique presented ICMI and Ferdinando Arzarello gave a welcome address via live-streaming. More information can be found here: http://www.mathunion.org/icmi/conferences/icmi-regional-conferences/past-conferences/

## Conferencia Iinteramericana de Educación Matemática

The XIII Conferencia Interamericana de Educación Matemática (CIAEM), took place in Recife, Brasil, on June 26-30, **2011**. This meeting coincided with the 50th anniversary of the Comité Interamericano de Educación Matemática (CIAEM), an organisation recently affiliated to ICMI. The ICMI EC was represented on the International Programme Committee by Michèle Artigue and Bernard R. Hodgson. More than 1,800 math educators, mathematicians and teachers from 33 countries met for five days and could follow 5 plenary talks, 4 plenary round tables (one of them dedicated to the work of Ubiratan D'Ambrosio), 30 parallel talks, 6 parallel round tables, and more than 700 contributed papers. In this meeting ICMI Study 18 was launched and an update of the Klein Project was presented to the participants. CIAEM-14 will be held in Mexico in May **2015**. https://www.facebook.com/ciaem

# **Espace Mathématique Francophone (EMF)**

**EMF:** These conferences are defined in linguistic rather than geographical terms. The last one was held in Geneva, Switzerland, in February **2012**. The ICMI EC was represented on the International Programme Committee by Bernard R. Hodgson and Jaime Carvalho e Silva.

The sixth EMF conference, (EMF-2015) will be held in 2015 in Tipaza (Algeria) from October10-14, 2015. Jean-Luc Dorier and Ferdinando Arzarello represent the ICMI-EC on the International Programme Committee (IPC).

 $http://www.mathunion.org/icmi/events/details/?tx\_ttnews[tt\_news] = 829\&cHash = 27033db6a2fd35703d9f546dec7fa48f$ 

# **EARCOME**

The Fifth ICMI East Asia Regional Conference in Mathematics Education was held in Tokyo on August 18-22, **2010**, under the theme "In search of excellence of mathematics education". The ICMI EC was represented on the International Programme Committee of this conference by Frederick Leung.

The **Sixth East Asia Regional Conference in Mathematics Education** "Innovations and exemplary practices in mathematics education" (EARCOME-6) was held in Phuket, Thailand on March 17-22, 2013. Bill Barton (New Zealand) and Bernard Hodgson (Canada) participated in the conference on behalf of the ICMI EC. During the conference the upcoming CANP workshop in Cambodia (October 2013) was discussed with members of the IPC and LOC. http://earcome6.kku.ac.th/earcome/ ERCOME -7 will be held 2015 in the Philippines.

# 6. PIPELINE PROJECT

The final report of the "Pipeline Project" was presented at ICM **2010** in a panel chaired by the President of ICMI (2010-2012) Bill Barton. An update can be found in the July 2014 issue of the ICMI News.

http://www.mathunion.org/pipermail/icmi-news/attachments/20140701/5707a76b/attachment.pdf

# 7. THE KLEIN PROJECT

The Klein Project, inspired by Felix Klein's book *Elementary Mathematics from an Advanced Standpoint*, published more than a century ago, provided mathematics teachers with knowledge of contemporary mathematics. The idea of this project is to revisit Felix Klein's vision 100 years later.

The project is coordinated by a "Design Group" consisting of:

- Michèle Artigue, Université Paris Diderot, France
- Ferdinando Arzarello, Università degli Studi di Torino, Italy
- Bill Barton, The University of Auckland, New Zealand (chair)
- William (Bill) McCallum, University of Arizona, USA
- Tomas Recio, Universidad de Cantabria, Spain
- Christiane Rousseau, Université de Montréal, Canada
- Hans-Georg Weigand, Universität Würzburg, Germany
- Yuriko Yamamoto Baldin, Universidade Federal de São Carlo, Brazil
- Graeme Cohen, University of Technology, Sydney, Australia (resigned in 2013)

Six meetings of the Design Group have taken place since 2009: in Paris in May, 2009, in Auckland in April, 2010, in the US in 2011, in Paris in 2012, in Berlin, Germany in 2013 and in Brazil in 2014.

Several Klein conferences and workshops took place in 2010 - 2013:

- In Castro-Urdiales, Spain (June 2010)
- In Belo Horizonte, Brazil (July 2010)
- a UK Klein Workshop has been held at Oxford University in June 2010
- a special Klein session was organized at Mathfest 2010 in Pittsburg (USA) in August 2010
- A meeting in Funchal, Portugal
- "Felix Klein days" were organized in 2011, 2012 and 2013 in Sweden
- Several Klein workshops were held in Brazil in 2011-2013
- a major week-long workshop of 30 people funded by AIM in Palo Alto (USA), 7-11 November 2011.
- Antoine Nectoux presented the Klein Project in Phnom Penh, Cambodia in March 2013.
- A workshop "Elementary Mathematics from an Advanced Standpoint Felix Klein and Mathematics for Teachers" was held in Berlin, Germany from September 17-20, 2013. The Klein workshop had 27 participants from 10 countries. Additionally a public day with secondary school teachers from Berlin and the region was held on Thursday, September 19, 2013 at the Humboldt University at Berlin and more than 80 secondary school teachers participated. The IMU Secretariat and the German Research Foundation (DFG) supported the workshop (each with a grant).

More information about the workshop can be found here: <a href="http://www.mathunion.org/icmi/activities/klein-project/klein-workshop-berlin-2013/">http://www.mathunion.org/icmi/activities/klein-project/klein-workshop-berlin-2013/</a>

In **2012** the Klein Project has turned its primary focus to the production, dissemination, and trial (with teachers) of "Klein Vignettes" and up till now (July 2014) 23 vignettes (short articles for secondary school teachers of senior mathematics classes) have been published and some translated into several languages.

A wiki site for the project has been launched in 2009, <u>www.kleinproject.org</u> where more information can be found.

The Vignettes are being distributed via a Blog (<a href="www.blog.kleinproject.org">www.blog.kleinproject.org</a>) and are being trialed both in Brazil under the coordination of Yuriko Baldin and in New Zealand under the coordination of a part-time Research Assistant and Bill Barton. Another Research Assistant, Antoine Nectoux, is undertaking French translations and revisions.

# 8. IMU - COMMISSION FOR DEVELOPING COUNTRIES (CDC) AND ICMI'S SOLIDARITY ACTIONS INCLUDING CANP

In August 2009 the Adhering Organizations of IMU decided to set up a Commission for Developing Countries (CDC) (aiming at enhancing and expanding the successful work carried out by CDE and DCSG previously) with the mission to manage, strengthen and promote the programs of the IMU in developing and economically disadvantaged countries, to search for funding to support the corresponding activities, and to establish institutional partnerships with scientific organisations with common goals.

At the meeting of the IMU General Assembly in Bangalore, 2010 the CDC Terms of Reference were approved and the CDC leadership was elected. The CDC President is José-Antonio de la Peña (Mexico). The ICMI EC appoints one member of this Commission.

The ICMI 2010-2012 Executive Committee nominated Vice-President Angel Ruiz as member of this Commission (2010-2014). In 2011 the Commission held its first meeting in Berlin, Germany. Angel Ruiz represented ICMI in this meeting. In 2010, 2012 and 2013 ICMI received support from CDC for the Capacity and Networking Project (CANP) in Mali, Costa Rica and Cambodia.

ICMI President Ferdinando Arzarello participated in the second CDC meeting, which was held on March 9-10, 2013 in Berlin, where the MENAO (Mathematics in Emerging Nations: Achievements and Opportunities) symposium was discussed. Afterwards he also participated in the Friends of Mathematics Education (an initiative by EMS Committee for Education Symposium and supported by the German Telekom Foundation) that was held on March 14-15, 2013 also in Berlin, Germany.

# **ICMI Solidarity Fund**

The ICMI Solidarity Fund was established by ICMI in 1992. Its purpose is to help the development of mathematics education in countries in which there is a need for it that justifies international assistance. In 2012, the money has been re-allocated to the CANP project where it is used to serve its intended purpose.

# **Capacity and Networking Project (CANP)**

Arising from the UNESCO interaction, negotiations were successful in developing a project to enhance mathematics capacity in developing regions called the Capacity & Networking Project (CANP) - The Mathematical Sciences in the Developing World. CANP is a 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 training mathematics teachers and creating sustained regional networks of teachers, mathematics educators and mathematicians and linking them to international support.

# CANP 1, CANP EDIMath Sub Saharan Africa

The first CANP Program, CANP Sub-Saharan EDIMath was held for two weeks in **2011** in Mali with about 40 participants from five countries in the region.

The Mali CANP project was financially supported by UNESCO, the IMU Commission for Developing Countries, ICMI, the International Centre for Pure and Applied Mathematics (CIMPA), the SCAC of the Embassy of France in Mali, Joseph Fourier University in Grenoble and substantial support from the Ministry of Education, Literacy and National Languages of Mali. In addition, the FAST University of Bamako made freely available an Amphitheatre for the opening ceremony, a large room and a computer room for training and provided wireless internet access for participants.

More information can be found at:

 $\underline{\text{http://www.mathunion.org/icmi/other-activities/outreach-to-developing-countries/canp-project-2011-mali/}$ 

The follow-up workshop took place in Senegal in September 2012 in Dakar.

## **CANP 2 Central America and the Caribbean**

The second CANP Programme held its two-week workshop with about 40 participants from six countries in Costa Rica in August, 2012. The creation of the '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 (Paris), 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 website is: <a href="http://redumatematicacyc.net">http://redumatematicacyc.net</a>. In 2013 the Network met (as a follow up) in November 6-8 in Santo Domingo, Dominican Republic.

**CANP 3 South East Asia**: The Third Capacity and Network Project (CANP) started with a two week workshop which was held from 14-25 October, 2013 in Phnom Penh, Cambodia with more than 40 participants from Cambodia, Laos, Thailand and Vietnam.

**CANP 4 East Africa**: The IPC and Local Organizing committee has been formed and started working in 2013. The fourth CANP will be held in 1-12 September 2014 in Tanzania with participants from Tanzania, Kenya, Uganda, and Rwanda.

**CANP 5 Andean Region** will be held in February 2016 in Peru. ICMI is currently fundraising for the workshop. Participants will come from Peru, Bolivia, Paraguay and Ecuador.

# 9. Collaboration with UNESCO and UNESCO

A nice evolution in the ICMI context for action in recent years is the renewal and strengthening of the relationships with UNESCO, which had been identified as an important objective by the 1999-2002 ICMI EC. Also UNESCO has recently been sponsoring several ICMI actions, especially as they concern the developing world.

Over the last years, ICMI has been sponsoring, jointly with UNESCO and other bodies, the development of a mathematical exhibition entitled "Experiencing mathematics", whose aim is to improve the image of mathematics among the general public. Three copies of the exhibition are now available and are circulating internationally under UNESCO and ICMI auspices. Specific support for its presentation in various regions has been given in recent years by IMU and by ICMI. CIMPA and the French Ministry of Foreign Affairs have also provided support for the exhibition.

In 2010, one set of the exhibition finished its circulation in Latin America by returning to Santiago, Chile (Santiago University) for the first quarter of 2010. It was then in Cordoba (Spain) between September and October on the occasion of the XIII Congreso de Enseñanza y Aprendizaje de las Matemáticas of the THALES society (Sociedad Andaluza de Educación Matemática THALES). The second set travelled in Asia, and an 18-month travel in Korea, with the support of NateSystem and KIDP (Korean Institute of Design Promotion) ended in Seoul in October, 2010. The third set of the exhibition travelled in 2010 in Burkina Faso, in the cities Ouagadougou, Koudougou & Bobo Dioulasso.

In 2009, ICMI President Michèle Artigue was invited to contribute to a document about "The challenges of mathematics and basic science education" –to be published and disseminated by UNESCO in French, English and Spanish– by taking responsibility for the section on mathematics

education. The document — 34 pages plus 14 appendices — was delivered to UNESCO in July 2009, and translation assistance into English was also provided. It was published later in 2010. The ICMI EC has adopted this document as a position statement on Mathematics Education for its own purposes.

Ferdinando Azarello met with Juste Jean-Paul Ngome Abiaga, UNESCO contact person, in Paris in March 2013 where he also attended the opening of the <u>Mathematics of Planet Earth</u> exhibition. Juste Jean-Paul Ngome Abiaga is also a member of the IPC of CANP Tanzania (2014).

## 10. COLLABORATION WITH ICSU

Since 2012 ICMI has also started a collaboration with the International Council of Scientific Unions (ICSU). ICSU has supported the CANP project in Costa Rica in 2012 with a generous grant of EURO 30,000. Additionally the president of ICSU Regional office Latin America (ICSU ROLAC) participated in the CANP Workshop held in Costa Rica.

ICSU also endorsed CANP South East Asia (the workshop was held 2013 in Cambodia) and is supporting CANP East Africa (Tanzania, 2014) with a grant of EURO 30,000. A staff member of ICSU Regional Office Africa (ICSU ROA) will also participate in the workshop held in Dar es Salam in September 2014.

## 11. THE 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.

The ICMI 2009 and 2011 Awards were presented 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. Mogens Niss ended his term as the chair the ICMI Award Committee in 2010; two other members also completed their term on the Committee and were replaced (Only the name of the Chair is publicly known). Carolyn Kieran is the chair the ICMI Award Committee 2010-2014.

The ICMI **2013** Awards were announced in November 2013. The recipients are: Michele Artigue (France) - The Felix Klein Medal, and Frederick Leung (China) - The Hans Freudenthal Medal.

They will be presented at the ICME opening ceremony in Hamburg in July, 2016, alongside other two awardees to be selected towards the Congress.

A new award was established by the current EC: the Emma Castelnuovo Award for Excellence in the Practice of Mathematics Education. An Award Committee was appointed with Jeremy Kilpatrick as its Chair. (See <a href="http://www.mathunion.org/icmi/activities/awards/emma-castelnuovo-award/">http://www.mathunion.org/icmi/activities/awards/emma-castelnuovo-award/</a>). The first award will be presented at ICME 14 in Hamburg, in 2016.

# 12. IMU/ICMI DIGITALISATION PROGRAMME

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 the proceedings of various meetings and conferences are available for free download on the ICMI website: <a href="http://www.mathunion.org/icmi/digital-library/introduction/">http://www.mathunion.org/icmi/digital-library/introduction/</a>

The ICMI Digital Library was officially launched on July 1, 2009, with the posting online of the Proceedings of the symposium organized in 2000 on the occasion of the centennial of L'Enseignement Mathématique, the official organ of ICMI. A contract was signed with Cambridge University Press in June, 2010 to make this material available on the ICMI Website as well.

All Bulletins digitized with the help of IMU, the most recent Proceedings of ICMI Study meeting, and the ICMI Studies edited by CUP are all available online for the ICMI community. ICMI Studies will be made available for free on the ICMI website in 2015. (ICMI Studies 6-16)

## 13. 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 28 countries is available on the ICMI website. <a href="http://www.mathunion.org/icmi/activities/database-project/introduction/">http://www.mathunion.org/icmi/activities/database-project/introduction/</a>
The database is already in use by researchers and curriculum-developers.

# 14. COMMUNICATION, OUTREACH AND ARCHIVE

In 2013 ICMI has decided to reorganize its channels of communication with professional organizations and the general public, as follows:

- Issue a Newsletter (ICMI News) three times a year (July 1, November 1, March 1) in order to post news, announce activities, and present reports. The newsletter will include a short editorial and will serve to disseminate ICMI information.
  - More information can be found here: http://www.mathunion.org/icmi/publications/icmi-news/
- Re-negotiate the terms with, <u>L'Enseignement Mathématique</u> as ICMI's official journal the Official Organ of ICMI
- Issue an annual report to IMU and a quadrennial report to the IMU GA
- Maintain regular contact with ICMI Country Representatives.
- Update the ICMI website, hosted on the IMU server in Berlin regularly.
- Use Facebook for the dissemination of news. The ICMI Facebook page was established in 2011 and has currently more than 2600 'friends' and 780 'likes'.
- Archives: The ICMI Achieve Curator Bernard Hodgson is responsible for collecting relevant information, proceeding etc. The data is stored in the IMU archive in the IMU Secretariat.

These channels of communication will cover all our outreach and archival needs and fulfil ICMI's statutory obligations. It was unanimously decided to discontinue the production of the Bulletin, whose functions will be fully covered by the four channels described above.

All communications are under the Editorship of the ICMI Secretary-General and Vice President Cheryl Praeger.

More information and details about ICMI activities can be found on the website: <a href="https://www.mathunion.org/icmi">www.mathunion.org/icmi</a>

# **ICMI Financial Report**

ICMI Balances 2010 (1 January – 31 December)	
Balance as of January 1:	
ICMI • Canadian Dollars	12,537.74
<ul> <li>US Dollars</li> </ul>	(106.96)
• Euros	64,677.09
	•
Solidarity Fund (US Dollars)	39,426.29
Canadian Dollars Account:	
Income:	
Balance 2009	12,537.74
Interest	33.94
Total	12,571.68
Expenditure:	1 722 02
Purchase of copies of the ICMI Centennial volume	1,732.83
ICMI Bulletin: editing and translation of articles	525.00
bank charges (checks and foreign transfers)	10.69
ICMI balance 2010 (CAD account)	10,303.16
Total	12,571.68
US Dollars Account:	
Income:	
ICMI balance 2009	(106.96)
Grant from UNESCO: CANP Project	15,000.00
Royalties on ICMI Study volumes – 2009 (Springer)	1,619.79
	868.36
Royalties on ICMI Study volumes – 2010 (Springer)	808.30
ICMI interest 0,00	20.42.520
Solidarity Fund balance 2009	39,426.29
Solidarity Fund interest	112.95
Total	56,920.43
Expenditure:	
ICMI/IMU Pipeline meeting, Valencia (October 2009)	3,474.00
ICMI EC meeting, Auckland (April 2010): travel of EC members	2,277.19
ICMI Study 20: conference, Lisbon (October 2010)	785.95
Travels and expenses of ICMI President	7,407.00
•	180.13
Bank charges (checks and foreign transfers)	
Solidarity Fund support to a conference in Cambodia	5,000.00
ICMI balance 2010 (USD account)	3,256.92
Solidarity Fund balance 2010 (USD account)	34,539.24
Total	
1 Otal	56,920.43
Euros Account:	
Income:	
Balance 2009	64,677.09
Interest	76.55

Total <u>64,753.64</u>

Expenditure: 0,00

ICMI balance 2010 (EUR account) 64,753.64 Total 64,753.64

Average exchange rate, 2010: 1~USD = 1,03~CAD = 0,75~EURBernard Hodgson managed the ICMI funds in Canada until February 1, 2011.

# ICMI BALANCES 2011 (IN EURO)

		IN EURO
General Income	IMU Grant for 2010 <b>AND</b> 2011 <sup>3</sup>	81,068.80 €
Savings	ICMI Balances 2010 as of 31.12.2010*	75,316.18 €
Special Income: Grant	ICMI Income: CIMPA Grant (for EdiMath/CANP)	1,800.00 €
Special Income: Grant	ICMI Income: CDC Grant (for EdiMath/CANP)	3,830.83 €
Special Income: Grant	ICMI Income: UNESCO Grant (for EdiMath/CANP)- 3 <sup>rd</sup> payment	3,808.94 €
Special Income: Grant	ICMI Income: Australian Mathematical Society for Klein Project 2010	2,694.05 €
Savings	ICMI Solidarity Fund*	26,767.60 €
Bank Interest	Bank Interest	171.89 €
	TOTAL BUDGET available for 2011:	195,458.29 €
ICMI Expenses:		
Klein Project	Klein Project 2010	2,584.89 €
ICM	ICM 2010	1,258.63 €
ICMI EC	ICMI EC Meeting 2010	2,602.05 €
ICMI Study	ICMI Study 20, Conference Lisboa	2,252.70 €
IMU	IMU Secretariat Inauguration, Berlin, 2011	239.64 €
ICMI EC	ICMI EC Meeting 2011 (China)	4,484.40 €
CANP Project	CANP/ EdiMath Mali (ICMI expenses)	26,660.68 €
ICMI Study	ICMI Study 18	100.00 €
Regional Conference	ICIAM Conference	1,647.90 €
ICMI Study	ICMI Study 21	2,060.21 €
Administration	Administrative Costs	356.70 €
Total Spending 2011		44,247.80 €
ICMI Savings	as of 31.12.2011	151,210.49 €

<sup>\*</sup>Transferred from Canada in 2011 to Berlin

<sup>&</sup>lt;sup>3</sup> In 2010 ICMI did not receive the IMU grant as it was decided it would be transferred in 2011 to the new ICMI account in Berlin (IMU Secretariat).

# **ICMI Budget 2012 (in EURO)**

ICMI Budget 2012 (In EURO)	Amount	Total	Balances
ICMI Budget 2012 (Transaction)	Amount	10tai	Darances
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	505.04.6		
Interest EURO Account Berlin 2012	597.06 €		
IMU allocation ICMI for 2012 (General Income)	55,274.90 €		
IMU (Special Income) for ICME 12	10,000.00 €		
IMU (Special Income) CANP Cambodia 2013	30,000.00 €		
IMU (Special Income) CANP Costa Rica 2012	30,000.00 €		
CDC Grant for CANP Costa Rica 2013	3,830.83 €		
Springer Royalties	351.78 €		
ICSU Grant for CANP Costa Rica	30,000.00 €		
Total Income 2012		160,054.57 €	
Total INCOME/ FUNDS ICMI 2012		311,265.06 €	
EXPENDITURE 2012			
ICMI Website	260.00 €		
Cost Credit Card Annual Fee	47.50 €		
BANK ACCOUNT Transfer Fees	1,543.14 €		
<b>Total Administrative Cost</b>		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, EMF, ICME12 Site visit)	1,622.08 €	1,622.08 €	296,970.48 €
ICME 12 (including ICMI-EC meeting 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	4,168.30 €	4,168.30 €	220,007,71 €
CANP 2 (Central American and the Caribbean, Costa		CO 020 41 C	
Rica 2012)		68,929.41 €	151,078.30 €
Nepal visit Bill Barton (ICMI President)	1,304.67 €	1,304.67 €	149,773.63 €
Currency disparency	1,166.57 €	1,166.57 €	148,607.06€
Total spending ICMI in 2012		162,796.30	
Total savings (including funds in Canada)			148,607.06

# **ICMI BUDGET 2013**

Category	ICMI Budget 2013		Sum of Category/ spending	Balances ICMI
	ICMI INCOME			
General Income	IMU General Income to ICMI in 2013	€54,105.30		
Savings	ICMI Balances/ Savings (ICMI	€141,208.12		

r ICMI bank accounts from to Berlin bank account r Royalties for 2013 terest 2013 tom IMU - CDC 2013 SEA 2013 ICMI Decial Income from IMU NP)  EXPENSES 2013 Indo Arzarello Image: Arcavi 2 Final payments Chibition at UNESCO USD) Festival US 13 Distribution Accromath	€7,398.94 €328.93 €315.31 €8,000.00 €50,000.00 €261,356.60 Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	148,607.06  €3,202.88  €1,159.50  €1,193.76	€261,356.60 €261,356.60 €258,153.72 €256,994.22 €255,800.46
to Berlin bank account r Royalties for 2013 terest 2013 fom IMU - CDC 2013 SEA 2013 ICMI pecial Income from IMU NP)  EXPENSES 2013 Indo Arzarello Image: Arcavi 2 Final payments Inibition at UNESCO USD) Festival US	€328.93 €315.31 €8,000.00 €50,000.00 €261,356.60 Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€3,202.88 €1,159.50	<b>€261,356.60</b> <b>€258,153.72</b> <b>€256,994.22</b>
terest 2013 from IMU - CDC 2013 SEA 2013 ICMI special Income from IMU NP)  EXPENSES 2013 Indo Arzarello Image: Arcavi 2 Final payments Schibition at UNESCO JSD) Festival US	€315.31 €8,000.00 €50,000.00 €261,356.60 Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	<b>€261,356.60 €</b> 258,153.72 <b>€</b> 256,994.22
com IMU - CDC 2013 SEA 2013 ICMI Decial Income from IMU NP)  EXPENSES 2013 Indo Arzarello Im Arcavi 2 Final payments Inibition at UNESCO USD) Festival US	€8,000.00 €50,000.00 €261,356.60 Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	<b>€261,356.60</b> <b>€258,153.72</b> <b>€256,994.22</b>
SEA 2013 ICMI Decial Income from IMU NP)  EXPENSES 2013 Indo Arzarello Im Arcavi 2 Final payments Inhibition at UNESCO JSD) Festival US	€50,000.00 €261,356.60 Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	<b>€261,356.60</b> <b>€258,153.72</b> <b>€256,994.22</b>
EXPENSES 2013  Indo Arzarello  In Arcavi  2 Final payments  Inibition at UNESCO  USD)  Festival US	€261,356.60  Expenses €3,202.88  €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	<b>€261,356.60</b> <b>€258,153.72</b> <b>€256,994.22</b>
m Arcavi 2 Final payments hibition at UNESCO JSD) Festival US	Expenses €3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	<b>€261,356.60</b> <b>€258,153.72</b> <b>€256,994.22</b>
m Arcavi 2 Final payments hibition at UNESCO JSD) Festival US	€3,202.88 €1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	€258,153.72 €256,994.22
m Arcavi 2 Final payments hibition at UNESCO JSD) Festival US	€1,159.50 €1,193.76 €764.36 €407.81	€1,159.50	€256,994.22
2 Final payments hibition at UNESCO JSD) Festival US	€1,193.76 €764.36 €407.81	· · · · · · · · · · · · · · · · · · ·	
2 Final payments hibition at UNESCO JSD) Festival US	€1,193.76 €764.36 €407.81	· · · · · · · · · · · · · · · · · · ·	
hibition at UNESCO JSD) Festival US	€764.36 €407.81	€1,193.76	€255,800.46
JSD) Festival US	€407.81		
13 Distribution Accromath	£764.45		
ne Africa (1,000 USD) matics of Planet Earth)	E704.43		
,	€1,936.62	€1,936.62	€253,863.84
	0.47.75	047.75	6252.016.00
fee credit card Service Fee	€47.75	€47.75	€253,816.09
013, Study 19 launch	€747.04		
r fees ICMI 2013, Study 19	€36.55		
tudy 22, Grant (USD or Oxford meeting	€3,905.91		
	€4,689.50	4,689.50 €	€249,126.59
cost IPC member	€291.60	€291.60	€248,834.99
Central America, follow up Meeting Dominican	€5,000.00		
•	€36.55		
c GRANT r fees CANP Central	€5,036.55	5.036.55 €	€243,798.44
c GRANT r fees CANP Central	,500.00	-,	22.0,770.74
c GRANT r fees CANP Central a, GRANT			i l
c GRANT r fees CANP Central	€1,540.16	€242,258.28	
į	a, GRANT	1 = 36.55	a, GRANT €36.55 €5,036.55 € 5,036.55 €

Klein Project	ICMI 2012 Klein Project 2013 Cambodia	€1,261.56		
	Klein meeting Berlin	€699.20		
		€1,960.76	€1,960.76	€234,447.75
ICMI EC Meeting RIO 2014	Travel cost, EC member	€1,569.02	€1,569.02	€232,878.73
CANP 3 Cambodia Workshop	CANP SEA workshop in, Cambodia 2013	€40,362.84	40,362.84 €	€192,515.89
CANP 3 & ERCOME	Preparation CANP 3 and ERCOME ICMI EC participation	€4,680.80	4,680.80 €	
<b>Total Spending 20</b>	013		73,521.51 €	
Total Savings				€192,515.89

ICMI's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU) that receives its financial support from IMU member countries. In 2012 and 2013 ICMI has received a special grant for CANP in Cambodia, Costa Rica and Tanzania (in the total order of 110,000 Euro).

In 2012 and 2013 ICMI received four grants from the IMU Secretariat for

- 1.) A "hand over" from the IMU EC 2010-2012 to IMU EC 2013-16;
- 2.) ICMI's annual Executive Commission (EC) meeting (in May 2013)
- 3) A visit by the ICMI Archive Curator Bernard Hodgson to the ICMI Archive in Berlin in 2013.
- 4.) A Klein meeting, held in September 2013 in Berlin. The Klein Meeting in Berlin additionally received a grant of EURO 8,000 from the German Research Foundation (DFG). Since 2011 a part time staff member in the IMU Secretariat also supports ICMI (administration).

The other sources of income for ICMI are grants from various organizations and foundations. ICMI received a grant in the order of EURO 30,000 in 2012 from ICSU for the Capacity and Network Project held in Costa Rica as well as a grant from UNESCO for CANP Mali. The ICMI EC approves the ICMI budget and all its related spending.

ICMI would like to thank IMU, IMU Secretariat at the WIAS Berlin, and the IMU Commission for Developing Countries (IMU-CDC), ICSU, UNESCO, and all individuals and institutions supporting and volunteering for ICMI worldwide very much for the continuous support and collaboration.

Ferdinando Arzarello, ICMI President Abraham Arcavi, ICMI Secretary- General Lena Koch, ICMI Administrator, IMU Secretariat

# **Member Countries of ICMI 2013:**

A Algeria H Hong Kong P Pakistan

<sup>4</sup> The IMU Secretariat is located in Berlin, Germany and hosted by the Weierstraβ-Institut for Applied Analysis and Stochastics Leibniz-Institut at the Forschungsverbund Berlin e. V., and receives an annual subvention from the host country Germany to run all its administrative business, including the salary of the staff members.

Argentina Hungary Armenia Iceland Australia India Austria Indonesia Bangladesh Iran Belgium Ireland Bosnia and Herzegovina Israel Botswana Italy Brazil Ivory Coast Brunei Darussalam Japan Bulgaria Kazakhstan C Cambodia Kenva Cameroon Republic of Korea Canada Kuwait Chile Kyrgyzstan China L Latvia Colombia Lithuania Costa Rica Luxembourg Croatia M Madagascar Cuba Malawi Czech Republic Malaysia Mexico D Denmark Ecuador Moldova Egypt Montenegro

Peru Philippines Poland Portugal R Romania Russia S Saudi Arabia Senegal Serbia Singapore Slovakia Slovenia South Africa Spain Swaziland Sweden Switzerland T Thailand Tunisia Turkey U Ukraine United Kingdom United States of America Uruguay Venezuela Vietnam

Z Zambia

# **4.3.**Commission for Developing Countries (CDC)

Mozambique

Netherlands New Zealand

Nigeria

Norway

N Nepal

O Oman

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

Estonia

Finland

France

Germany Ghana

Greece

G Georgia

# Report on the activities of the Commission for Developing Countries (CDC) 1 January 2010 - 31 December 2013

Herb Clemens, Secretary for Policy CDC, Lena Koch, CDC Administrator (July 2014)

In August 2010 the adhering organizations of the IMU decided to merge two existing commissions working on projects for developing countries. The Commission on Development and Exchanges (CDE) and the Developing Countries Strategy Group (DCSG) were merged into the Commission for Developing Countries (CDC), which was to continue the expanding and successful work previously carried out by CDE and DSCG. Founded in January 2011, the

CDC brings together all of IMU's historical and current initiatives and projects in support of mathematics and mathematicians in the developing world together. For a list of CDC members, please see the appendix.

Between 2010-2013 the CDE and DCSG and since January 2011 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 following basic principles:

- I. Work with and support local mathematical leadership in developing countries.
- II. Acquire 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 for the following purposes:

# A) Project Support

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

# **B) Volunteer Lecturer Program**

Through this program the CDC was able 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. The 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 (IRT) 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 counties. 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 2010-2013

Various CDC members have been working on three reports about the current state of mathematics in Africa, [Southeast] Asia and Latin America and on opportunities for new

initiatives to support mathematical development. The reports will be made available in August 2014.

# **F) Administrative Costs**

Administrative costs are capped at 10% of the CDC operating budget. Since the CDC Administrator salary and many other administrative expenses were covered by the IMU Secretariat budget, such costs have remained low.

# **New CDC Grants and CDC administered programs:**

# **IMU-Simons Travel Fellowship Program**

The CDC has successfully applied for support from the Simons Foundation in New York, USA, and will receive annually the amount of USD 25,000 for 2014-2016 for the "IMU-Simons Travel Fellowship Program". It has been decided to replace the Individual Research Travel Grant Program from 2014-2016 with the IMU-Simons Travel Fellowship Program. The CDC Grant Selection Committee (GSC) is responsible for this program

Details of the program can be found online at:

http://www.mathunion.org/cdc/grants/simonstravelfellowship/

# **Abel Visiting Scholar Program**

In 2013 the Niels Henrik Abel Board (Norway) and the CDC launched the Abel Visiting Scholar Program. The Niels Henrik Abel Board gives an annual grant of USD 15,000 to support mathematicians professionally based in developing countries to visit an international research collaborator for a period of one month. The period is extendable for up to three months in the case of matching support from the host institution. The program is designed for postdoctoral mathematicians in the early stages of their professional careers. It is designed to offer the opportunity for a 'research sabbatical,' a necessary complement to teaching and other academic duties for mathematicians desiring to sustain a viable research program. The Abel Visiting Scholar Program Selection Committee is responsible for this program.

The 2013 report is included in this document.

Details of the program can be found online at: http://www.mathunion.org/cdc/grants/abel-visiting-scholar-program/

Activity Report 1.1.2010-31.12.2013

# A) PROJECT SUPPORT 2010-2013

# 1. Graduate Student Support

# AMMSI 2010-2013 Scholarships

The AMMSI Postgraduate Scholarship Programme was started in 2005 as part of The Mellon Foundation support to AMMSI activities. It was designed to provide partial support to students of mathematics and its applications. During the period 2005 - 2009, a total of slightly less then 200 scholarships were disbursed to students from all regions of Sub-Sahara Africa. Since the 2009/2010 academic year, the project has been supported through an annual grant of USD 20k from the CDC/IMU, from which a total of 45 PhD students have benefited. For the years 2010 to 2013, Table 1 shows the distribution of the beneficiaries by AMMSI regions and also by gender in each region, while Table 2 shows the distribution of the beneficiaries by level of study in each region.

The CDC has supported AMMSI during **2010-2013** with the total amount of **USD 84,000.** (In 2010 USD 20,000, 2011 USD 20,000, 2012 USD 22,000 and 2013 USD 22,000.) The grant is used for

scholarships for PhD students. Since 2012 the additional amount of USD 2,000 was used for administration purposes each year. AMMSI is a network of mathematics centers in Africa that organizes conferences and workshops, visiting lectureships and an extensive scholarship program for mathematics graduate students doing PhD work on the African continent. The AMMSI scholarship program currently needs continuous international funding to maintain its vital work of providing the continent with its next generation of mathematical leadership. In 2010-2013 the supported students came from Benin, Botswana, Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Malawi, Namibia, Nigeria, Senegal, South Africa and Tanzania.

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 consistency 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.

Table 1. AMMSI Scholarship awards by region and gender during 2010 - 2013

			REGION				ALL	
			Central	East	Southern	Western	Western	
			Africa	Africa	Africa	Africa 1	Africa 2	
DISTRIBUTI BY REGIO		No.	12	13	11	12	12	60
DT REGIO	11	%	20	22	18	20	20	100
II AN C	Males	No.	11	8	8	9	12	48
TRIBUTI ON GENDER REGION	Ma	%	92	62	73	75	100	80
DISTRIBUTI ON 3Y GENDER YER REGION	Femal	No	1	5	3	3	0	12
DIS BY PER	Fer	%	8	38	27	25	0	20

Table 2. AMMSI Scholarship awards by level of study during 2010 - 2013

LEVEL OF		•	REGION		<b>8</b> - · - · - · - ·	ALL	
STUDY		CA	EA	SA	WA1	WA2	
Ph.D	No.	6	3	3	10	9	31
	%	50	23	27	83	75	52
M.Sc	No.	6	10	8	2	3	29
	%	50	77	73	17	25	48

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

# **MARM**

The Mentoring African Research in Mathematics (MARM) program supports mathematics and it's teaching in the countries of sub-Saharan Africa. The program is designed to counter the mathematics "brain-drain" from sub-Saharan Africa by supporting qualified mathematics professionals in situ. The scheme concentrates on the creation of joint research partnerships between UK mathematicians, their colleagues in sub-Saharan Africa, and doctoral students of those colleagues.

The CDC has supported MARM during 2011-2013 with the total amount of USD 23,009.25.

- The MARM program received in **2011** support for John Elgin to coordinate the MARM program from January until June 2011. The total support was **USD 3,409.25**.
- In **2012** the London Mathematical Society received a grant of **USD 4,600** to carry out a study about the MARM program and its effectiveness. The report can be found on the CDC website.
- In **2013** the London Mathematical Society proposed a LMS/CDC partnership to support the continuation of the LMS project: Mentoring African Research in Mathematics (MARM). The CDC is supporting the program for two years (2013 and 2014) with USD 15,000 per year. In 2013 the amount of **EURO 11,686.90** (**USD 15,000**) was transferred to MARM.

More information can be found at:

http://www.lms.ac.uk/content/mentoring-african-research-mathematics/

# **Support for Cambodian students**

Kimsy 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 between August 20th-30th, 2012 to participate in the International Summer School of Mathematics for Young Students 2012 (www.issmys.eu).

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**.

Additionally eight volunteer lecturers who gave a course at the Royal University of Phnom Penh were supported by CDC 2011-2013 (for details see Volunteer Lecturer Program).

# 2. Support for Women Mathematicians

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

# African Women in Mathematics workshop, South Africa

The CDC supported the second "African Women in Mathematics workshop" which took place at AIMS, South Africa, from **July 17th-19th, 2013**. The workshop was part of an initiative by the African Mathematical Union (AMU) through its « Women in Mathematics Committee » (AMUCWMA) and the International Center for Pure and Applied Mathematics (CIMPA/ICPAM). The workshop was supported with a grant of **EURO 2,259.99**.

# The European Women in Mathematics (EMW) Network Meeting, Germany

The EMW organized its 16th general meeting at HCM Bonn from the 2nd to the 6th of September 2013. EWM is a network with several hundreds of members and over 30 coordinators in Europe. The EWM general assembly also took place at this occasion. They received the amount of **EUR 2,063** to invite four women mathematicians from developing countries (to cover the expenses and the travel to Bonn, Germany).

# 3. Mathematics Education Support

# **Capacity and Network Project:**

CANP is a developing program of the International Commission on Mathematical Instruction, supported by IMU and IMU –CDC. CANP aims to enhance the mathematical capacity of those educating and training secondary school teachers in developing regions, to promote and sustain effective networks of mathematicians, mathematics teacher educators and mathematics teachers in these regions and to create sustained and effective regional networks of teachers, mathematics educators and mathematicians, and link them to international support. The workshops are mathematics-intensive and conducted annually. DCSG supported in 2010 the first Capacity and Network Project (CANP) in Mali with USD 5,000. In 2012, "CANP Central America and the Caribbean" was supported with USD 5,000. In 2013, the CDC supported the Capacity and Network Project (CANP) held in Cambodia in October 2013 with EURO 8,000.

# 4. Conferences and Capacity Building Support

# **GIRADA XIII**

In **2010** DCSG granted **USD 3,000** (in addition to the USD 2,000 granted by the CDE) to **GIRAGA XIII.** the biennial research conference for Francophone Africa held in Cameroon. This conference has been convened every other year in West Africa for a quarter of a century and is the premier conference at which mathematicians from Francophone Africa have the opportunity to present their research. In the following years GIRADA has received support from the CDC Grant Selection Committee (GSC).

In **2010** DCSG granted **Euro 1,500** in support of the <u>CIMPA Summer 2012 workshop</u> at the National University of **Laos** in Vientiane but was cancelled in 2012. The funds were returned to the CDC.

# **International Conference on Revitalizing Research in Kurdistan (Iraq)**

DCSG supported in 2010 Dr. Zainy with **USD 250** for his attendance at the Erbil (Iraq) workshop "International Conference on Revitalizing Research in Kurdistan" and his meetings there with Michel Waldschmidt. One of the importance parts of his participation was to interact with other mathematicians in the region and get help in fostering the mathematical community in Iraq.

# **Inter University Ibero-American Mathematics Competition (Ecuador)**

The Ecuadoran Mathematical Society received in **2011** the amount of **USD 2,000** to support the 3rd Inter University Ibero-American Mathematics Competition (IMMC) held from October 3rd-8th, 2011 in Quito, Ecuador. IIMC is a regional competition for undergraduate math students. It was organized for the first time in 2009 and its goal is to reach universities from all Ibero-American countries (while teams from other regions are welcomed as well) with the aim of fostering interest and motivation in the study of mathematics.

# Workshop "Finding Online Information in Mathematics" (Cambodia)

In **2011** the education and capacity workshop "Finding Online Information in Mathematics", was supported with **USD 1,000** and held in Cambodia by Anders Wändahl, a member of the European Mathematical Society - Committee for Developing Countries. After two successful workshops held in Addis Ababa, Ethiopia and in Bamako, Mali in 2010, the 2011 workshop took place at the Ministry of Education, Youth and Sport and the Royal University of Phnom Penh, Cambodia, from Aug 8th-12th, 2011.

More information can be found here: http://workshop.ems-cdc.org/doku.php/

# B) VOLUNTEER LECTURER PROGRAM (VLP) 2010-2013

# DCSG supported two lecturers under the Volunteer Lecturer Program in 2010:

# 1. France-Nigeria

Dr. Vershinin offered an intensive course at Obafemi Awolowo University, Ile –Ife, Nigeria, from May 5th – May 25th, 2010. (His cost was USD 1,870).

## 2. USA- Nigeria

Dr. Nakamaye offered an intensive course at Obafemi Awolowo University, Ile-Ife, <u>Nigeria</u>, in October 2010. DCSG supported his teaching assistant Martha Byrne during his second VLP visit. (USD 1,000).

# CDC supported five lectures under the Volunteer Lecturer Program in 2011:

# 1. France – Benin

Brigitte Lucin (Université Pierre et Marie Curie Paris 6, France) offered an intensive course on "Introduction to Partial Differential Equations and their Approximations" at the l'Institut de Mathematiqes et de Sciences Physiques (IMSP) de l'Université d'Abomey Calavi, Benin, from November 7th – 25th, 2011. USD 1,535.26 was provided for flight and living costs. More information can be found at:

http://www.mathunion.org/cdc/volunteer-lecturer/vlp-benin/

#### 2. France – Cambodia

Brigitte Lucin (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. The costs were USD 2852,72 (USD 1,955.82 flight cost + USD 896, 90 additional costs).

## 3. USA - Tanzania

Padmanabhan Seshaiyer (George Mason University, USA) gave a course on "Applied Mathematics," from 10th August - 5th September, at Nelson Mandela African Institute of Science and Technology in Tanzania. All the costs were covered by USNCM.

More information can be found at: http://www.mathunion.org/cdc/volunteer-lecturer/vlp-tanzania/vlp-tanzania-2011/

# 4. Spain - Tanzania

Gonzalo Aranda Pino (Universidad de Málaga, Spain) offered a course on "Applied Functional Analysis (MT 619)" between January 28 – February 27, 2012 at University of Dar Es Salaam in Dar es Salaam, Tanzania. His stay was supported with USD 5,000.

# 5. India - Iraq

Chandan Singh Dalawat (India) gave a course a course on Number Theory in the spring of 2012 Erbil, Iraq. His cost was USD 1250 for his flight+1100 additional cost.

CDC had also agreed to support three more volunteers during 2012/13 in Erbil, Iraq with a grant of USD 8,000. This was not carried out. In 2011 the CDC planned to support two students from Singapore to teach at the NUOL in Laos in 2012. The planned costs were USD 5,000. This was not carried out either and the funds were returned.

# The CDC supported eight lectures under the Volunteer Lecturer Program in 2012:

# 1. Philippines- Cambodia

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 at RUPP in Cambodia from March 20 until April 11, 2012. His total costs were USD 2,400

#### 2. France – Cambodia

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 USD 1850. Her total costs were USD 3,805.

# 3. France – Cambodia

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) in Cambodia from 23 January 2012 - 10 February 2012. Her additional costs were USD 296.

#### 4. Brazil- Honduras

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.

## 5. Brazil- Honduras

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.

# 6. Spain- Tanzania

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 costs were USD 1,500.

## 7. USA - Tanzania

Padmanabhan Seshaiyer (George Mason University, USA) gave a course on "Applied Mathematics," at NM AIST-Arusha, Tanzania from August 9th, 2012 to September 6th, 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 at: http://math.gmu.edu/~pseshaiy/nmaistvlp12.html

# 8. USA- Uzbekistan

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 6th-24th, 2012. All costs were covered by USNCM.

# The CDC supported eight lecturers under its Volunteer Lecturer Program in 2013:

# 1. Spain- Cambodia

Gonzalo Aranda Pino (Universidad de Málaga, Spain) gave a course in "Real Analysis", as part of the Master of Mathematics program of RUPP (Cambodia) from July 1st - August 3rd, 2013.

# 2. USA- Cambodia

Raymond Greenwell (Hofstra University, USA) gave a course in "Statistics 1", as part of the Master of Mathematics program of RUPP (Cambodia) from May 27th – June 22nd, 2013. All costs were covered by USNCM.

# 3. USA- Cambodia

Mark Gockenbach (Michigan Technological University, USA) gave a course in "Ordinary Differential Equations", as part of the Master of Mathematics program of RUPP (Cambodia) from April 29th – May 24th, 2013. All costs were covered by USNCM.

## 4. France- Cambodia

Brigitte Lucquin (Université Pierre et Marie Curie Paris 6, France) gave a course in "Approximation of PDE" as part of the Master of Mathematics program of RUPP (Cambodia) from January 21st to February 15th, 2013.

## 5. Brazil- Honduras

Dr. Guillermo Antonio Lobos Villagra (Universidad Federal de San Carlos (UFSCar), Brazil) has taught at the Universidad Pedagógica Nacional Francisco Morazán in Tegucigalpa, Honduras from October 13th to November 4th, 2013 an introductory course in differential geometry. All costs were covered by the Niels Henrik Abel Board grant.

# 6. Germany- Uzbekistan

Rüdiger Müller, (WIAS Berlin, Germany) gave a course in "Numerical Methods for Partial Differential Equations" Dec. 2nd - Dec. 21st, 2013 at Urgench State University, Urganch City, Uzbekistan. CDC supported this course with EURO 613.13. All other costs will be covered from the CDC 2014 budget.

# 7. Belgium- Democratic Republic of Congo

Christophe Petit (Université catholique de Louvain, Louvain-la-Neuve, Belgium) gave a course in "Cryptography and Computer Security" at the Université de Kinshasa (UNIKIN), Kinshasa, Républic démocratique du Congo from March 30<sup>th</sup> - April 14<sup>th</sup> 2013.

## 8. USA-Benin

<u>Kasso Okoudjou</u>, University of Maryland, College Park, USA gave a course on "Harmonic analysis, time-frequency analysis, and wavelets" in Benin, Dangbo and Porto-Novo at IMSP from January 8th – 24th, 2014.

# C) LIBRARY ASSISTANCE SCHEME 2010-2013

In 2011 Sir John Ball, former IMU president, donated and shipped mathematics books to the University of Tibet in Lhasa. The shipment costs were **USD 3,000.** 

Robert Pour, who had previously been to the National University of Laos as part of the Volunteer Lecture Program (VLP), collected mathematics textbooks for the university library after seeing how minuscule their collection was and still is. Dr. Pour personally delivered the books to the Laotian Embassy in Washington DC, who assisted in shipping the textbooks to the university in 2011. The shipment costs were **USD 1,090.00.** 

The Pan African Centre of Mathematics, in in Dar es Salaam, Tanzania, received in 2011 a donation from Oxford and received Mathematical Reviews from January 1964 to December 1983, The shipment costs were **USD 3,209.** 

In 2013 KCA University in Nairobi; Kenya, received Mathematical Reviews of the American Mathematical\_Society (1971- 1996) from Prof. Dr. G. Helmberg, Innsbruck, Austria. The shipment cost was **Euro 936.** 

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

# D) GRANTS FOR CONFERENCES AND INDIVIDUAL TRAVEL SUPPORT 2010-2013

Between January 1st 2010 and December 31st 2013, a total of 133 awards were made, for a total value of USD 215,704.

# (i) Conferences in developing countries

Support was granted in **79 cases** for conferences taking place in the following **developing countries**:

Country	Number of Awards	Total value of awards
		(USD)
Armenia	2	3,500
Bangladesh	1	2,000
Benin	2	2,855
Botswana	2	5,000
Cameroon	3	5,000
China	1	2,000
Colombia	6	13,389
Côte d'Ivoire	1	2,034
Cuba	1	2,000
El Salvador	1	2,000
Ghana	1	2,000
Honduras	1	1,525
India	15	23,497
Indonesia	4	7,389
Kenya	1	1,500
Lebanon	1	2,034
Madagascar	2	3,500
Malaysia	1	2,000
Mali	1	2,000
Mongolia	2	3,525
Morocco	11	18,474
Pakistan	3	5,482
Palestine	1	1,356
Peru	1	1,500
Serbia	1	1,500
South Africa	1	1,500
Tanzania	1	1,000
Thailand	2	3,500
Tunisia	4	7,033
Ukraine	1	1,500
Vietnam	3	6,500
West Bank	1	2,500
Total	79	140,593

# (ii) Conferences in developed<sup>5</sup> Countries

Support was granted in 22 cases for conferences taking place in the following developed countries:

Country	Number of Awards	Total value of awards
· · · <b>/</b>		

<sup>&</sup>lt;sup>5</sup> Due to limited funding, CDC defines "developing countries" as countries with a Gross National Income per Capita (GNI) less than 7,500 USD. For a list, please go here: http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD

		(USD)
Argentina	6	12,745
Brazil	1	1,500
Chile	1	2,000
Germany	1	1,500
Hungary	1	2,000
Mexico	4	7,500
Russia	1	2,440
Spain	2	2,000
Turkey	2	4,000
Uruguay	1	2,000
USA	1	2,000
Venezuela	1	3,000
Total	22	42,685

# (iii) Individual research travel support

**Individual research travel support** was granted in **32 cases**, to mathematicians from

Country	Number of Awards	Total value of awards (USD)
Algeria	1	700
Belarus	2	1,599
Benin	3	3,200
Cameroon	2	2,200
India	1	1,500
Iran	4	3,380
Kenya	1	1,000
Lebanon	1	700
Madagascar	1	949
Nigeria	1	1,000
Pakistan	1	1,000
Serbia	1	1,355
Tunisia	2	1,910
Uzbekistan	11	11,933
Total	32	32,426

# E) REPORTS ON MATHEMATICS RESEARCH AND GRADUATE EDUCATION IN EMERGING NATIONS 2010- 2013

# Regional Reports

The CDC is currently issuing three reports; a report on the state of mathematics in Latin America, in Southeast Asia and updating the existing report on the state of mathematics in Africa. The reports should be approved in final form by August 2014 and made available during the MENAO symposium at the ICM 2014 in Seoul, Korea. In 2013 the total amount of **EURO 7,788,53** was spent on the reports.

<u>Alan Anderson</u> received the amount of USD 8,500 for the drafting the report: The International Mathematical Union: A vision for the future.

# F) ADMINISTRATIVE COST 2010-2013

# **Administrative Expenses 2010**

- In 2010 DCSG supported Angel Pineda (USD) to participate at ICM 2010, the support was USD 666.00. Angel Pineda presented the activities and goal of VLP at ICM and also encouraged mathematicians from all over the world to introduce this program to their university.
- Also DCSG prepared and distributed brochures to introduce the VLP to mathematicians at ICM 2010. The cost was **USD 3,000**.
- Herb Clemens met with IMU Secretary Martin Grötschel in order to discuss the progress and future of CDE/DCSG/CDC (USD 51)
- Prof. Tsou (CIMPA) visited ICTP in November 2010; DCSG supported this visit with USD 325.
- Herb Clemens met with Jose Antonio de la Pena and Janhavi Joshi in Irvine, California, USA, to
  discuss the future possible projects and give Jose Antonio de la Pena an overview of the past CDC
  activities. The total costs were USD 1,017.
- Bank Charges for transfers were **USD 1,466.97** in 2010.
- Janhavi Joshi, CDE and DCSG Administrator (August 2009- January 2011), received a salary of **EURO 19,885** (USD 24,711.34) for her work in 2010.

### **Administrative Expenses 2011**

- Janhavi Joshi met with Herb Clemens and Lena Koch in March 2011 in Columbus, Ohio, USA, to discuss and hand over CDC administration (USD 979. 33).
- The CDC met to discuss a "donors conference" to be held prior to the ICM 2014. All costs were covered by IMU Secretariat Berlin.
- In 2011, CDC members approved the amount of USD 15,000 for travel and administrative costs for the Mathematics in Emerging Nations: Achievements and Opportunities (MENAO) Project. The CDC sub-committee consisting of Wandera Ogana, Ragni Piene and Herb Clemens met in Seoul with the ICM planning committees in June 2012.
- Bank Charges for transfers were **USD 1,462.66** (this includes bank charges for all grants) in 2011.

# **Administrative Expenses 2012:**

- Bank Charges for transfers were USD 1,927 (this includes bank charges for all grants).
- The CDC subcommittee for the MENAO project Ragni Piene, Herb Clemens and Wandera Ogana travelled to Korea in June 2012. All costs were covered by the 2011 budget.
- Wandera Ogana, CDC member travelled in 2012 to Ghana to secure the negotiations between PGS and KNUST for PGS support for the Ghana National Institute of Mathematics. His total costs were USD 1,140.

# **Administrative Expenses 2013:**

- CDC Meeting, March 2013, Germany In 2013 the members of the Commission for Developing Countries met in March in Berlin, Germany at the premises of the IMU Secretariat. Most expenses (Euro 12,799.15) were covered from the IMU Secretariat, WIAS Berlin funds. The total cost for the CDC budget was only EURO 1,390.78. The CDC is very thankful for this generous support and would like to express its sincere thanks to the IMU Secretariat and all staff members for their support of the meeting.
- Bank Account and Transfer Fees were Euro 1380.35 in 2013.

### **CDC MEETINGS**

In the period 2010-2013 two meetings of the CDC took place:

- On January 31, 2011 the members of the CDC and other selected members met to discuss the Donors Conference Workshop (MENAO). All costs were covered from the IMU Secretariat funds.
- The second CDC Meeting was held March 9th-11th, 2013 also at the IMU Secretariat, in Berlin, Germany. For a list of participants, see the appendix.



CDC meeting 2013

### **FURTHER ACTIVITIES: MENAO**

In 2010 the 16th General Assembly of the International Mathematical Union, Bangalore, India, passed resolution 6, to hold a "donors conference" at the next ICM. At the joint meeting of the CDC and the IMU EC in March 2013, IMU and CDC decided to hold the "Mathematics in Emerging Nations: Achievements and Opportunities" (MENAO) symposium on August 12, 2014 in Seoul, Korea, the day before the opening of ICM 2014.

The MENAO symposium will feature personal stories from a variety of mathematicians, country-specific development stories – both from the perspective of mathematicians in developing countries and from the perspective of their international partners – as well as an insight into the state of mathematics in Korea and its influence on economic development. A subcommittee was set up and started working in 2012

# ICM 2010 TRAVEL GRANTS REPORT

Herb Clemens & Janhavi Joshi/ Lena Koch

The Travel Grants Committee consisted of Professor Anatoly Vershik (Russian Federation), Professor Wilfrid Gangbo (U.S.A.), Professor Marcelo Viana (Brazil), Professor Zhi-Ming Ma (China) and Professor S. G. Dani (India).

An online application system was developed at the servers of the Ohio State University. A total of 770 applications were received from the developing countries. Among these 360 mathematicians were of age 35 of younger (these are referred to as in the "Young Mathematician Category"). The remaining 410 applications came from the senior mathematicians from these countries.

Applications were grouped according to the region of the applicant. There were five regions and each region was assigned a review committee as follows:

Region	Chair of the review committee	No. of Senior Mathematician	No. of Young Mathematician
		Applications	Applications
Africa	W. Gangbo	95	66
Asia	Z. Ma	42	48
Eastern Europe	A. Vershik	110	43
Indian	S.G. Dani	38	89
Subcontinent			
Latin America	M. Viana	125	114

A total of 120 awards were available and during a teleconference among the reviewers in February 2010, region wise award distribution was decided. The following table shows the distribution of the grants:

Region	Senior Mathematicians	Young Mathematicians	Total
Africa	12	13	25
Asia	10	10	20
Eastern Europe	15	10	25
Indian Subcontinent	8	12	20
Latin America	12	18	30

The selection process was done remotely using online database of applications with assistance of 3 or more reviewers from each region.

53 of the 63 Young Mathematicians and 53 of the 57 Senior Mathematicians (together 106) who were offered a grant travelled to Hyderabad, India.

Total Spending for ICM 2010 travel grants:

<b>Travel Grants Given Out</b>	Bank Charges	Total Amount
\$164,238.43	\$3,927.75	\$168,166.18

For all 106 mathematicians who attended the ICM 2010, the Local Organizing Committee of the International Congress of Mathematicians 2010 covered the registration fee and also provided board and lodging, for which IMU is most grateful.

The list of grant awardees is appended to this report.

The funds for these grants were given by:

2007:		
American Mathematical Society	USD	16,506.20
London Mathematical Society	USD	5,000.00
Total	USD	21506.20
2008:		
American Mathematical Society	USD	20,428.85
London Mathematical Society	USD	5,000.00
Total	USD	25428.85
2009:		
American Mathematical Society	Euros	15,324.93
London Mathematical Society	Euros	3,562.00
Unione Matematica Italiana	Euros	2,928.85
Deutsche Mathematiker-Vereinigung	Euros	2,500.00
Total	Euros	24,314.88 (approx. USD 34,279.12)
2010:		
Mathematical Society of Japan	Euro	17,607.19
American Mathematical Society	Euro	14,388.58
London Mathematical Society	Euro	4,073.65
Total	Euro	36,069.42 (approx. USD 44,667.85)

Total funds received 2007-2010: USD 125,882.02

On behalf of IMU, the Executive Committee expresses its deep gratitude for these donations.

Finally, IMU is very grateful to the Local Organizing Committee for printing and distributing the VLP brochures. The Local Organizing Committee provided excellent accommodation and addressed the needs of IMU awardees promptly.

# **Abel Visiting Scholar Program 2013**

In 2013 the Abel Visiting Scholar Program Fund of USD 15,000 per year was set up to support mathematicians professionally based in developing countries to visit an international research collaborator for a period of one month. The period is extendable for up to three months in the case of matching support from the host institution.

The "Abel Visiting Scholar Program" is designed for postdoctoral mathematicians in the early stages of their professional careers. It is designed to offer the opportunity for a 'research sabbatical,' a necessary complement to teaching and other academic duties for mathematicians desiring to also sustain a viable research program.

### **Requirements:**

- Applicants must hold at the time of application a PhD in Mathematics,
- Be based at the time of the application in a developing country
- Hold a position in a university/ research institution and
- Be in the early stages of their professional careers (not have full professorial rank)

This means that the applicants has to be

- not yet of full professorial rank and
- should be under 40 years of age at the day of the application deadline.

The maximum age may be increased by up to three years in the case of an individual with a "broken career" pattern. This should be noted in the application document and include the reason for the broken career pattern.

Applications from women mathematicians are strongly encouraged.

The applicant has to have already have initiated research contact with the proposed international research partner. The collaboration should take place at the international partner's home institution.

### **Financial Support**

Each grant covers health insurance, visa cost, all travel (economy flights or equivalent) and living expenses including accommodation for one month for up to a total maximum amount of USD 5,000 per mathematician.

### **Selection Committee**

A selection committee decides which applications are successful.

The Selection Committee consists of

- a) A member chosen by the Abel board
- b) A member chosen by CDC
- c) A third member chosen by the IMU EC

The time of members of the committee is three years for the members b) and c) with a maximum of two periods. The Abel Board decides for a)

The Selection Committee 2013-2016 (1. August 2013-31. July 2016) consists of

- a) Ragni Piene (Norway)
- b) Srinivasan Kesavan (India)
- c) Wandera Ogana (Kenya)

The Abel Visiting Scholar 2013 recipients were:

**Franck Adékambi** (b. 1976) is a lecturer at the University of the Witwatersrand, Johannesburg, South Africa. His field of research is actuarial sciences, statistics and finance, and the proposed research project concerns a new model for invalidity risk. He was hosted by Prof. Marcus Christiansen at the University of Ulm, Germany.

**Liulan Li** (b. 1979) is an associate professor at Hengyang Normal University, Hunan, China. The proposed research project is on complex valued harmonic mappings in the unit disk. She was hosted by Prof. S. Ponnusamy, Chennai Centre, Indian Statistical Institute, India.

**Rajendran Venkatesh** (b. 1987) is a post doc at The Institute of Mathematical Sciences, Chennai, India. The proposed research project is on Demazure modules and fusion products of representations. He was hosted by Prof. Vyjavanthi Chari, University of California, Riverside, USA.

### **Budget 2013**

Budget					
Amount of support in					
2013					\$ 15,000
				Amount of	
	Supported	Host	Year of	support in	
Supported Person/	Country	Country	Activity	USD	Balances
Franck Adékambi	South Africa	Germany	2013	\$ 5,000	\$ 10,000
Liulan Li	China	India	2013/2014	\$ 5,000	\$ 5,000
Rajendran Venkatesh	India	USA	2013	\$ 3,715	\$ 1,285
Unspent funds					\$ 1,285

The unspent funds will be used in 2014.

# Acknowledgements

IMU/CDC most gratefully acknowledges the continuing generous support provided by the Niels Henrik Abel Board for supporting the Abel Visiting Scholar Program and to help to promote and sustain mathematics in the developing world.

# Financial Report: 01.01. 2010-31.12. 2013

### CDC 2010 Budget and Spending (in USD)

	Category	Year	Total Amount (USD to Ind.)	
Income				

General Income	2010	\$106,195.00	
Special Income	2010	\$1,643.72	
Special Income	2010	\$716.82	
	2010	\$108,555.54	
		,	
	2010		
Savinge		\$17.880.40	
-			
Savings		· ·	
	2010	\$24,994.46	
	2010	\$133,550.00	
	2010		Account Balance in USD
Grants Program CDE	2010	\$64,130.00	\$69,420.00
VLP Nigeria	2010	\$1,870.01	\$67,549.99
VLP Nigeria	2010	\$1,000.00	\$66,549.99
Administrative Cost	2010	\$1,017.00	\$65,532.99
	2010	\$2,005.00	\$63,527.99
Project Support	2010	\$20,000.00	\$43,527.99
Project Support	2010	\$3,000.00	\$40,527.99
Project Support	2010	\$250.00	\$40,277.99
Administration	2010	\$3,000.00	\$37,277.99
Administrative Cost	2010	\$1,466.00	\$35,811.99
Administrative Cost	2010	\$51.00	\$35,760.99
Administrative Cost	2010	\$1,466.07	\$34,294.92
Travel Cost Support	2010	\$325.00	\$33,969.92
Administrative Cost	2010	\$24,711.34	\$9,258.58
	2010	\$5,000.00	\$4,258.58
	2010	\$129,291.42	
	Special Income  Special Income  Savings Savings Savings Savings  Grants Program CDE VLP Nigeria  VLP Nigeria  Administrative Cost  Project Support Project Support Project Support Administrative Cost Administrative Cost  Administrative Cost  Administrative Cost  Travel Cost Support	Special Income       2010         Special Income       2010         2010       2010         Savings       2010         Savings       2010         Savings       2010         Savings       2010         Cond       2010         Cond       2010         Cond       2010         VLP Nigeria       2010         VLP Nigeria       2010         Administrative Cost       2010         Project Support       2010         Project Support       2010         Project Support       2010         Administration       2010         Administrative Cost       2010	Special Income         2010         \$1,643.72           Special Income         2010         \$716.82           2010         \$108,555.54           2010         \$108,555.54           2010         \$17,889.49           Savings         2010         \$1,122.01           Savings         2010         \$5,982.96           2010         \$24,994.46           2010         \$133,550.00           Grants Program CDE         2010         \$64,130.00           VLP Nigeria         2010         \$1,870.01           VLP Nigeria         2010         \$1,000.00           Administrative Cost         2010         \$2,005.00           Project Support         2010         \$20,000.00           Project Support         2010         \$3,000.00           Administration         2010         \$3,000.00           Administrative Cost         2010         \$1,466.00           Administrative Cost         2010         \$1,466.07           Travel Cost Support         2010         \$325.00           Administrative Cost         2010         \$5,000.00

Total Income 2010:	\$133,550.00	% (of spent funds)
Expenditure		
A) Project Support	\$ 30,255.00	23%
B) Volunteer Lecturer Program	\$ 2,870.01	2%
C) Library Assistant Scheme	\$ 0.00	0%
D) Grants for Conferences and Individual Research	\$ 64,455.00	50%
Travel Support	Ψ σ ι, ισσισσ	
E) Research	\$ 0.00	25%
Administrative Costs	\$ 31,711.41	23%
Total Spent/ Committed in 2010	\$ 129,291.42	100%
Unspent/ Uncommitted Budget	\$ 4,258.58	

# CDC 2011 Budget and Spending Total Overview (in USD)

Detailed CDC Budget 2011				
		Year of Activity	Amount	
Income				
CDE and DCSG Savings 2010	Savings	2010	\$ 4,258.58	
IMU allocation CDC for 2011			\$148,306.	
including Abel Grant in USD	General Income	2011	00	
Japanese Mathematical Society				
Donation (retrospectively for 2010)	Special Income	2010	\$ 1,771.59	
Swiss Mathematical Society Donation				
(retrospectively for 2010)	Special Income	2010	\$ 708.62	
Total Budget 2011 CDC			\$ 155,044.7 9	
Total Budget 2011 CB C				Account
Expenditure/ Transaction				Balance
CDC allocation to GSC (former CDE)	Grants Program CDC	2011	\$ 45,000	\$110,044.79
Additional GSC Support	Grants Program CDC	2011	\$10,000	\$100,044.79
MARM (for John Elgin, to coordinate	Project Support			
the MARM program Jan-June 2011)		2011	\$ 3,409.25	\$96,635.54
AMMSI Support	Project Support	2011	\$ 20,000	\$76,635.54
Ecuadoran Mathematical Society				
Support for Ibero American				
Mathematical Competition	Project Support	2011	\$ 2,000	\$ 74,635.54
Support for Anders Wändahl on				
remote workshops on using the				
internet for mathematicians	Project Support	2011	\$ 1,000	\$73,635.54
Robert Pour, support shipment of	Library Assistant			
books to Laos	Scheme	2011	\$ 250	\$ 73,385.54
John Ball, support shipment of books	Library Assistant			
to Tibet	Scheme	2011	\$ 3.000	\$70,385.54
Support shipment of books to Laos	Library Assistant	2011	\$ 840	\$ 69,545.54

from Washington D.C. Laos Embassy	Scheme			
(Robert Pour)				
Shipment support Oxford> Pan				
African Centre of Mathematics, in in	Library Assistant			
Dar es Salaam, Tanzania*	Scheme	2011	\$ 3,200	\$ 66,345.54
Brigitte Lucquin, VLP Benin flight				
2011-2012	VLP	2011	\$ 1,211	\$ 65,134.54
Brigitte Lucquin, VLP Benin				
additional cost	VLP	2011	\$ 324.26	\$ 64,810.28
Janhavi Joshis travel cost for hand				
over to Lena Koch (California-				
>Ohio>back)	Administrative Cost	2011	\$ 979.33	\$ 63,830.95
Regional report Latin America 2011-		2011/		\$
2012*	Research/ MENAO	2012	\$ 5,000	58,830.95
		2011/		\$
Regional Report Africa 2011-2012*	Research/ MENAO	2011/	\$ 2,000	56,830.95
Regional Report South East Asia	Research MENAO	2012	\$ 2,000	\$
2011-2012*	Research/ MENAO	2011/	\$ 12,000	т
2011-2012*	Research/ MENAO	2012	\$ 12,000	44,830.95
VLP Tanzania Gonzalo Pino*	VLP	2012	\$ 5,000	э 39,830.95
VLF Talizailia Golizaio Filio	VLF	2012	\$ 5,000	
VLP Cambodia, Brigitte Lucquin				\$
flight 2012	VLP	2012	\$1,955.82	37,875.13
VLP Cambodia, Brigitte Lucquin				\$
additional cost 2012	VLP	2012	\$ 896.90	36,978.23
		2012/	\$	\$
4 VLP's to Iraq/ Erbil 2012/13*	VLP	2013	6,916.31	30,061.92
-	V LA	2013	0,710.31	\$
VLP 1 Iraq Chandan Dalawat, flight to Erbil	VI D	2012	¢ 1 002 60	'
	VLP	2012/	\$ 1,083.69	28,978.23
Laos NUOL (VLP of 2 Singapore	VI D		¢ 5 000	т
Students in Vientienne) 2012/13*	VLP	2013	\$ 5,000	23,978.23
ICMI Support for CANP 2 in Costa	Don't at Co.	2012	¢ 5 000	\$ 079.22
Rica, 2012	Project Support	2012	\$ 5,000	18,978.23
Cal Campinian E MENAO*	Project Support/	2012	¢ 15 000	\$ 2.079.22
Sub Commission For MENAO*	MENAO	2012	\$ 15,000	3,978.23
Doub Changes	A desiminate dissa Cart	2011	\$ 1,462.66	\$ 2.515.57
Bank Charges	Administrative Cost	2011	1	2,515.57
			\$ 152.520.2	
T-4-1 124 2011			152,529.2	
Total expenditure in 2011			2	ф
II				\$ 515.57
*Amount has been approved by CDC but has not been				2.515,57

<sup>\*</sup>Amount has been approved by CDC but has not been transferred in 2011

# Overview 2011

Total Income 2011:	155,044.79	%
Expenditure		
A) Project Support	46,409.25	30%
B) Volunteer Lecturer Program	22,387.98	15%
C) Library Assistant Scheme	7,290	5%

<b>D</b> ) Grants for Conferences and Individual Research Travel	55,000.00	36%
Support		
E) Research	19,000.00	12%
Administrative Costs	2,441.99	2%
Total Spent/ Committed in 2011	152,529.22	
Unspent/ Uncommitted Budget	2,515.57	

# CDC 2012 Budget and Spending Total Overview (in USD)

		Year	Total		
			Amount		
Income			(\$ to Ind.)	Acco	unt Balance
Income CDC un-committed funds	Savings	2011	\$ 2,515.57		
2011	Savings	2011	\$ 2,313.37		
IMU allocation CDC for 2012					
including Abel Grant in USD	General Income	2012	\$ 141,384.00		
2011 Savings GCS	Savings	2012	\$ 7,213.00		
Returned funds from 2011:	Savings	2011	\$ 7,213.00		
Laos CIMPA School 2012	Savings	2011	\$ 1,900.00		
Interest on credit balance	Income	2011	\$ 1,051.00		
	meome	2012	-		
Total budget 2012 CDC			\$ 151, 548.00		
Expenditure/ Transaction	C + D CDC				
CDC allocation to GSC	Grants Program CDC	2012	Φ 45 000 00	ф	106 540 00
(former CDE)	G t B GDG	2012	\$ 45,000.00	\$	106,548.00
CDC allocation to GSC	Grants Program CDC	2012	¢ 1 000 00	¢.	104 649 00
(former CDE)	G t B GDG	2012	\$ 1,900.00	\$	104,648.00
CDC allocation to GSC	Grants Program CDC				
(former CDE) unspent funds 2011		2012	\$ 7,213.00	\$	07 425 00
VLP Cambodia, Brigitte	VLP Cambodia	2012	\$ 7,213.00	Ф	97,435.00
Lucquin additional cost	VEF Cambodia				
February 2012		2012	\$ 296.00	\$	97,139.00
VLP 2012, Tanzania Gonzalo		2012	Ψ 270.00	Ψ	77,137.00
Pino, additional costs	VLP Tanzania	2012	\$ 1,500.00	\$	95,639.00
Victor Gonzalo Neumann	VET Tanzama	2012	Ψ 1,500.00	Ψ	75,057.00
flight	VLP Honduras	2012	\$ 1,700.00	\$	93,939.00
Victor Gonzalo Neumann	VEI Hondards	2012	Ψ 1,700.00	Ψ	75,757.00
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-			7 - 7 - 7 - 7 - 7	7	, _,,,,,,,,,
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	Library Assistant Scheme	2012	\$ 9.00	\$	84,460.00

Salaam, Tanzania (Bruye				
McLeod)				
CIMPA to support Women				
and Mathematics in Africa	Project	2012	\$ 3,000.00	\$ 81,460.00
Kimsy Tor/ Cambodian				
Student	Project	2012	\$ 400.00	\$ 81,060.00
5 CAMBODIAN Student				
Scholarships	Project RUPP	2012	\$ 8,000.00	\$ 73,060.00
Wandera Ogana 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	\$ 7,320.00
Alan Anderson/ Study IMU	Report	2012	\$ 8,500.00	\$ 8,820.00
		2012/		
AMMSI	Project	2013	\$ 22,000.00	\$ 6,820.00
Transfer Charges including			\$ 1,765.00	
for GSC	Administrative Cost	2012	\$ 1,705.00	\$ 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

# Overview 2012

Total Income 2012:	\$ 151, 548.00	% (of spent funds)
Expenditure		
A) Project Support	\$ 39,140.00	34%
B) Volunteer Lecturer Program	\$ 12,966.00	11%
C) Library Assistant Scheme	\$ 9.00	0%
<b>D)</b> Grants for Conferences and Individual Research Travel Support	\$ 54,113.00	46%
E) Research	\$ 8,500.00	7%
Administrative Costs	\$ 1,927.00	2%
Total Spent/ Committed in 2012	\$ 116.655,00	100%
Unspent/ Uncommitted Budget	\$ 34.893,00	

**Unspent funds from 2011 and 2012 budget (until 31.12.2012) \*** 

Chispent funds from 2011 and 2012 budget (until 31:12:2012)					
		Committed in			
Laos NUOL (VLP of 2					
Singapore Students in					
Vientiane) 2012/13	VLP	2011	\$ 5,000.00		
			\$ 14,944.80		
MENAO Sub-Committee	MENAO	2011			
VLP Iraq 2011	VLP	2011	\$ 5,832.62		
Regional Reports SEA, LAC and Africa	Research	2011	\$ 17,000		
Returned funds Grants	Grants	2011/2012	\$ 5,589.38		
<b>Total amount returned funds</b>			\$ 48,366.80	\$ 48,366.80	

2011/2012		
<b>Unspent/Uncommitted Budget</b>		
2012		\$34.893,00
Total savings 2011 and 2012		\$ 83,259.80*

<sup>\*</sup> Funds can be found in CDC balances in 2013

# CDC 2013 Budget and Spending Total Overview (in EURO)

Income 2013		EUR	USD	
IMU allocation to CDC for 2013	General Income	73,469.70	99,934.2	
Niels Henrik Abel Grant to CDC for 2013	Special Income	34,567.30	47,018.80	
Japanese Mathematical Society Support	Special Income	1,227.96	1,670.28	
Swiss Mathematical Society	Special Income	525.39	714.64	
Additional allocation from IMU (for 2013 and 2014)*	Special Income	100,000.00	136,021.00	
Returned funds from 2012	Income	42.46	57.75	
Total Income 2013 CDC		209,832.81	285,417.00	
Savings from 2012 and 2011		EUR	USD	
2012 Savings GCS	Savings	419.00	569.92	
Saving CDC 2012 and 2011	Savings	61,211.00	83,259.80	
Total		61,630.00	83,829.70	
Total funds available for 2013		271,462.81	369,246.00	

Expenditure in 2013**		Euro	Account Balance in Euro	Dollar	Account Balance in Dollar
CDC allocation to GSC (former CDE)	Grants Program CDC	45,000.00	226,462.81	61,209.40	308,037.00
CDC allocation to GSC (former CDE) unspent funds from 2012	Grants Program CDC	419.00	226,043.81	569.92	307,467.00
VLP Brigitte Lucquin	VLP Cambodia	1,315.88	224,727.93	1,789.87	305,677.00
VLP Rüdiger Müller	VLP Uzbekistan	613.13	224,114.80	833.98	304,843.00
VLP Guillermo Antonio Lobos Villagra	VLP Honduras	3,341.00	220,773.80	4,544.46	300,299.00

VLP Gonzalo Aranda Pino	VLP Cambodia	3,234.22	217,539.58	4,399.22	295,900.00
VLP Congo Christophe Petit	VLP Congo	1,925.26	215,614.32	2,618.76	293,281.00
VLP Kasso Okoudjou	VLP Benin	2,366.11	213,248.21	3,218.41	290,062.00
AMMSI 2012/2013 Scholarships	Project Support	16,446.00	196,802.21	22,370.00	267,692.00
The European Women in Mathematics Workshop Bonn	Project Support	2,063.00	194,739.21	2,806.11	264,886.00
CANP South East Asia Project Support	Project Support	8,000.00	186,739.21	10,881.70	254,005.00
MARM Support 2013 London Mathematical Society	Project Support	11,686.90	175,052.31	15,896.60	238,108.00
Library assistant scheme Kenya	Library assistant scheme	936.00	174,116.31	1,273.16	236,835.00
Expenses for Regional Reports LAC, SEA, Africa	Research	7,788.53	166,327.78	10,594.00	226,241.00
CDC meeting Berlin	Administrative Cost	1,390.78	164,937.00	1,891.75	224,349.00
Ragni Piene Travel cost	Administrative Cost	332.48	164,604.52	452.24	223,897.00
Account Maintenance Charge and bank transfer fees	Administrative Cost	1,380.35	163,224.17	1,877.57	222,019.00
African Women Mathematician Workshop at AIMS in South Africa	Project Support	2,259.99	160,964.18	3,074.06	218,945.00\$
Total expenditure in 2013**		110,498.63€		150,301.00\$	
Savings (unspent budget) 2013 as of 01.01.2014  * This special grant has to be spent (dis		160,964.18€		218,945.00\$	

<sup>\*</sup> This special grant has to be spent (distributed) until 31.12.2014. \*\*Partially transferred in 2014.

In 2013 CDC received from IMU a special grant of EURO 100,000.00 that has to be distributed by 31.12.2014. It is planned to meet the deadline and distribute those funds by 31.12.2014. The CDC members will take final decisions after the MENAO symposium in August 2014 in Seoul Korea.

Overview 2013		% (of spent funds)
Total Income 2013 in USD:	\$369,246.00	
Expenditure		
A) Project Support	\$55,028.47	37%
B) Volunteer Lecturer Program	\$17,404.70	11%
C) Library Assistance Scheme	\$1,273.16	1%
<b>D)</b> Grants for Conferences and Individual Research Travel Support	\$61,779.32	41%

E) Research	\$10,594.00	7%
Administrative Costs	\$4,221.56	3%
Total Spent/ Committed in 2013	\$150,301.00	100%
Unspent/ Uncommitted Budget as of 31.12.2013	\$218,945.00	

Total Income 2010-2013	\$809,388.79	% (of spent funds)
Total Spending		
A) Project Support	\$170,832.72	31%
B) Volunteer Lecturer Program	\$55,628.69	10%
C) Library Assistant Scheme	\$8,572.16	2%
<b>D)</b> Grants for Conferences and Individual Research Travel Support	\$235,347.32	43%
E) Research	\$38,094.00	7%
Administrative Costs	\$40,301.96	7%
Total Spent/ Committed in 2010-13	\$548,776.85	100%
Unspent/ Uncommitted Budget 2010-2012	\$41,667.15	
Savings as of 31.12.2013	\$218,944.79	

The CDC's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU) that receives its financial support from IMU member countries as well a generous annual grant from the Niels Henrik Abel Board (Norway).

CDC received 2010, 2011 and 2013 an annual donation from the Swiss Mathematical Society and the Japanese Mathematical Society. The CDC is also supported part time by a staff member from the IMU Secretariat (WIAS Berlin) (funded by the German Ministry of Education and Research and the City of Berlin).

In 2011 and 2013 the CDC also received a grant from the IMU Secretariat (WIAS Berlin) to hold the CDC meeting (in January 2011 and March 2013) in Berlin. The IMU Secretariat receives an annual subvention from the IMU Secretariat (WIAS Berlin) host country Germany, to run all its administrative business.

The CDC would like to thank the IMU, IMU Secretariat at the WIAS Berlin, the Niels Henrik Abel Board, the Swiss Mathematical Society and the Japanese Mathematical Society and all those volunteering for CDC very much for all the support and collaboration.

The CDC would also like to thank the Simons Foundation who has given in 2013 a grant for the new established IMU-Simons Travel Fellowship Program (2014-2016), which has been launched in 2014.

More information about CDC can be found on the website: <a href="www.mathunion.org/CDC">www.mathunion.org/CDC</a>
We look forward to future collaboration.

Herb Clemens, Secretary for Policy CDC Lena Koch, CDC Administrator, IMU Secretariat July 2014

### **Appendix:**

The Commission for Developing Countries (CDC) is a nine-member commission. Its members are elected or appointed for a four-year term by the **IMU General Assembly.** 

Commission for Developing Countries (CDC) 2011 – 2014 members are:

- 1. José-Antonio de la Peña (Mexico) CDC President
- 2. C. Herbert Clemens (USA) CDC Secretary for Policy
- 3. Srinivasan Kesavan (India) CDC Secretary for Grant Selection
- 4. Carlos Cabrelli (Argentina) Latin American Member
- 5. Wandera Ogana (Kenya) African Member
- 6. Hoang Xuan Phu (Vietnam) Asian Member
- 7. Ragni Piene (Norway) CDC members appointed by the IMU Executive Committee
- 8. Polly W. Sy (Philippines) CDC members appointed by the IMU Executive Committee
- 9. Angel Ruiz (Costa Rica)- CDC member appointed by the ICMI Executive Committee Ingrid Daubechies (USA), IMU President and Ex-officio CDC Member

# Participants CDC meeting January 31, 2011 (held in Berlin, Germany at the premises of the IMU Secretariat):

- 1. José-Antonio de la Peña, CDC President, Mexico
- 2. C. Herbert Clemens, CDC Secretary Policy, USA
- 3. (Srinivasan) Kesavan, CDC Secretary Grants, India
- 4. Wandera Ogana, CDC, African Member, Kenya
- 5. Hoang Xuan Phu, CDC, Asian Member, Vietnam
- 6. Ragni Piene, Norway
- 7. Polly W. Sy, Philippines
- 8. Angel Ruiz, Costa Rica
- 9. Ingrid Daubechies, USA
- 10. Chan Roath, Ministry of Education, Cambodia
- 11. Daniel Makinde, General Secretary--African Mathematical Union
- 12. Dongsu Kim, Korean sub-- committee for developing countries
- 13. Helge Holden, Chair of Board--Abel Memorial Fund
- 14. Hyungju Park, Chair--ICM2014 Organizing Committee
- 15. Mama Foupouagnigni, University of Yaounde I, Cameroon
- 16. Martin Grötschel, IMU Secretary, Germany
- 17. Rolf Jeltsch, President ICIAM
- 18. Wanida Hemakul, Chulalongkorn University, Thailand
- 19. Lena Koch, IMU Secretariat Berlin, CDC Administrator

# Participants CDC Meeting March 9-11, 2013, held at IMU Secretariat, Berlin

- 1. José-Antonio de la Peña (Mexico) CDC President
- 2. C. Herbert Clemens (USA) CDC Secretary for Policy
- 3. Srinivasan Kesavan (India) CDC Secretary for Grant Selection
- 4. Wandera Ogana (Kenya) African Member
- 5. Hoang Xuan Phu (Vietnam) Asian Member
- 6. Ragni Piene (Norway)- CDC member appointed by the IMU EC
- 7. Polly W. Sy (Philippines) CDC member appointed by the IMU EC
- 8. Ingrid Daubechies (USA), IMU President and Ex-officio CDC Member
- 9. Ferdinando Arzarello (Italy) for Angel Ruiz, CDC member appointed by the ICMI EC

- 10. Angel Pineda (USA) Regional Report Latin America
- 11. Dongsu Kim (Korea) ICM International Exchanges Chair and NANUM)
- 12. John Ball (UK) -LMS London
- 13. Joseph Mugisha (Uganda) Regional Report Africa
- 14. Martin Groetschel (Germany)- IMU Secretary
- 15. Sheung Tsun (UK)- CIMPA President
- 16. Yuri Tschinkel (USA) Simons Foundation New York
- 17. Lena Koch (Germany) IMU Secretariat Berlin, CDC Administrator

# 4.3.1.CDC Terms of Reference 2015 - 2018

Final Version of July 21, 2010

# TERMS OF REFERENCE of the

# COMMISSION FOR DEVELOPING COUNTRIES (CDC),

a commission of the International Mathematical Union (IMU)

(Adopted by the IMU General Assembly on August 16, 2010)

The Commission for Developing Countries was established by the IMU General Assembly via postal ballot on July 17, 2009 to take up its activities in January 2011 and to replace the Commission on Development and Exchanges (CDE) and the Developing Countries Strategy Group (DCSG). The CDC is charged with the following mission:

- to manage, strengthen, and promote the programs of the IMU in developing and economically disadvantaged countries,
- to search for funding to support the corresponding activities, and
- to establish institutional partnerships with scientific organizations with common goals.
- 1. The Commission for Developing Countries (CDC) consists of
  - (a) six members elected by the General Assembly:
    - President
    - Secretary for Policy
    - Secretary for Grant Selection
    - three Members-at-Large, in representation of Africa, Asia, and Latin America;
  - (b) two Members-at-Large appointed by the incoming IMU Executive Committee, following its election at the General Assembly;
  - (c) one Member-at-Large appointed by the ICMI Executive Committee.
  - (d) The President of IMU is an Ex-officio Member of CDC.
- 2. Every member will be elected or appointed for a four-year term starting on the first day of the calendar year following that in which the election or appointment has taken place. The President will not be immediately eligible for a second term. The Secretary for Policy, the

- Secretary for Grant Selection, and the members-at-large can be elected or appointed for at most two consecutive terms in the same position.
- 3. In the event of death, incapacity, or resignation of one of the members in Clauses 1(a) and 1(b), the IMU Executive Committee shall appoint a successor for the unexpired term. In the event of death, incapacity, or resignation of the members in Clause 1(c), the ICMI Executive Committee shall appoint a successor for the unexpired term.
- 4. The composition of the CDC should reflect good regional balance consistent with its goals. The members will be established mathematicians chosen for their work on behalf of mathematics in the developing world. The members-at-large mentioned in Clause 1(a) will be mathematicians working permanently in a country of the corresponding region.
- 5. The CDC will designate a Grant Selection Committee that will be chaired by the Secretary for Grant Selection. The composition of the Grant Selection Committee should reflect good regional representation consistent with its tasks.
  - At least half of the Grant Selection Committee members should be from outside the CDC.
- 6. For the election of the members listed in Clause 1(a) the IMU Nominating Committee will form a slate with at least one name for each of the positions of President, Secretary for Policy, and Secretary for Grant Selection and at least two names for each of the three positions for members-at-large.
  - Alternative names for each of the positions can be proposed at the General Assembly from the floor. For each of the six positions the candidate with the most votes is elected.
- 7. The budget of the CDC will be established by the IMU Executive Committee on a year-by-year basis, based on the budget estimates approved by the General Assembly for the CDC term.
- 8. The President of CDC reports to the IMU Secretary and the General Assembly as specified in article 47. of the By-Laws of the IMU Statutes.

# **4.4.International Commission on the History of Mathematics (ICHM)** http://www.unizar.es/ichm/

Report of the International Commission for the History of Mathematics (ICHM) to the International Mathematical Union 2010-2014

Craig Fraser (Chair)

From 20010 through March 2014, the International Commission for the History of Mathematics (ICHM) has continued to pursue its dual aims of encouraging the study of the history of mathematics and of promoting a high level of historically and mathematically sophisticated scholarship in the field internationally. It has done so in the following ways:

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

The EC meets at least four times yearly via e-mail to discuss matters of interest to the international history of mathematics community. Among the business discussed and the issues considered over the four-year period from 2010 to March 2014 were: ICHM-funded projects (2010-2011); policies on co-sponsorship of events in the history of mathematics (2012); organization of symposia for the 24<sup>th</sup> ICHSTM (2012-2013); the editorial transition of the ICHM's journal, *Historia Mathematica*, the selection of the eighth Kenneth O. May Medalists and the selection of the second Montucla Prize winner (2012-13); satellite conferences on history of mathematics for the IMU (2013).

# Conferences /Symposia/ Congresses

From 2010 to 2014, the ICHM contributed to, organized, or co-sponsored numerous conferences, symposia, and congresses internationally:

- Special Sessions at the annual joint meetings of the American Mathematical Society and Mathematical Association of America (USA) (2010, 2011, 2012, 2013, 2014)
- Austrian Symposia on the History of Mathematics (Miesenbach, Austria) (2010, 2012, 2014)
- International Symposium "Mathematics meets physics General and local aspects" (Saxon Academy of Science, Leipzig, Germany, March 22 March 25, 2010)
- International Conference on the History of Modern Mathematics (Xi'an, China, August 11-17, 2010)
- Fifth Joint Conference of the British Society for the History of Mathematics and the Canadian Society for History and Philosophy of Mathematic (Trinity College, Dublin, Ireland; 15-17 July 2011)
- Research symposium Editing Historical Mathematics: techniques and traditions since 1900 (All Souls College, Oxford, UK; December 15-16, 2011)
- 23rd Novembertagung on the History of Mathematics: Writing and Reading the History of Mathematics (Bergische Universität Wuppertal, Germany, November 7-10, 2012)
- International Seminar on History of Mathematics: An event celebrating the National Mathematics Year 2012 to commemorate 125th Birth Year of Srinivasa Ramanujan (Ramjas College, Delhi University, Delhi, India, November 19-20, 2012)
- Symposia on the History of Mathematics at the 24th International Congress of History of Science, Technology and Medicine (ICHSTM, Manchester, UK, July 22-28, 2013)
- 24th Novembertagung on the History of Mathematics (Open University, London Mathematical Society at De Morgan House, London, UK, November 20-22, 2013)
- Research Symposium Printing mathematics in the early modern world (All Souls College, Oxford, UK, December 16-17, 2013)

Full reports on all of these conferences may be found on the ICHM website at

# **Projects**

- 1. The ICHM mounted and 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/
- 2. The ICHM continues to update and maintain a database of information on historians of mathematics around the world.
- 3. The ICHM created and maintains an e-mail list of historians of mathematics internationally designed to inform colleagues in a timely manner of the ICHM's activities.
- 4. The ICHM continues actively to solicit and to co-sponsor special sessions and conferences internationally.

#### **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. From 2010 to 2012 it was edited by Niccolò Guicciardini (Italy) and June Barrow-Green (United Kingdom). From 2013 it has been edited by Niccolò Guicciardini (Italy) and Thomas Archibald (Canada). It is published by Elsevier Science and is available electronically to subscribers of IDEAL.

### **Medals and Prizes**

The **Kenneth O. May Prize** is awarded every four years to a historian or historians in recognition of distinguished contributions to the history of mathematics. The Prize is administered by the ICHM.

Kenneth Ownsworth May (1915-1977) was a distinguished American mathematician and historian of mathematics who spent the last ten years of his career at the University of Toronto.

The first May prize was awarded in 1989; to date there have been 12 winners. The recipient of the Prize also receives the May Medal, a bronze medallion cast from a design created by the Canadian sculptor Salius Jaskus. A full list of past winners and citations for these awards may be found on the website of the ICHM (http://www.unizar.es/ichm/mayprize.htm).

The two winners of the May Prize for 2013 were Menso Folkerts and Jens Høyrup. The Prize was presented to them by Craig Fraser, chair of the ICHM, in July of 2013 at the International Congress for the History of Science, Technology and Medicine in Manchester, UK.

For the full citations that accompanied the awarding of the May Prize to Professors Folkerts and Høyrup see Craig Fraser, "Awarding of the May Prizes for 2013," Historia Mathematica 40 (2013): 353–356.

The **Montucla Prize** is an honor established in 2009 by ICHM to recognize research in the history of mathematics. The prize is awarded every four years to the author of the best article published by a young researcher in *Historia Mathematica* in the four years preceding the International Congress of History of Science and Technology.

The prize is named after the great eighteenth-century historian of mathematical science Etienne Montucla, one of the founders of the modern discipline of the history of mathematics. A full list of past winners and citations for these awards may be found on the website of the ICHM (<a href="http://www.unizar.es/ichm/montuclaprize.htm">http://www.unizar.es/ichm/montuclaprize.htm</a>)

The Montucla Prize for 2013 was awarded to: Sébastien Maronne, for "The ovals in the *Excerpta Mathematica* and the origins of Descartes' method of normal," *Historia Mathematica* 37 (2010). The prize was presented to Dr. Maronne by Elena Ausejo, Secretary of the ICHM, in July of 2013 at the International Congress for the History of Science, Technology and Medicine in Manchester, UK.

For the full citation that accompanied the awarding of the Montucla Prize to Sébastien Maronne see Elena Auesjo, "Montucla Prize 2013," *Historia Mathematica* 40 (2013): 357-358.

### The members of the EC of the ICHM

From 2010 through 2014, the ICHM was chaired by Craig Fraser (Canada). The EC's current members are: Craig Fraser (Canada), Chair; June Barrow-Green (United Kingdom), Vice Chair; Elena Ausejo (Spain), Secretary; Henrik Kragh Sørensen (Denmark), Treasurer; Abdelmalek Bouzari (Algeria); Natalja Ermolaeva (Russia); Alejandro Garçiadiego (Mexico); Niccolò Guicciardini (Italy); Sergio Nobre (Brazil); QU Anjing (China); Luis Saraiva (Portugal). Ex officio members are: Joseph W. Dauben (United States), Karen Hunger Parshall (United States) and Thomas Archibald (Canada). The two IMU members are: Jesper Lützen (Denmark) and Kim Plofker (United States of America). For a list of the current ICHM national members, see the back cover of any recent issue of *Historia Mathematica*.

# **4.5.**Committee on Electronic Information and Communication (CEIC)

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

**CEIC Quadrennial Report** 

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, subsequently University of Helsinki, Finland (2008-2016)
- Tim Cole, Grainger Engineering Library Information Center, University of Illinois at Urbana-Champaign, USA (2013-2016)
- James Davenport, Departments of Computer Science and Mathematical Sciences, University of Bath, UK (2008-2016)
- Carol Hutchins, Courant Institute Library, New York University, USA (2008-2016)
- 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)

Retirements: The following members of CEIC left at the end of 2010: John Ball, Michael Doob, Ulf Rehmann.

## **Meetings**

- New York on May 6-8, 2011
- Berlin, July 19-20, 2012
- Bath, UK, June 15-16, 2013
- Berlin, July 12-13, 2014

Minutes can be found on the CEIC web page: http://www.mathunion.org/ceic.

# Expenditure.

In the calendar year 2010 the total expenditure was EUR 5,623 covering expenditure on the Minneapolis meeting of the CEIC. In the calendar year 2011 the total expenditure was EUR 906, covering costs of the NY meeting. In 2011 the CEIC was awarded a USD 73,000 grant by the Sloan Foundation to support the symposium "The Future World Heritage Digital Mathematics Library: Plans and Prospects" organized by CEIC. In the calendar year 2012 the total expenditure was EUR 1,702, covering the costs of participation in the 23rd International CODATA Conference "Open Data and Information for a Changing Planet" held in Taipei on 28-31 October, 2012. The 2012 Berlin meeting was supported by a grant from the IMU Secretariat (WIAS Berlin). The operation of the IMU Secretariat is supported by grants from the German Federal Ministry of Education and Research and the State of Berlin. In the calendar year 2013 the total expenditure was EUR 8,612, covering the costs of the Bath meeting. The expenditure for 2014 will be reported in the next quadrennial report.

### **Terms of References**

Following input from CEIC at the Bath meeting, the EC in March 2014 approved new terms of reference for the committee, to be adopted by the GA at ICM 2014.

- (a) Reporting regularly to the EC, advising it on aspects of IMU operations related to information and communication, including financial implications, and keeping it informed of new developments.
- (b) Reviewing the development of electronic information, communication, publication, and archiving so as to keep the EC abreast of current and emerging issues. Publicising relevant developments to the wider community via IMU on the Web and other methods.
- (c) Advising the EC about potential opportunities to endorse standards ('best practice recommendations') on issues related to publication and communication, including such matters as the use of software and data repositories.
- (d) Advising the EC about potential opportunities to foster the growth of electronic infrastructure, and selectively creating tools for this purpose.

### **CEIC Email List**

For discussions among committee members and email from IMU and elsewhere, it was decided to establish a moderated e-mail distribution list: ceic14@mathunion.org. The recipients of the list are the members of CEIC, along with the IMU technician. People who can post to the list without requiring explicit approval are members of the IMU EC, the IMU staff, and three former CEIC members: Ulf Rehmann, John Ball, and Michael Doob. Messages from others to the list need the approval of the CEIC Chair. The list became operational on February 21, 2011.

### **CEIC** web site

On January 13, 2012, the temporary CEIC web pages hosted by Peter Olver were ported to the IMU Berlin web site. The permanent CEIC web pages on the IMU Berlin web site were made active on January 28, 2013, and are at http://www.mathunion.org/ceic

It was decided at the 2011 meeting that, because they were no longer relevant in the current form of the Internet, CEIC will no longer support the Federated World Directory of Mathematicians (FWDM) and the Electronic World Directory of Mathematicians (EWDM). Thus, links to these do not appear on the new CEIC web pages, although a link to FWDM does still appear on the main IMU web page, as well as the historical CEIC pages.

# **Archiving**

The IMU Archiving Guidelines based on the CEIC recommendations were endorsed by the IMU EC at its meeting in Berlin on March 11/12, 2013. They will be presented to the 17th IMU General Assembly in 2014.

The IMU web pages are now being archived on a weekly basis. However, the archiving

process in Berlin is not yet capable of handling confidentiality requirements, e.g. the seventy-five year embargo on Fields Medal Committee deliberations. Some electronic archives, e.g. email correspondence of IMU Presidents, is permanently lost. The IMU document archives remain incompletely catalogued, and some papers are in bad physical condition. The CEIC is investigating what is missing in the IMU archives, both physical and electronic.

### **IMU-Net**

IMU-Net is edited by Mireille Chaleyat-Maurel. Six regular issues are published on the IMU web site each year, along with special issues as necessary.

# **Wikipedia**

The Wikipedia article on the IMU, at http://en.wikipedia.org/wiki/International\_Mathematical\_Union, was updated and improved by Lena Koch in 2012.

### **Best Current Practices for Journals**

This document had been drafted at the February 2010 CEIC meeting by CEIC together with Douglas Arnold (University of Minnesota). It was approved (subject to minor changes) by the IMU Executive Committee, and is now available on the IMU website. It also appeared in the January 2011 issue of the Notices of the American Mathematical Society.

### Journal blog

In 2011, the IMU and the International Council for Industrial and Applied Mathematics (ICIAM) established a Working Group to study the issue of Ranking of Mathematical Journals As a result, the IMU and ICIAM approved a blog on mathematical journals to be hosted by the IMU. The first post, by Ingrid Daubechies, appeared on November 18, 2011, with the final post, also by Ingrid Daubechies, on October 25, 2012. The moderators were Doug Arnold (ICIAM), Carol Hutchins (IMU), Nalini Joshi (ICIAM), Peter Olver (IMU, Chair), Fabrice Planchon (IMU), Tao Tang (ICIAM, until January, 2012), and Ming-Chih Lai (ICIAM, after January, 2012).

# **World Heritage Digital Mathematics Library**

In 2011, the CEIC applied for and 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 stated goal of the meeting was to "develop a viable plan of action to realize the long standing dream of a universally accessible library for the world's mathematics literature". 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), and Ulf Rehmann (University of Bielefeld). Attendance was by invitation, and there were total of 52 participants, with 11

keynote talks, 8 panel discussions, and several break out sessions. Details, including slides from talks, summaries of panels and break out sessions, position statements, and a final report, can be found on the workshop wiki:

http://ada00.math.uni-bielefeld.de/mediawiki-1.18.1/index.php/Main\_Page

In addition, the NAS received a grant from Sloan to assemble a committee to write a report, entitled "Developing a 21st Century Global Library for Mathematics Research". The NAS committee was assembled and had three meetings in the year following the workshop. Ingrid Daubechies served as co-chair and Peter Olver as a member. The report was published in March, 2014, and is available at

http://www.nap.edu/catalog.php?record\_id=18619

and also on the arXiv: http://arxiv.org/abs/1404.1905. In addition, a Panel to discuss the WDML is being organized by CEIC for ICM 2014.

### Online education and MOOCs

Bill Barton from ICMI attended the Bath meeting of CEIC and presented a report written by himself, Ferdinando Arzarello, and John Toland on Massively Open Online Courses (MOOCs). The report discusses history, advantages, disadvantages, and the potential as transformative teaching tools. Following the discussion, the CEIC produced an "Executive Summary" containing recommendations for an extended version of the report. The current version of the report is posted:

http://www.mathunion.org/fileadmin/CEIC/Minutes/MOOCs\_-\_A\_Preliminary\_Report\_for\_CEIC\_v2\_001.pdf

In addition, a Panel discussion on MOOCs and online eduction is being organized by CEIC for ICM 2014.

# **ICSU and WDS**

The IMU is a member of the International Council for Science (ICSU). In response to a request to the IMU from ICSU President John Ball, the CEIC prepared a short statement answering questions on open access to the scientific literature.

On June 28, 2012, CEIC officially joined the International Council for Science (ICSU)'s World Data System (WDS) as an Associate Member, based on the IMU representing mathematicians throughout the world, many of whom maintain their own data sets and/or conduct research on mathematical methods for analyzing large data sets. 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.

### **International Congresses**

A Round Table on The Use of Metrics in Evaluating Research, organized by CEIC, was held at ICM 2010 in Hyderabad. An edited transcript has appeared in the ICM Proceedings.

Starting with ICM 2014 in Seoul, the CEIC composed 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.

CEIC will be organizing three evening panel discussions at ICM 2014:

- 1. A Panel Discussion of MOOCs (Massive Open Online Courses) and new developments in online education, to be held in conjunction with the "How can we teach better" panel/round table to be organized by ICMI.
- 2. A Panel Discussion on the Future of Mathematical Publishing. This will include such topics as open access, publishing costs and ethics, the cost of knowledge boycott, new models of publishing, and so on.
- 3. A Panel Discussion on the World Digital Mathematics Library, covering recent initiatives funded by the Sloan Foundation, including a workshop at the National Academy of Sciences in 2012, a Report issued by the National Research Council in March, 2014, and recent developments.

# **4.5.1. CEIC Terms of Reference 2015 - 2018**

# Terms of Reference for the period 2015-2018 of the IMU Committee on Electronic Information and Communication (CEIC)

The CEIC is a standing committee of the Executive Committee (EC) of the International Mathematical Union, reviewed every four years by the EC at its meeting preceding that of the IMU General Assembly. Members are appointed in even-numbered years for staggered four year terms, normally commencing on January 1 of the following year, using criteria similar to those for IMU Commissions.

The mandate of the CEIC is to advise the EC on matters concerning information and communication.

### The CEIC's duties include:

- Reporting regularly to the EC, advising it on aspects of IMU operations related to information and communication, including technical, legal and financial implications, and keeping it informed of new developments.
- Reviewing the development of electronic information, communication, publication, instruction, and archiving so as to keep the EC abreast of current and emerging issues. Publicising relevant developments to the wider community.

- Advising the EC about potential opportunities to endorse standards and articulate best practice recommendations on issues related to electronic information, communication, publication, instruction, and archiving, including such matters as software and data repositories.
- Advising the EC about potential opportunities to foster the growth and development of electronic infrastructure.

# 4.6. Circular Letters of the IMU Secretary to the Adhering Organizations with relevance to the IMU General Assembly

# IMU AO Circular Letter 1/2014

# **International Mathematical Union**

February 3, 2014 IMU AO Circular Letter 1/2014

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

# IMU General Assembly (GA) in Gyeongju, Korea

Dear colleagues,

This is an announcement about the next IMU General Assembly including some technical details in order to give you information about what to expect and what to do.

#### 1. Time and Location

The next General Assembly meeting of the International Mathematical Union will take place on August 10-11, 2014

in Gyeongju, Korea.

The venue of the General Assembly meeting will be the Hyundai Hotel in Gyeongju, see <a href="http://www.hyundaihotel.com/gyeongju\_en/index.jsp">http://www.hyundaihotel.com/gyeongju\_en/index.jsp</a>.

The local organizers have reserved 150 rooms in the Hyundai Hotel for the delegates of the General Assembly meeting. Rooms can also be booked by GA delegates in the Commodore Hotel (<a href="http://www.commodorehotel.co.kr/eng/html/main/index.php">http://www.commodorehotel.co.kr/eng/html/main/index.php</a>) which is close to the GA hotel. See hotel information, room rates and room reservation details on the GA Web page <a href="http://www.icm2014.org/en/events/imu/hotel">http://www.icm2014.org/en/events/imu/hotel</a>.

Delegates are expected to arrive on August 9. The GA meeting ends in the evening of August 11. For August 12, the GA organizers offer to all registered GA participants and accompanying persons a bus tour from Gyeongju to Seoul that will include a guided visit to Andong Hahoe Folk Village.

# 2. The General Assembly (basic information)

The role of the GA is described in the IMU Statutes, see <a href="http://www.mathunion.org/fileadmin/IMU/Statutes2010.pdf">http://www.mathunion.org/fileadmin/IMU/Statutes2010.pdf</a> in particular in the articles 18 to 24, and 41.

# 3. Delegations

For each General Assembly meeting, each IMU Member Adhering Organization shall appoint and certify to the Secretary of the Union a delegation, which shall have the number of votes corresponding to the Group in which it adheres, see Statutes Article 19 and <a href="http://www.mathunion.org/members/countries">http://www.mathunion.org/members/countries</a> for information about the groups.

I would like to ask all Adhering Organizations to start selecting their delegates for the IMU General Assembly meeting in Gyeongju and to nominate the delegations in a letter (by e-mail please) to me (<a href="mailto:secretary@mathunion.org">secretary@mathunion.org</a>). This request applies to

- all IMU Members
- all IMU Associate Members and
- all IMU Affiliate Members.

Please note that only the Delegates of IMU Members have voting rights at the GA, however. Affiliate and Associate Members have the right to participate in the GA by a representative without voting rights.

In my capacity as Secretary, I will maintain the list of Delegates (together with the nomination letters) so that there is proof of which persons have the right to vote at the GA.

A Web registration procedure for the GA participants has been set up, see below for more information about the registration system and data needed from each GA participant.

In case it turns out that a formally nominated Delegate will be unable to participate in the GA and the Adhering Organization wishes to nominate a substitute you are asked to contact me by e-mail or phone in due course. We will try to handle the replacement as smoothly as possible.

### Gender distribution at the GA

I would like to recall that it was noted at previous General Assembly meetings that the gender distribution was not "ideal". It would be excellent if the Adhering Organizations could take gender distribution as one criterion into account when they choose the composition of Delegates for the General Assembly in Gyeongju.

### 4. Other GA participants

The IMU EC will invite further persons to the General Assembly. Among these are

- IMU Officers (this group includes the IMU EC members, and Chairs/Presidents/Secretaries of IMU Commissions and Committees who will provide reports about their activities for IMU)
- Observers (this group includes representatives of countries that will present their application for IMU (Associate) Membership and, moreover, representatives of ICSU, ICIAM, and possibly other IMU related organizations)
- Members of the local GA organization in Gyeongju

No person in one of the categories mentioned here has a voting right at the GA.

Note: No person will be allowed to participate in the GA without a formal approval or invitation from me.

### 5. Web server, formal registration process, hotel booking

The local organizing committee in Gyeongju has set up a Web server with information about the GA:

http://www.icm2014.org/en/events/imu/imuga2014

(also accessible from the bottom right corner of the ICM homepage <a href="http://www.icm2014.org/">http://www.icm2014.org/</a>).

This server contains the online registration form, travel and visa information, maps, and many further details. It will be updated regularly and will be employed to keep all delegates informed.

# Details of the online registration process for the IMU General Assembly in Gyeongju

After the nomination of the delegations by the Adhering Organizations (in a letter to me) and the approved nomination/invitation of the persons mentioned under item 4., all Delegates, IMU Officers, Observers and Members of the local organization are requested to register for the GA in detail on

The online registration page at: <a href="http://www.icm2014.org/en/events/imu/registration">http://www.icm2014.org/en/events/imu/registration</a>.

On this Web site all GA participants are asked to provide certain information about themselves such as affiliation, address, contact phone numbers, e-mail and the like, and give other details. Also accompanying persons have to be registered here.

Here is a brief guide through the registration Web site:

- Click on "IMU GA 2014 Registration Form"
- You will now be asked for the "Registration Password" (sent to you in an e-mail from the IMU Secretariat)
- This password is GYEONGJU
- Clicking on "Submit" opens the registration form. Complete the Personal Information boxes, check the box that identifies your registration category, provide information in case someone is accompanying you, indicate whether you will attend the social events offered, provide flight information as well as accommodation information.

The GA participants are requested to submit registration by May 31, 2014.

For accommodation/hotel see: <a href="http://www.icm2014.org/en/events/imu/hotel">http://www.icm2014.org/en/events/imu/hotel</a>.

The Hyundai Hotel and the Commodore Hotel are the conference hotels offered for reservations. Please submit your reservations with the special GA reservation forms. The GA participants are asked to make hotel reservations by July 3, 2014.

For getting to Gyeongju see: <a href="http://www.icm2014.org/en/events/imu/transportation">http://www.icm2014.org/en/events/imu/transportation</a>.

Here 4 options to get to Gyeongju are presented. Option 01 is for arrival at Busan (Gimhae International Airport), option 03 is for arrival at Seoul (Gimpo International Airport), and options 02 and 04 are for arrival at Incheon (Incheon International Airport, which is close to Seoul). Clicking on the Option 01 (or 02, 03, 04) button opens below it the detailed itinerary including times and fares.

Free shuttle transfer from Singyeongju KTX station (see option 03 and option 04) to the GA venue (Hyundai Hotel), from Gyeongju Express Bus Terminal (see option 01) to the GA venue (Hyundai Hotel), and from Gyeongju Bus Terminal (see option 02) to the GA venue (Hyundai Hotel) will be provided during 9 am – 9 pm on August 9.

For the Tentative General Schedule see: <a href="http://www.icm2014.org/en/events/imu/schedule">http://www.icm2014.org/en/events/imu/schedule</a>.

For visa issues see: http://www.icm2014.org/en/events/imu/visa.

You have to go to this page if you need an invitation letter. Click on <a href="https://www.icm2014.org/imu/imu\_invitation.asp">https://www.icm2014.org/imu/imu\_invitation.asp</a> in order to open the invitation letter application form. If you want to submit an invitation letter application you must have registered for the GA beforehand.

The GA Web site also provides information on the Additional Tour program as well as general information.

After completing your first visit to the GA registration page you will immediately get a confirmation e-mail providing your personal user name and password with which you can enter the registration pages in the future to complete or change your data. Please don't forget to record this user name and password.

If you need assistance concerning this matter please write to <a href="mailto:imuga@icm2014.org">imuga@icm2014.org</a>.

# 6. Agenda topics and next steps

I would like to remind all Adhering Organizations of Articles 38, 39, and 42 of the By-Laws:

"The Adhering Organizations, and the Commissions of the Union may propose business to be transacted at meetings of the General Assembly. Such proposals shall reach the Secretary at least four months before the meeting at which they are to be considered."

"The agenda for a meeting of the General Assembly shall be dispatched by the Executive Committee to the Adhering Organizations at least three months before the meeting at which they are to be considered. A question which has not been put upon the agenda may be discussed, but shall not be put to the vote unless a proposal to that effect be approved by a majority of the total number of votes assigned to the Members."

"The Executive Committee shall present an annual report on its activities and those of the Union to each Adhering Organization and shall also report on its activities and those of the Union at each ordinary meeting of the General Assembly. The report to the General Assembly shall be dispatched by the Secretary to the Adhering Organizations at least two months before the meeting at which it is to be received."

# Summarizing:

- If you want to propose a GA agenda topic, please send your request to me by April 9, 2014, if possible, via e-mail to secretary@mathunion.org.
- Expect to receive the GA agenda by May 9, 2014.
- Expect to receive the EC report (IMU Bulletin 64) by June 9, 2014.

### 7. Local contact in Gyeongju

If you have any questions about the local arrangements for the General Assembly at Gyeongju or need assistance, please contact

imuga@icm2014.org.

Sincerely,

Martin Grötschel IMU Secretary

# IMU AO Circular Letter 2/2014

# **International Mathematical Union**

March 31, 2014

IMU AO Circular Letter 2/2014

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

# IMU GA meeting – nominations of AO delegates invited

Dear colleagues,

This circular letter to all IMU Adhering Organizations is mainly a reminder.

Please recall that the meeting of the IMU General Assembly is going to take place in Gyeongju, Korea, on August 10 and 11, 2014. About one third of the IMU members have nominated their delegations so far, and so this is just a reminder to all the other adhering organizations to nominate their delegates.

I attach again the circular letter IMU AO CL 1/14 for your information which describes the registration process. I also attach the IMU General Assembly guidelines that were endorsed by the IMU EC on Sep 15, 2012 and will be presented at the forthcoming GA meeting for your information. The GA organizers are executing the preparations of the GA meeting along these guidelines. Please, have a look at the guidelines and see whether you might want to suggest some changes or add certain items.

A very important issue: The suggestion of topics for the agenda of the General Assembly meeting is due by April 9, 2014. Thus, if you plan to ask the General Assembly to discuss a certain item, please, let me know by April 9 so that we can include this into the agenda and, if necessary, please formulate a resolution in case you would like to have a particular item to be voted on.

Preannouncement: A resolution is drafted that concerns the announcement of the winners of the IMU awards (Fields Medal, Nevanlinna Prize, Chern Medal, Gauss and Leelavati Prizes). The resolution will state that the names of the awardees should not be announced at the ICM opening ceremony, but a few months ahead of time. The reason is that due to modern communication it is very difficult to keep, like IMU tries to do with all possible effort, the names of the award winners confidential for about half a year.

Best regards,

Martin Grötschel IMU Secretary

# **IMU AO Circular Letter 4/2014**

# **International Mathematical Union**

May 6, 2014

**IMU AO Circular Letter 4/2014** 

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

# ICM 2014 Registration, GA meeting delegations

Dear colleagues,

I would like to remind all IMU Adhering Organizations of two items.

# 1. ICM 2014 Early Advance Registration

I would be very happy if you could distribute within your community (as soon as possible) an e-mail reminder that the

Early Advance Registration for ICM 2014 expires on May 10, 2014.

To benefit from the reduced registration fees it is necessary to complete the registration process by this date, see <a href="http://www.icm2014.org/en/participants/registration/information">http://www.icm2014.org/en/participants/registration/information</a>.

# 2. Nomination of Delegates for the meeting of the IMU General Assembly, Gyeongju, Korea, August 10 - 11, 2014

At this moment in time only about one half of the IMU members have nominated their delegations for the meeting of the IMU General Assembly in Gyeongju, on August 10 and 11, 2014.

Please consider making the nominations as soon as possible!

Details about the GA and registration for the GA can be found in my circular letters 1/2014 and 2/2014 and the attachments which you can find at: <a href="http://www.mathunion.org/Publications/cl/">http://www.mathunion.org/Publications/cl/</a>.

Sincerely,

Martin Grötschel IMU Secretary

# IMU AO Circular Letter 5/2014

# International Mathematical Union

May 9, 2014

IMU AO Circular Letter 5/2014

To: IMU Adhering Organizations and all

registered participants (delegates and observers,...)

of the IMU General Assembly

From: Martin Grötschel, IMU Secretary

# **GA** Agenda and further **GA** information

Dear colleagues,

This letter provides information about the meeting of the IMU General Assembly in Gyeongju, Korea on August 10 and 11, 2014. It covers the following topics:

- 1. GA Agenda
- 2. Password Protected GA Server
- 3. No Printed Documents for the GA Meeting
- 4. Slates for the IMU Offices
- 5. Nominated IMU President and Secretary
- 6. GA Registration, etc.

Please read with care.

# 1. GA Agenda

According to item 39. of the By-Laws of the IMU Statutes, the agenda for the meeting of the General Assembly has to be dispatched to the Adhering Organizations at least three months before the meeting. The Statutes (in the last version of the year 2010) are at:

http://www.mathunion.org/organization/statutes.

Item 39 of the By-Laws also stresses that "a question which has not been put on the agenda may be discussed, but shall not be put to the vote unless a proposal to that effect be approved by the majority of the total number of votes assigned to the members." Thus, any further issue that an Adhering Organization wants to be put up for vote needs special treatment at the GA agenda.

In the attachment, please find the proposal of the Executive Committee for the agenda for our meeting in Gyeongju. We will have a very tight schedule, so there is not much room for "ad-hoc topics" proposed at the GA meeting itself. Please keep this in mind.

This agenda is close to but not yet final, since there are still a few items for which it is not clear at what point in time and under which topic or whether at all they will appear on the agenda. So please consult the server mentioned below (before you leave for Gyeongju) for the last version.

### 2. Password Protected GA Server

The IMU Secretariat in Berlin has established a further password protected Web site at which all documents that are relevant for the General Assembly will be available for download. The URL is the following:

# http://www.mathunion.org/GA2014/

The user name and the password can be obtained from the IMU Secretary.

We will upload GA relevant documents to this GA Server as soon as such material becomes available.

# 3. No Printed Documents for the GA Meeting

No printed material will be distributed to the delegates at the meeting in Gyeongju. We expect all delegates and observers to select from the material on the Password Protected GA Server those documents that they find necessary to have at the meeting of the General Assembly itself, to print them, and to bring them to Gyeongju.

Please also bring a printed copy of the latest version of the GA agenda (made available briefly before the meeting) along.

# 4. Slates for IMU Offices

Slates for all IMU officers are currently prepared by the Nominating Committee (NC) - chaired by former EC member Ragni Piene. The slates will be distributed, according to our "Procedures for Election", see the 2010 version: <a href="http://www.mathunion.org/organization/ec/procedures-for-election/">http://www.mathunion.org/organization/ec/procedures-for-election/</a> by June 10, 2014.

# 5. Nominated IMU President and Secretary

The Chair of the NC has allowed me to announce, at this moment in time, the names of the mathematicians the NC is going to propose as next IMU President and Secretary. The nominated colleagues are:

IMU President 2015-2018: Shigefumi Mori (Japan) IMU Secretary 2015-2018: Helge Holden (Norway).

More information (including CVs) will be mailed to you in one month.

# 6. GA Registration, etc.

To all IMU Adhering Organizations who have not nominated their delegates: Please do so soon.

To all nominated delegates and observers, who have not registered for the GA or have not booked a hotel room: Please do that soon.

The attachments to IMU CL 2/2014, see <a href="http://www.mathunion.org/Publications/cl/">http://www.mathunion.org/Publications/cl/</a>, provide full information about the time and location, registration, etc.

Best regards

Martin Grötschel IMU Secretary

Attachments: (preliminary) GA Agenda

# **IMU AO Circular Letter 6/2014**

# **International Mathematical Union**

June 6, 2014

IMU AO Circular Letter 6/2014

To: IMU Adhering Organizations and all

Delegates and Observers of the IMU

General Assembly in Gyeongju

From: Martin Grötschel, IMU Secretary

Dear colleagues,

According to the IMU Statutes, the Adhering Organizations and Delegates of the General Assembly (GA) have to be informed two months in advance of the meeting of the GA about all candidates for positions within IMU committees and commissions to be elected at the next General Assembly. This letter provides complete information about the persons running for the various IMU offices.

According to the "Procedures for the Election...", see

http://www.mathunion.org/organization/ec/procedures-for-election/,

the IMU Nominating Committee has the task to select, from all persons nominated, see my Circular Letters 10/2012 and 02/2013 which can be found at http://www.mathunion.org/Publications/cl/,

the slates to be considered at the GA meeting. The IMU Nominating Committee consists of

- Ragni Piene, Norway (chair)
- Ingrid Daubechies, USA
- Michel Jambu, France
- Masaki Kashiwara, Japan
- Gaven Martin, New Zealand
- M S Raghunathan, India
- Joan Solà-Morales Rubió, Spain

This Nominating Committee has selected (from all nominations received, making use of its right to search for potential candidates on its own, and taking into account regional distribution, adequate representation of mathematical fields, etc.) slates for

- the IMU Executive Committee (EC),
- the Commission for Developing Countries (CDC), and
- the International Commission on the History of Mathematics (ICHM),

following the rules defined in the Procedures for Election.

According to item 5. a. of the Procedures for Election the chair of the Election Committee (who will be elected on the first day of the GA meeting) will present the slates at the GA in Gyeongju.

You find the lists of nominated persons in the appendix below and as a PDF file in the attachment. At the end of each slate, persons who have been nominated but have not been chosen by the Nominating Committee are listed. These (not selected) persons, if the General Assembly wishes so, can be added to the slates at the General Assembly according to item 5.c. of the Procedures for Election.

All candidates have declared their willingness to serve on the commissions or committees for which they have been nominated. All candidates have also provided a two pages curriculum vitae (CV). In order not to overload this e-mail with attachments, we have made the CVs available on the IMU GA 2014 Web site at

### http://www.mathunion.org/GA2014/

with the user name and password distributed to all GA participants and all IMU Adhering Organizations.

We urge all delegates of the General Assembly to make themselves familiar with the candidates and their CVs. Not all candidates will actually be present at the GA for personal discussion. Considering the large number of candidates, the time available at the GA will not suffice to discuss the qualifications of all the persons in too much detail. So, please try to make up your mind about the candidates before the GA. If you feel you need additional information you are, of course, free to contact the candidates directly.

Best regards

Martin Grötschel

# IMU AO Circular Letter 8/2014

# International Mathematical Union

July 10, 2014

IMU AO Circular Letter 8/2014

To: IMU Adhering Organizations and all

registered participants (delegates and observers,...)

of the IMU General Assembly

From: Martin Grötschel, IMU Secretary

# GA Agenda and further GA information, part II

Dear colleagues,

Please, find in the attachment a new version of the agenda of the General Assembly meeting. The agenda is still not final, since new aspects are coming up, certain persons are suddenly able (or not) to make presentations, and as usual, there are last-minute changes to be considered.

These remarks also apply to the documents that IMU is going to make available to all delegates of the General Assembly. It is not as easy as one would think to get all these documents in their final version in time and as early as one would like to have them. But there must be some deadline, and, within the IMU Secretariat, we have just discussed a deadline for the submission of documents, etc. to be made available at the GA meeting. The procedure is as follows:

## Document upload, mailing and availability

IMU will begin to upload the documents for the meeting of the General Assembly in the last week of July (starting July 28). We plan to e-mail important documents to all Adhering Organizations and to participants of the General Assembly on July 30 so that all participants can get these documents directly by e-mail without having to access the GA server. We will try our best to finish the upload of material on July 31.

# Documents will not be printed

Please note that no printed documents will be made available at the meeting of the General Assembly. We ask every participant to print out whatever he/she is interested in or needs in printed version and bring these paper documents along to Gyeongju.

### Documents on USB sticks

However, at the registration for the General Assembly on site, IMU will provide a USB stick for every participant with the final version of the agenda and all accompanying documents so that everyone will have the documents electronically available. We are expecting that every participant will have a laptop available at the General Assembly meeting to be able to read and search in these documents. Access to WLAN and electricity supply will be guaranteed. In a final letter to all participants we will provide more details of that type (type of plugs, etc.).

IMU is aware that we have holiday time (at least in the Northern hemisphere) and that a significant part of the GA participants may be on vacation in July. That is why we are sending out this "warning" at this moment in time. Please, check your e-mail account at the end of July so that you can retrieve the most important documents for the General Assembly meeting from your e-mail account.

### A few more issues:

- 1. IMU will give countries interested in organizing ICM 2018 the possibility to announce their plans to (potentially) bid for the ICM in four years, see item 18.5 of the agenda. Therefore, we ask those countries who are contemplating a bid to prepare a few words about their intentions.
- 2. There are still some countries who have nominated delegates, but where the delegates have not registered for the General Assembly. We ask all Adhering Organizations to check the registration status of their delegates. (See 3. below and the attachment)
- 3. The IMU Secretariat has received a number of requests for making the names of the participants of the GA meeting public. (Many colleagues just want to know whether some of their friends are coming.) IMU was not intending to make the list of GA participants openly available on the Internet without asking every GA participant for permission. However, we decided to make the current list of all those persons, who have registered so far, available to the Adhering Organizations and the participants themselves. In the attachment you will find a PDF file listing all persons who have registered by July 10 for the meeting of the General Assembly. Please, do not distribute this list to others.
- 4. I would like to alert those Members who are in arrears with IMU membership dues payment for two and more years. Statute 32. of IMU reads: "Any Adhering Organization which is in arrears with its contributions for two years shall be warned and shall be deprived of its voting rights. Any Adhering Organization which is in arrears for four years shall cease to be an adherent of the Union. In any case, before taking action, the Executive Committee shall submit the question to the Members of the Union by postal ballot or at a meeting of the General Assembly who under special circumstances may waive these provisions by a two-thirds majority of the total number of votes assigned to the Members." Reminders to pay have repeatedly been forwarded to the countries concerned. At the beginning of the GA meeting, according to item 2.1 of the agenda, the credentials committee will determine if all delegates are entitled to exercise their voting rights in accordance with Statute 32. If necessary, the GA may decide on denying Adhering Organizations to vote. Please make sure that your member

- country is entitled to vote (which means that any payments outstanding for more than two years should be transferred immediately).
- 5. I would like to also make you aware of further information concerning travel possibilities to Gyeongju and kindly ask you to read the attached file on flight information, welcome desk, ground transportation, shuttle service, travel option from Gyeongju to Seoul and emergency issues.

Best regards

Martin Grötschel IMU Secretary

### **IMU AO Circular Letter 9/2014**

## **International Mathematical Union**

July 31, 2014

**IMU AO Circular Letter 9/2014** 

To: IMU Adhering Organizations and all

registered participants (delegates and observers,...) of the IMU General Assembly in Gyeongju, Korea

From: Martin Grötschel, IMU Secretary

### GA Agenda and further GA information, part III

Dear colleagues,

This is (most likely) the final letter to the IMU Adhering Organizations and participants (delegates and observers,...) of the meeting of the IMU General Assembly on August 10 and 11, 2014 in Gyeongiu, Korea.

(Be aware: The material provided contains so much information that you will probably have no time to watch a movie on your long-distance flight to Korea if you intend to arrive prepared for the GA, ③).

### 1. Final GA meeting Agenda

The attachment contains the final agenda of the GA meeting. Names (marked green) behind a topic indicate who will present the item. In very few cases final decisions have not been made yet.

This agenda can still be modified at the beginning of the meeting, and topics may be shifted if that appears sensible (e.g., for timing reasons).

### 2. Bulletin No. 64 and its Appendices I and II

For many of the agenda topics, documents have been prepared that are the basis of the discussion or presentation. These documents (and additional information about IMU and its members) are contained in IMU Bulletin No. 64 which has 2 appendices.

This Bulletin and the appendices will be made available by August 1, 2014 on the IMU GA 2014 Web site (briefly GA server) at

### http://www.mathunion.org/GA2014/

The user name and the password can be obtained from the IMU Secretary.

The Bulletin and its appendices will not be distributed in print (please print yourself whatever you need in printed form), but every GA participant will get a USB stick containing these data at the On-Site GA Registration Desk

(on August 9 in Hyundai and Commodore Hotel, on August 10 and 11 in Hyundai Hotel).

Please note that, for every agenda item which is accompanied by a document, the agenda contains a pointer (marked brown) to the related document in the Bulletin or its appendices.

Important: The information about the slates and the CVs of the candidates for IMU positions are confidential and are not contained in the Bulletin or its appendices. They can be found on the GA server, see above.

### 3. Appendix I of Bulletin No. 64

- 3.1. Appendix I contains items that may need discussion at the GA meeting. That is why we have separated these from the Bulletin and distribute App. I as pdf-document in the attachment. There are, in particular, various guidelines that are presented for the approval of the GA. These guidelines, as the Executive Committee hopes, are supposed to provide the rules (or form the bases) of various IMU activities. Guidelines are presented for:
- Joint commissions with other Unions
- The organization of General Assembly meetings
- Bidding for the organization of an ICM
- Handling of conflicts of interest
- Archiving of IMU material
- IMU membership applications.
- 3.2 Moreover, Appendix I contains the proposal of the IMU EC for the membership of the committees that have to be set up at the beginning of the GA meeting (Credentials, Tellers,...). The EC members responsible for the proposals have made a joint effort to suggest committees that are well-balanced with respect to various criteria.
- 3.3 Appendix I also contains the document "Recommendation on the evaluation of individual researchers in the mathematical sciences" which is meant to provide some guidelines about the way mathematicians are supposed to be evaluated as individuals and discusses the pros and cons involved.

#### 4. New Associate IMU Members

Papua New Guinea and Senegal have applied for Associate Membership. The application material is contained in Bulletin 64. The IMU Executive Committee recommends acceptance. The applications are up for vote at the GA meeting (see agenda item 16). Please make yourself familiar with these cases.

### 5. GA meeting Participants

The list of GA participants (registered by July 25) is also attached.

### 6. Technical Information about the GA meeting

The local GA organizing committee has provided an information sheet with many of the details about the "technical GA aspects" you probably want to know. Please study the attached document before you start your trip to Gyeongju. The travel information may be of particular importance.

Looking forward to seeing you in Gyengju very soon, and please make yourself familiar with the material presented in Bulletin No. 64 and its two appendices!

Best wishes

Martin Grötschel

#### P.S.:

- (a) I assume that most GA participants will attend the ICM Opening Ceremony on August 13. Please do not forget to bring your passport along.
- (b) You may know that the IMU CDC organizes the MENAO Symposium in Seoul on August 12, see <a href="http://www.mathunion.org/cdc/menao/">http://www.mathunion.org/cdc/menao/</a>, but I would also like to point you to <a href="http://www.mathunion.org/cdc/research-and-useful-links/">http://www.mathunion.org/cdc/research-and-useful-links/</a> where yesterday new "Regional Studies" on Challenges and Opportunities for Mathematics in Africa, Southeast Asia, and Latin America and the Caribbean have been released.

## 4.7. ICM 2018 Site Visit Report



**ICM 2018 Site Visiting Committee (SVC)** 

## Report

## of the ICM 2018 Site Visiting Committee

who gathered in Rio de Janeiro (briefly Rio), Brazil from Sunday, January 20 to Wednesday, January 23, 2013 (including visits to São Paulo on January 22 and Brasília on January 23)

The ICM 2018 Site Visiting Committee consists of the IMU Executive Committee (EC) members Manuel de León, Martin Grötschel (replacing Ingrid Daubechies), Yiming Long, and former IMU EC member M.S. Raghunathan. Manuel, Martin, and Raghunathan chaired the ICM organizing committees for ICMs 2006, 1998, and 2010, respectively, Yiming was involved in the organization of ICM 2002. Thus, ample experience and expertise is present in this committee.

## 1. Time frame of the site visit

Sunday, January 20: Meeting with members of the Proposed ICM 2018 Organizing

Committee (briefly **POC** from now on) in Rio de Janeiro.

Monday, January 21: Visit of all locations in Rio suggested for ICM 2018, visit of

Instituto Nacional de Matemática Pura e Aplicada (IMPA).

**Tuesday, January 22:** Visit of São Paulo, meeting with members of the General

Assembly 2018 Organizing Committee, visit of Universidade de São Paulo, visit of proposed sites for the meeting of the General

Assembly (GA) and a hotel for the GA delegates.

Wednesday, January

23:

Trip to Brasília, meeting with two ministers and the president of Conselho Nacional de Desenvolvimento Científico e Tecnológico

(CNPq).

### 2. Detailed report of the activities

### 2.1. FIRST DAY

The Rio site visit started on Sunday, January 20, 2013 in the afternoon with a meeting of the Site Visiting Committee with the Proposed Organizing Committee in the hotel Windsor

Atlántica which was the base of the SVC during its stay in Brazil. Marcelo Viana, the proposed chair of the POC, and his colleagues gave an overview of the plans, the sites selected for the ICM activities, and the particular features of the organization. The POC members present were:

- Carolina Araujo
- Henrique Bursztyn
- Emanuel Carneiro
- José Espinar
- Eduardo Teixeira
- Marcelo Viana.

The presentations about the venues, the support offered by funding agencies, and the credentials of the persons involved made the SVC confident that the Brazilian colleagues will be able to host the ICM 2018 and the General Assembly meeting efficiently. Marcelo and his colleagues basically presented the contents of the bid book, but also explained many of the details that will be discussed later when the various items are treated. The day finished with a joint "business dinner" that continued the discussion of the presentation.

#### 2.2. SECOND DAY

The second day was reserved for all the site visits in Rio de Janeiro. In the morning the SVC, together with the POC, visited first the "ICM main venue" which will be the Centro de Convenções SulAmérica. This convention center is in Cidade Nova, close to Rio downtown.

### • Reaching the convention center (ICM main venue)

There is no "hotel infrastructure" around the convention center. The Organizing Committee proposes that the participants choose hotels in the Copacabana, Ipanema, and Botafogo area where good as well as reasonably priced hotels are located in sufficient number and where a good touristic infrastructure exists. The convention center can be reached from the hotel area by a direct subway line (and there are also buses). In order to check the travel time the SVC used the local transportation as proposed by the POC, which consists of walking from a hotel to one of the metro stations in the touristic area and then taking the metro to the station "Estaco" which is the metro station close to the convention center. The trip from Hotel Windsor including the walk to the metro station (~12 min. in this case), waiting for the metro (that comes about every 5 min.) and then walking from the metro station Estaco to the convention center took about 50 minutes. Thus, one can safely infer that travel times from 40 to 60 minutes should be expected.

The environment of the convention center is under construction. It is safe to predict that the various upgrading efforts in Rio (Football World Cup, Olympic Games) will result in pleasant surroundings.

### • The convention center

The SVC inspected the convention center in all details together with representatives from the center and with the POC and tried to determine whether all typical activities of an ICM can be staged in this location. It is the impression of the SVC that the Centro de Convenções SulAmérica definitely has adequate facilities for an ICM.

### • Rooms for plenary and invited lectures

The major hall that will be used for the plenary lectures is called "grand ballroom". It has 2,400 square meters and an estimated capacity of about 3,000 persons. This is sufficient for the ICM plenary lectures. The "grand ballroom" would be used for the expected three plenary lectures in the mornings.

After discussion with the representatives of the convention center and the POC, an agreement was reached to split the "grand ballroom" in the afternoons into four to eight halls for the invited lectures – according to estimated participation. There are flexible walls that allow to subdivide the ballroom into eight rooms of 300 persons capacity each. Two of these rooms can be combined to one with about 600 participants, also four of the rooms can be combined into one, so that there is flexibility according to expected demand.

### • Further rooms for contributed lectures, etc.

There is a Mezzanine which hosts one room of 150 seats, three rooms of 120 seats, and one room of about 60 seats. In addition, this Mezzanine has a nice and large foyer.

The second floor, that is the floor where the grand ballroom is, hosts additional eight rooms.

Four rooms have a capacity of 100 each. These rooms can be combined to rooms of capacity 200, 300 or even 400, but most reasonable would be, in case of demand, to combine two rooms to a 200 persons hall.

There are three further rooms with a capacity of 110 each and one room with a capacity about 60 persons.

This combination of halls is, according to the experience of the members of the SVC, sufficient to host the contributed sessions.

Even if the number of requests for contributed presentations is getting very large and the POC decides to ask many contributed speakers to give a poster presentation instead of a lecture, the foyer on the second floor in front of the grand ballroom is large enough to accommodate stands of sufficient number for these poster presentations.

The SVC is convinced that this is sufficient flexibility and size to accommodate all plenary and invited lectures. According to the representatives of the convention center the subdivision of the grand ballroom into smaller rooms takes about 40 minutes, so this can be done during the lunch break.

### • Offices for the local organization, IMU, and small meetings

There are additional five offices (small halls) on the second floor which can be used for offices, space for IMU representatives and the POC, for distributing the financial support, etc., and for meeting rooms.

## Book exhibitions, stalls for companies, etc.

The foyer on the second floor is of sufficient size to host the exhibitions of books, software, mathematical societies, etc. The foyer of the Mezzanine is available for this as well.

Below the grand ballroom on the ground floor is a "salão de exposições" (exhibition hall). This is very large and almost of the size of the whole facilities of the second floor. The total space is 5,000 square meters. This exhibition hall has been used for fairs and exhibitions.

The big question is whether this "salão de exposições" should be used for the ICM. At this moment it does not seem necessary, but if there is a large number of poster presentations and exhibitors it may be a good idea to use parts of this exhibition hall for one of these purposes (or both). This can be decided much later.

### Dining

Also on the ground floor is the "salão nobre" (royal hall) which is proposed for lunch and coffee breaks using the catering service of the convention center. The representatives of the convention center showed photos of former usage of this royal hall, and it appears that this is a good way to provide food for the ICM participants, just on the ICM premisses. The royal hall has a size of about 1,000 square meters which seems to be sufficient for the ICM.

In the neighborhood of the convention center are also further suitable restaurants. The SVC visited one of them and was quite satisfied.

#### Toilets

One small critique: The SVC thought that the number of toilets might be a little small for a large convention of the type we expect. This should be communicated to the organizers, but that is an issue that is very hard to change unless the convention center sets up additional toilets in the outside of the building.

#### • Technical facilities

What could not be checked is the technical equipment for the lectures, i.e., beamers, projectors, wireless LAN infrastructure and so on. The representatives of the convention center assured all persons involved that this is no problem, there is a company that provides all these technical facilities and that this has worked in past congresses. The SVC does not doubt this statement.

Summarizing, the Site Visiting Committee is convinced that the convention center proposed by the POC is of sufficient size and appropriate quality to host the ICM.

### • Site for the ICM Opening Ceremony

The organizers propose to stage the ICM Opening Ceremony in a different location, namely a sports hall called Maracanãzinho which is next to the famous Maracanã stadium. After visiting the convention center the whole group (SVC and POC) moved to the Maracanãzinho hall and inspected this building. This is a sports hall that is used for various sports events. At the moment we were there it was set up for a volleyball game. It can host about 11,000 persons, but according to the representatives of this hall, there have been various events where the size was reduced, a stage was set up, etc., which would match the demands for an opening ceremony of an ICM. Considering the fact that the Maracanã stadium is a signature landmark of Brazil, it is not a bad idea to have the ICM Opening Ceremony in the neighborhood of a building that every Brazilian knows. This would give the Opening Ceremony a special Brazilian flavor. Moreover, the representatives of the Maracanãzinho described how they reduce the size, cover certain areas, etc., which convinced the SVC that the Maracanãzinho is an excellent choice for the Opening Ceremony with particular local flavor. The hall is relatively new. It was opened in 2007 for the Pan-American Games and has been maintained well.

The SVC also tried to inspect the Maracanã stadium but this is under heavy construction and we could not get inside. But we visited the exhibition where the current construction is explained and a little museum shows former events and relics of famous football players, etc.

The idea of the POC is to have the ICM Opening Ceremony in the morning of August 7, 2018, and after the end of the Opening Ceremony, to offer a lunch either in the covered part of the Maracanãzinho, outside in the immediate neighborhood, or even better, in the Maracanã stadium itself. According to the people involved, this is possible, but at this moment in time due to all the construction going on, there is no safe guess what can be done in 2018. Certainly lunch in the Maracanã stadium would be a memorable event for the participants of the ICM 2018.

Moreover, the POC proposes to host a reception in the evening of the first ICM 2018 day as well in the Maracanã stadium (or its neighborhood).

The Maracanazinho hall can be reached in a similar way as the convention center directly by the metro from the Copacabana area. Rio has at present two metro lines, a green and a red line, which basically run from Copacabana along Flamengo, Glória, Lapa, and the center to Cidade Nova. The red line goes to the convention center while the green line leads to the Maracana Stadium. From the metro station there is a walk of about 10 to 15 minutes length to the Maracana Stadium. The time to reach the Maracanazinho from the hotels is roughly the same as the one to reach the ICM main venue.

It will make no sense to move in the afternoon of the ICM opening day from Maracanazinho to the convention center, and therefore the POC suggests to continue the ICM in the afternoon in the Maracanazinho stadium (after the lunch break) with the laudations of the prize winners and two plenary lectures. The Site Visiting Committee is convinced that this is a reasonable idea.

So, if this schedule is followed, the ICM will be hosted on the first day (August 7, 2018) at the Maracanãzinho and will then move on to the convention center for the rest of the congress.

### • Visit to IMPA

After visiting the two sites for the ICM 2018 (proposed), the SVC went to IMPA to discuss the various aspects of the organization, mathematics in Brazil, the involvement of the Brazilian mathematical community, etc., with the IMPA Director César Camacho, the former IMU President Jacob Palis, and the POC. We will not go into the details here. The progress of mathematics in Brazil is without doubt astounding. One financial aspect needs to be mentioned to show the progress. While IMPA received the subsidy of 2 million dollars in 2002, this amount has risen to 20 million dollars in 2012. This does not even include the 10 million dollars IMPA gets for organizing the National Mathematics Olympiad which meanwhile involves 20 million students in public schools all over Brazil. This is a competition of a size that one cannot find anywhere else in the world.

Moreover, the Brazilian colleagues demonstrated that they have support of mathematicians from all over the country as well as many colleagues from other countries in Latin America. This can also be inferred from letters that are printed in the bid book, etc. Another indicator is the large number of people from outside Rio who are involved in the organization of the congress. There is no doubt that this support is not only of representative nature.

#### 2.3. THIRD DAY

### Meeting the local team proposing to host the General Assembly 2018

On Tuesday, January 22, the Site Visiting Committee left at 6:00 a.m. to fly to São Paulo to meet the local team proposing to host the General Assembly 2018 and to visit the sites they have in mind for organizing the GA meeting.

The SVC first went to the Instituto de Matemática e Estatística at the Universidade de São Paulo and was hosted by the Dean Flavio Ulhoa Coelho, the Vice Dean, and other representatives including Paulo Piccione who is supposed to be the person responsible for organizing the meeting of the General Assembly and who has made all the preparations for the visit of the SVC.

After a presentation about the University of São Paulo and its mathematics by the Dean, the Site Visiting Committee moved to the office of the Provost for Research, Marco Antonio Zago (who has formerly been the president of the CNPq (the Brazilian NSF)). This was without doubt a very pleasant and reassuring visit. The Provost is fully behind the bid, he mentioned his appreciation of mathematics and the importance of mathematics for his university and Brazil in general.

In Brazil's bid four years ago the Rio organizers had proposed to hold the General Assembly meeting in a holiday resort, but now they decided to include the University of São Paulo in the bid. The SVC thinks that this is a good idea, since, according to all rankings that are available and known, the University of São Paulo is the best and most important university in South America and plays a significant role in many respects. Since the organizers are going to make a big effort to outreach throughout the country, including the University of São Paulo in the bid is a good idea in order to tap all the resources of this university. It also appears that the university and the funding organization of the State of São Paulo are willing to bear a significant part of the costs of the General Assembly meeting, so that not only the local costs are borne, but it can be expected that the economically disadvantaged members of the International Mathematical Union will get some support to participate in the meeting of the General Assembly.

### • Visiting possible GA meeting sites

Concerning the proposed locations of the General Assembly meeting (in São Paulo), at this moment in time, no conclusive statements can be made. There are several options. One option is to use a convention center of the University of São Paulo that is currently under construction on the campus and is supposed to be finished by the end of 2013. Even if one adds the usual delay, one can be relatively sure that the convention center will be ready in 2018. The Site Visiting Committee saw the construction going on and it is clear that this will be finished in the near future. Moreover, close to this convention center three museums are under construction. That may be a nice feature for "recreational visits" during the General Assembly meeting.

There are no hotels on the campus of the University of São Paulo. The campus is very large, and it is probably impossible to use public transportation in a reasonable way to reach this convention center for the General Assembly meeting. The local organizers are willing to provide bus transport for the GA participants to the convention center.

Another option is to host the General Assembly meeting in one of the downtown (whatever downtown means in São Paulo) convention centers or large hotels that have convention

facilities. The Site Visiting Committee visited the Ceasar Park and the Ceasar Business hotel which are two adjoint hotels belonging to the same company. They offer a large convention hall that the SVC checked. It is suited well for the meeting of the General Assembly.

Choosing this hotel is an option, but also using the convention center under construction on the campus of University of São Paulo is an attractive option. If the latter is chosen one can also consider to look for hotels that are closer to the campus than the two Ceasar hotels. But both hotels are reasonably priced and of good quality, and would be adequate options for a General Assembly meeting.

### • Local GA committee, GA meeting date, logistics

The local GA committee seems enthusiastic to contributing to the ICM by organizing the General Assembly meeting and also contributing to the countrywide success by participating in outreach activities and so on.

Four of the persons who are proposed to organize the General Assembly meeting are also members of the nationwide POC.

The meeting of the General Assembly is supposed to take place on Saturday, August 4 and Sunday, August 5, 2018 (August 3 would be the arrival day).

The General Assembly Organizing Committee proposes to move all participants of the General Assembly meeting by bus to Rio de Janeiro. This is a trip of about 400 km length and takes about six hours including a visit to a national park.

If GA participants do not want to take a bus ride, getting from São Paulo to Rio is a trivial matter. There are flights every twenty minutes or so. A flight takes about 45 minutes.

The Site Visiting Committee also briefed the proposed GA organizers about all aspects of organizing a meeting of the General Assembly including the way people have to be seated, the availability of a wireless LAN, microphones, etc., and the General Assembly Guidelines were pointed out to the organizers. Also the financial issues involved were addressed in detail, and it was indicated that not all financial aspects were completely mentioned in the GA Guidelines.

Paulo Piccione, the Chair of the General Assembly Organizing Committee, participated in two former General Assembly meetings, and, thus, has experience in this event.

#### 2.4. FOURTH DAY

On Wednesday, January 23, the Site Visiting Committee left (again at 6:00 a.m.) to fly to Brasília, together with Marcelo Viana and Jacob Palis, and was joined there by César Camacho in order to meet the Minister of Education, Aloizio Mercadante, and the Minister of Science, Technology, and Innovation, Marco Antonio Raupp, as well as the CNPq President Glaucius Oliva, and the National Secretary of Research and Development Policies, Carlos Afonso Nobre (and a few other government officials).

The two ministers assured the SVC of the fundamental support by the Brazilian government and made the importance of mathematics for Brazil apparent. The CNPq president made similar extremely positive statements.

The Site Visiting Committee is convinced that the local organizing committee will get all possible support from the federal and also the state government. The financial commitments

made by the Brazilian politicians are significant and will ensure that the ICM 2018 can be successfully organized in Brazil.

Photographers and journalists were around. The media reported about the visit:

http://www.jornalbrasil.com.br/?pg=desc-

 $\frac{noticias\&id=69680\&nome=Congresso\%20Internacional\%20de\%20Matem\%E1ticos\%20cheg}{a\%20ao\%20Brasil\%20em\%202018}$ 

http://www.jornaldaciencia.org.br/Detalhe.jsp?id=85563

 $\underline{http://www.cienciaempauta.am.gov.br/2013/01/congresso-internacional-de-matematicos-chega-ao-brasil-em-2018/}$ 

http://www.confap.org.br/congresso-internacional-de-matematicos-chega-ao-brasil-em-2018/

### 3. Summary and analysis

The remaining part of the report is going to follow the draft "Preparing a bid to host an ICM" and tries to provide answers to the issues raised in this document. Before doing that the SVC places on record its appreciation of the excellent hospitality offered to the committee members during the visit by Marcelo Viana and his team.

### **Inviting bodies**

The main part of the invitation rests on the shoulders of the IMPA in Rio de Janeiro, but IMPA is supported by mathematicians nationwide, and the meeting of the General Assembly will be hosted by the University of São Paulo. This shows that the strongest institutions in mathematics in Brazil are behind this invitation, and there is no doubt that this support is significant and real. The involvement of all the universities is apparent, in fact overwhelming.

#### Scientific infrastructure

IMPA has organized a large number of small to large meetings and has persons experienced with IMU, former ICMs, and organization of congresses. So there is no doubt that Marcelo Viana and his POC will be able to organize ICM 2018 very well and have the mathematical status and quality to make proper judgments.

### Venues

The venues have been described above. The Site Visiting Committee is convinced that the convention center has all the facilities that are needed for an ICM.

### **Accommodation and transportation**

The transportation situation is a small "minus", since going to the convention center as well as returning from it, will take up 40 to 60 minutes each day, basically for all participants. But given the situation in Rio de Janeiro, there does not seem to be a better solution. Rio has three convention centers. One was proposed in the 2014 bid, this had turned out to be too small. There is a larger convention center but this is in Barra da

Tijuca, far out of the center of Rio, and it is even more difficult to reach from the center. At this moment in time, the proposal seems to be the best compromise.

Accommodation in Rio de Janeiro is plenty. At this moment in time there are sufficiently many hotels in all cost ranges. The situation will improve due to the fact that Rio de Janeiro will host the Football World Championships and the Olympic Games in the next years, so that after these events, there may be an oversupply in accommodation resulting in price reductions.

### Visa restrictions

The statement of César Camacho "No mathematician has ever been denied a visa" makes the situation clear. Brazil guarantees that every mathematician who wants to participate in the ICM will be able to do so.

### Logistic infrastructure

This issue has already been dealt with in the report above. The location for the ICM Opening Ceremony and the convention center can be easily reached by public transport (metro), but there are also some buses running. We did not discuss the banquet, but we are more than sure that the Brazilians will organize something like that easily.

## **Outreach activities (public lectures, exhibitions)**

Contacts with students in all stages of education and with industry are on the agenda as well as satellite conferences and press coverage and there is no doubt that the Brazilian colleagues will make significant efforts to reach out. Outreach activities will be supported by Casa SESI da Matemàtica, a center for popularization and teaching of mathematics that will be opened in 2014.

### **Proceedings**

That is a standard business and we did not discuss publishing the proceedings. IMPA has significant experience in this respect.

### **General Assembly**

This has been outlined above. We have no doubt that the General Assembly meeting can be organized perfectly in São Paulo.

### Financial infrastructure

Due to the fact that the colleagues have to rent a commercial convention center there will be significant costs involved. Considering the promises made by the various institutions supporting mathematics, the proposed budget looks excellent and we have no doubt that the financial support is sufficient to organize ICM 2018. The main contribution comes from the federal government which will contribute about three million US dollars, the local governments and companies are expected to contribute another 500,000 US dollars, and the income from registration fees is expected to be over one million US dollars. This will be sufficient to run an ICM.

### **FINAL REMARK**

The Site Visiting Committee is convinced that the Brazilian bid is excellent, that it will get strong support from the local mathematical communities in Rio de Janeiro and São Paulo as well as from the whole of Brazil and South America, and the SVC has no doubt that ICM 2018 taking place in Brazil will be a successful congress.

We were particularly impressed by the great enthusiasm of our Brazilian colleagues.

January 24, 2013

Manuel de León, Martin Grötschel, Yiming Long, M.S. Raghunathan

### 4.8. Permanent Office Contract Documents

Draft of September 19, 2013

#### Cooperation Agreement

between the

Weierstraß-Institut für Angewandte Analysis und Stochastik (in the following WIAS) Leibniz Institut im Forschungsverbund Berlin e.V. (FVB) Rudower Chaussee 17 12489 Berlin GERMANY and the

International Mathematical Union (in the following IMU)

collectively referred to as Parties, or individually as a Party.

Project shall be the project

"Establishment and maintenance of an IMU Secretariat in Berlin".

#### Preamble

With support from the Federal Republic of Germany and the Land Berlin, WIAS successfully applied for the stable secretariat of IMU. The location of the IMU Secretariat at WIAS strengthens mathematics in Germany and enhances its visibility in an international context. For IMU a stable secretariat strengthens the efficiency of its administration and reduces the risk of loss of information. The Project is driven by the shared goal of WIAS and IMU to improve mathematical research internationally.

In order to specify and supplement the provisions described in the Memorandum of Understanding (signed by IMU and WIAS on October 18, 2010, see Annex 1) and with regard to the IMU Statutes (of August 16, 2010) and Statutes of WIAS (Institutssatzung des WIAS of November 3, 2010), the Parties agree to conduct the cooperation according to the following terms and conditions:

#### § 1 Purpose of this Agreement

This agreement concerns the allocation of staff and office space (described in detail in the bid document; Annex 2) by WIAS, and thus financed by the Land Berlin and the Federal Republic of Germany, to IMU in order to enable IMU to maintain a stable secretariat in Berlin on a royalty-free basis.

#### § 2 Responsibilities and duties

2.1 According to the IMU Statutes, the General Assembly is the decision-making body of IMU. Statute 18 provides that IMU is administered by the Executive Committee which shall conduct the business of the IMU. The responsibility for conducting the ordinary business of IMU and for keeping its records rests with the IMU Secretary (statute 45).

The IMU is not a legal entity, there is no legal representative who is authorized to sign on behalf of IMU in general. To enter into a binding agreement with the IMU a decision of the General Assembly is necessary. The legal domicile of IMU shall be located at the IMU Secretariat.

The staff of the IMU Secretariat are responsible for supporting the IMU Secretary, the Executive Committee, and the IMU commissions and committees, in the conduct of the ordinary business of IMU. The IMU Secretary is responsible for ensuring that the IMU Secretariat is able to fulfill its duties by giving it relevant information and instructions.

The tasks of the IMU Secretariat are described in detail in Annex 3.

- 2.2 The Parties shall exchange information regarding the conduct and progress of the Project on a regular basis, with at least two (2) meetings of the IMU Secretary or suitable IMU representatives per year in the IMU Secretariat. Additional meetings which may be held by telephone or video conference can be called by the Parties. All details shall be decided by the Parties. In these meetings, authorized Party representatives may decide on all issues regarding the Project.
- 2.3 When a Party encounters difficulties or makes new findings which are likely to affect the further conduction of the Project (in particular time limits and costs agreed upon) it shall immediately inform the other Party.
- 2.4 The Parties shall observe all laws and regulations covering the work within the Project. The Parties will immediately inform each other when a third party, in particular a governmental agency, claims that a Party does not observe all laws and regulations covering the work within the Project.

#### § 3 Costs of the Project

- 3.1 The costs of the Project are subject of a special grant from the Federal Republic of Germany and the Land Berlin.
- 3.2 If a Party subcontracts tasks within the Project to third parties the costs for such subcontracting shall be borne solely by the subcontracting Party, unless the other Party has agreed in writing to contribute to the costs.

### § 4 Confidentiality

4.1 Each Party (Receiving Party) must keep confidential all information, substances/material (in the following "Confidential Information"), delivered by the other Party in the course of the Project. It must not disclose Confidential Information to any third party and shall use Confidential Information only for Project purposes. For clarification: all information disclosed in written form, in particular within internal progress meetings or in internal progress reports, shall be treated as confidential, even if such information is not explicitly marked "confidential".

- 4.2 The obligations under Section 4.1 shall not extend to Confidential Information:
  - that is or becomes publicly known or available through publication or otherwise, without any unauthorized act or omission on the part of the Receiving Party; or
  - b) that was in lawful possession of the Receiving Party prior to the disclosure; or
  - that is supplied to a Party by a third party without a condition of secrecy, provided, however, that such third party has no obligation to a Party, its agents or affiliates to maintain such information in confidence; or
  - d) that a Receiving Party is disclosing in response to a valid order of a court or other governmental body, or whose disclosure is otherwise required by law or regulation; providing, however, that the Party which is subject to such a request to disclose shall first give reasonable prior notice to the other Party and shall have made a reasonable effort to obtain a protective order requiring that the Confidential Information so disclosed be limited to Confidential Information necessarily responsive to the order issued.
- 4.3 The Parties' obligations under this § 4 shall extend for a period of five (5) years after termination or expiration of this Agreement and with respect to Research Results for as long as secrecy is not excluded by Section 4.2 above.

#### § 5 Liabilities

- 5.1 Except in cases of personal injuries, the Parties are only liable to each other for damages due to acts of gross negligence or intent. Any obligation of a Party to pay damages to the other Party due to a violation of this Agreement shall be limited to foreseeable damages and except in cases where a Party has acted with gross negligence or intent shall exclude lost profits.
- 5.2 WIAS undertakes to ensure that the IMU Secretariat staff is available to work for the IMU as described in the Annexes 1, 2, and 3. This includes the contracts of the staff working for IMU and the office space and technical facilities needed.
  WIAS is not responsible for ensuring that the IMU Secretariat staff fulfills its duties correctly and in accordance with the decisions of the IMU General Assembly and the laws of Germany.
- 5.3 This Agreement does not constitute a partnership or agency among the Parties. No Party is entitled to represent the other Party.

#### § 6 Term and Termination

- 6.1 The term of this Agreement shall be the term of the Project.
- 6.2 The termination of the Project is handled according to the rules in the Memorandum of Understanding (Annex 1).
- 6.3 Any notice of termination has to be in writing to be valid.

#### § 7 Miscellaneous

- The invalidity or unenforceability of any provision of this Agreement shall not affect 7.1 the validity or enforceability of any other provision hereof. In the place of the invalid or unenforceable provision, a valid provision is presumed to be agreed upon which comes legally and economically closest to the invalid or unenforceable provision.
- This document (including Annex 1, 2, and 3) contains the entire agreement of the Par-7.2 ties in respect to the Project. There are no oral side agreements. The provisions of this Agreement cannot be changed, modified or amended except by a written instrument signed by both Parties. This also applies to a waiver to parts of this provision.
- Any dispute, controversy or claim arising under, out of or relating to this Agreement 7.3 and any subsequent amendments of this Agreement, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be referred to and finally determined according to German law excluding its choice-of-law principles. The dispute, controversy or claim shall exclusively be decided by the courts of Berlin.

For WIAS

Managing Director FVB

eibniz-Institut im Forschungsverbund Berlin e.V. Diræsean Asi Asi 17 Berlin

For IMU

Prof. Dr. Ingrid Daubechies

IMU President

Prof. Dr. Martin Grötschel

IMU Secretary

March 9, 2014 Dated:

Cooperation Agreement Annex 1

MEMORANDUM OF UNDERSTANDING between the INTERNATIONAL MATHEMATICAL UNION and the WEIERSTRASS INSTITUTE FOR APPLIED ANALYSIS AND STOCHASTICS for the establishment of an IMU SECRETARIAT IN BERLIN

#### Preamble

The International Mathematical Union (IMU) is an international non-governmental and non-profitmaking scientific organization

The Weierstrass Institute for Applied Analysis and Stochastics (WIAS) is a German non-university mathematical research institute and a part of the Forschungsverbund Berlin e.V (FVB).

This agreement between the IMU and WIAS will be signed on behalf of the IMU by its President and Secretary<sup>1</sup>, and on behalf of WIAS by its Director and the Managing Director of FVB<sup>2</sup>.

#### WIAS and the IMU

WIAS will provide the IMU with all the facilities and administrative personnel described in its successful bid document for the IMU Stable Office which was endorsed by the IMU General Assembly, Bangalore, 2010 (http://www.wias-berlin.de/imu-office/index.html and Appendix 1). On any point not explicitly dealt with in this agreement, WIAS is bound by commitments, explicit or implicit, in the bid document in which the term 'stable office' is synonymous with the term 'IMU Secretariat' used here

All personnel in the resulting IMU Secretariat will be employees of WIAS seconded to the IMU Secretariat for specified periods. WIAS alone will be responsible for the remuneration and the terms and conditions of employment of these personnel. However the IMU will be consulted when personnel are being engaged.

### **IMU Secretariat**

The Secretariat will facilitate the activities of the IMU and support its committees and officers by providing it with a stable legal, administrative and financial structure. It will normally deal with the IMU Executive Committee through the IMU Secretary and will report annually to the IMU Executive Committee. English will be the official language for all communications between the Secretariat and the IMU. This includes correspondence with Executive Committee members, members of other IMU Commissions, and recipients of disbursements from IMU sources

Responsibilities of the Secretariat include the following.

1. Managing the financial and legal affairs of the IMU. In particular

establishing and maintaining an appropriately favourable legal position for the IMU, ensuring that its registered office and legal domicile is that of WIAS in Berlin;

managing the capital resources of the IMU;

having the IMU accounts audited in accordance with IMU requirements and in conformity with relevant laws;

arranging procedures which are simple and flexible from the perspective of the recipients for disbursals on behalf of the IMU.

<sup>&</sup>lt;sup>1</sup>who are empowered to enter into this agreement by the Executive Committee and a mandate of the IMU General Assembly held in Bangalore on 16th and 17th August, 2010.

<sup>2</sup>who are empowered by the constitution of FVB to enter into this agreement, and to accept the associated duties and responsibilities, on the terms agreed to in this document and its appendices.

- Assisting the Commissions of the IMU in fulfilling their functions, in particular by giving full secretarial assistance to the Commission for Developing Countries (CDC) and the International Commission on Mathematical Instruction (ICMI).
- The maintenance and security of the IMU Archive in paper and electronic formats, making it available to persons or entities only on the basis of directives from the IMU Executive Committee.
- 4. The maintenance of the IMU web site with suitable servers and backups, and an internet connection of sufficient band-width; the content of the web site remaining solely the responsibility of the IMU.
- Supporting the IMU in its relations with governments and other scientific organisations, in its fund raising activities and in its dealings with the media.
- Assisting the IMU in achieving its educational and outreach goals.
- Assisting the IMU Secretary in the preparation and dissemination of various reports, bulletins, and documents needed, among others, by the IMU Adhering Organisations.

#### Head of the IMU Secretariat

The IMU Secretariat will be headed by a senior academic other than the WIAS Director who is employed by WIAS and who is selected with mutual agreement by the IMU and WIAS. The Head of the IMU Secretariat will be responsible to the IMU and WIAS for ensuring that the Secretariat fulfills its commitments to the IMU. To facilitate this, the IMU Executive Committee may designate the Head of the IMU Secretariat as IMU Treasurer and may delegate certain responsibilities currently with the IMU Secretary to the Head of the IMU Secretariat, for specified periods. The Head of the IMU Secretariat will present annual reports on the activities of the IMU Office to the IMU Executive Committee.

#### IMU Office Committee

The purpose of this Committee, which is not part of the Secretariat, is to monitor the performance of the IMU Secretariat on behalf of the IMU Executive Committee and Adhering Organisations. It will normally make biannual (or when asked to do so by the Executive Committee) reports to the Executive Committee after site visits at times agreed with the Head of the IMU Secretariat.

#### Amendments and Disputes

At any time, amendments which have been agreed by both parties may be added to this agreement as appendices which may then augment or override the provisions set out here. The IMU Secretary is authorised to endorse such amendments only if instructed to do so by the Executive Committee or the IMU General Assembly.

The IMU and WIAS are committed to resolving disputes about the terms of this agreement through friendly negotiations. In the event that such resolution is not possible, the matter will be decided by the President of the IMU and the Director of the WIAS who may appoint an independent arbitrator to decide the matter.

#### Reviews and Renewals

This agreement comes into force when two copies have been signed by all the signatories, one for each of the two parties to the agreement.

The performance of the Secretariat in promoting the objectives of the IMU will be reviewed by an IMU General Assembly in 2018. In the event that no General Assembly takes place that year, the review will be the made by the Executive Committee after it has sought the views of IMU Adhering Organisations.

The agreement will be for a period ending on 31st December, 2020, in the first instance. It may be renewed, with or without modifications, for a further period of up to 10 years, subject to the outcome of the 2018 review. If the General Assembly meets in 2018, the terms and conditions of the renewal will be based on a mandate of the General Assembly.

Notwithstanding anything stated above, this agreement may be terminated by either party upon giving notice of that intention, in writing, three years before the proposed date of termination.

Signed:

Prof. Dr. László Lovász, IMU President

Leve 1

9. Gröhred

Prof. Dr. Martin Grötschel, IMU Secretary

Dr. Falk Fabich, FVB Managing Director

Dated: Oct 18, 2010.



#### Location

The Stable IMU Office will be located at Markgrafenstrasse 32 in the very center of Berlin, next to the famous Gendarmenmarkt Square and the WIAS main building. It provides a space of 370 sqm for the IMU archive, meeting and reading rooms, and five office rooms. All rooms are ready for use, fully equipped with furniture and up-to-date IT facilities.



Entrance (left: Hilton Hotel)



View to Gendarmenmarkt



Meeting Room



eading Room



#### Staff

- 1 full-time position (E13 in the German salary system for public employees) for the general IMU administration
- 1 full-time position (E13) for the administrative support of ICMI and CDE
- 1 full-time position (E11) for the financial administration
- 1 half-time position (E11) for IT support
- 1 half-time librarian (E9) for the IMU archive

For these positions, WIAS guarantees full back-up by other permanent WIAS staff members. WIAS also offers special services such as legal advice in the form of lawyers and patent/copyright services. Head of the Stable IMU Office in Berlin will be the WIAS Deputy Director Alexander Mielke.

#### **Finances**

The Stable IMU Office in Berlin will be financed through a special grant by the Federal Government of Germany and the Senate of Berlin via WIAS. The annual IMU Office budget will be close to half a million euros. Commitments were made by the state authorities to guarantee long-term financing.

#### Further fundraising

Major German sponsoring agencies have announced support for the IMU Office in writing: Alexander von Humboldt Foundation (AVH), German Research Foundation (DFG), Deutsche Telekom Foundation, Stifterverband für die Deutsche Wissenschaft (the business community's innovation agency for the German science system).

Moreover, the Einstein Foundation in Berlin supports the IMU Office with a grant of one million euros, in order to enhance the connections between the new office and the mathematical communities in Berlin and worldwide. The three-year grant, which will fund visits of senior mathematicians, postdocs, and PhD students to Berlin, will be administered jointly by the Berlin Mathematical School (BMS) and IMU.

#### Electronic IMU

The IMU Office in Berlin will provide technical support for all electronic IMU activities. It will host all IMU servers, including those of the IMU commissions and committees, and maintain the IMU mailing lists (adhering organizations, IMU-Net, etc.). It will support electronic archiving and make secure electronic voting available. WIAS will provide connectivity, proper bandwidth, and back-up services.

#### IMU archive

The administration of the paper archive of IMU will be supported by the Berlin-Brandenburg Academy of Sciences (founded by Leibniz in 1700), which is also located at Gendarmenmarkt

#### The mathematical community in Berlin

Mathematics plays an important role in the scientific life of the German capital. Besides the strong and large mathematical departments of the three major universities Freie Universität (FU), Fechnische Universität (TU), and Humboldt-Universität (HU), with more than 3000 mathematics students, Berlin hosts two renowned mathematical research institutions, the Zuse Institute Berlin (ZIB) and the Weierstrass Institute for Applied Analysis and Stochastics (WIAS). These five institutions jointly run two major Centers of Excellence, the Research Center Matheon and the Berlin Mathematical School (BMS), both won in nationwide competi-

tions and funded by the German Research Foundation.
Currently, there are some 75 professors of mathematics in Berlin, who support the WIAS bid for the Stable IMU Office in Berlin. Among these committed colleagues, who are ready to serve the mathematical community, there are:





Christian Bär (U Potsdam, DMV Vice Prosident)



Peter Deuflhard (FU, President ZIB)



Andreas Griewank (Director Math. Inst. HU)



Martin Grötschel (TU, VP ZIB, IMU



Jürg Kramer (HU, Chairman BMS)



Alexander Mielke (HU, Deputy Director



Volker Mehrmann (TU, Pres.el. GAMM, Chair MATHEON)



Konrad Polthier (Director Math. Inst. FU)



Christof Schütte (FU, Deputy Chair



Jürgen Sprekels (HU, Director WIAS)



Harry Yserentant (Director Math. Inst. TU)



Günter M. Ziegler (TU, Director DMV Media Office)

#### **About WIAS**

WIAS was founded in 1992 after the reunification of the two German states, as a follow-up institution of the mathematical institute of the Academy of Sciences of the former German Democratic Republic. It is located in a prestigious area in the very heart of the German capital, near to the headquarters of several scientific organizations and federal ministries, and major tourist attractions.

Presently, WIAS has 130 employees (including 110 scientists) and an annual budget (2009) of 7.5 million euros. As a member institute of the Leibniz Association (www.wgl.de), WIAS is financed by the German Government (Bund and Länder). Significant additional funding is obtained through grants from research agencies and industry. WIAS is very experienced in all administrative matters. For almost twenty years, WIAS has been hosting the office of the German Mathematical Society (DMV), Germany's IMU adhering organization.

For more details see: www.wias-berlin.de/imu-office

#### Berlin and IMU

Berlin has much experience in running IMU affairs. The present IMU Secretary Martin Grötschel, Vice President of ZIB, organized the ICM 1998 at TU with the support of the entire Berlin mathematical community. WIAS director Jürgen Sprekels was the treasurer of ICM 1998, and all financial affairs of the congress were handled by WIAS staff. We are proud that a considerable surplus was made, which now funds the IMU Gauss Prize.

#### Outreach and media

Mathematics visibility in Berlin is supported by the "Mathematics Media Office" of DMV (head: Günter M. Ziegler), established as an outcome of the German "Year of Mathematics 2008", as well as by the press officers of Matheon and WIAS. They all will support the national and international media and outreach activities of IMU.



#### Tasks of the IMU Secretariat

The general task of the IMU Secretariat is the support of the IMU Secretary, the Executive Committee, as well as the other committees and commissions of IMU. This includes the following tasks:

- Preparation of major IMU meetings, creating meeting minutes.
- Preparing and controlling the implementation of the decisions of IMU and the communication to the members.
- Supporting the preparation of conferences and congresses of IMU.
- Monitoring the finances of IMU, creating the annual budgets and assisting the annual financial audits through external auditors, controlling the annual reports and budgets of the different IMU commissions and committees.
- · Preparation of the annual reports of IMU (Bulletin) and of the IMU Secretary.
- Assisting the IMU Secretary in preparing and disseminating various reports, guidelines, and documents needed by the IMU Adhering Organizations.
- Maintaining and further developing the internet presentation of IMU.
- · Maintaining and securing the IMU Archive in paper and electronic formats.

# 5. Impressum

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