

**Bulletins of the  
International  
Mathematical Union**



**Bulletin of the IMU, No. 67 (2015)**

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**Bulletin of the International Mathematical Union**

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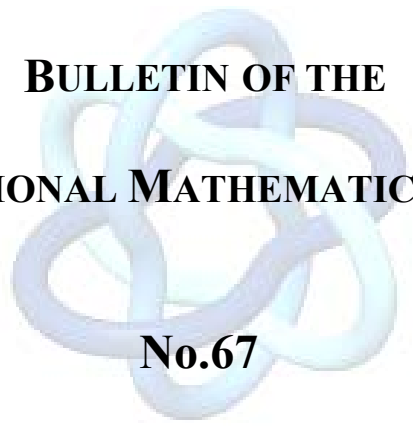
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**IMU**

**BULLETIN OF THE  
INTERNATIONAL MATHEMATICAL UNION**



**No.67**

**December 2015**

**Secretariat:**

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

<http://www.mathunion.org>

## List of Abbreviations

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

Dear Members of the International Mathematical Union

In 2015 the IMU Executive Committee that had been elected at the 17th IMU General Assembly in Gyeongju, Republic of Korea, in 2014, took office. The modus operandi of the Executive Committee is to have one annual two-day meeting with a fully packed agenda, in addition to regular and frequent email exchanges about urgent matters.

At its first meeting at the IMU Secretariat in Berlin, a major task was to create the Program Committee of the International Congress of Mathematicians in Rio de Janeiro, Brazil, in 2018. The Adhering Organizations had been asked to submit names of candidates, and the IMU Executive Committee had the difficult task to compose a well-balanced Program Committee. The committee, chaired by János Kollár, has the momentous task of deciding the scientific program of the ICM as well as deciding all speakers. The Adhering Organizations were invited to make suggestions for the ICM scientific program structure. The composition of the Program Committee will be revealed at the opening of the ICM in 2018.

Another important task of the IMU Executive Committee was to decide the members of the Fields Medal committee, which is chaired by the IMU President Shigefumi Mori.

As a follow-up of Resolution 11 of the General Assembly in 2014, the IMU Executive Committee formed an ad-hoc committee chaired by former IMU President John Ball. Resolution 11 asks that the ad-hoc committee to consider (1) the possibility to announce the IMU prize winners before the opening ceremony of the ICM; (2) the possibility of single awards being shared by several collaborators; and finally, (3) changing or relaxing the currently specified age limits. The ad-hoc committee submitted its report to the IMU Executive Committee at the end of 2015.

After hearing a progress report from the Local Organizing Committee for the ICM 2018, the IMU Executive Committee prepared for the bid to host the ICM 2022, and a call was made to the Adhering Organizations in July 2015, with the deadline to submit bids by the end of November 2016.

The IMU Executive Committee decided to establish a Committee for Women in Mathematics (CWM). The CWM is chaired by Marie-Françoise Roy, and the committee has been very active from the start. Its remit states that the aim (the list is not exhaustive) is to promote international contacts between national and regional organizations for women in mathematical sciences and to publicize, and where needed to suggest, working practices that ensure equal opportunities for women mathematicians in universities and research institutions, for example appropriate funding arrangements, family friendly policies and facilities.

The work to re-structure the IMU appearance on the world wide web started. The aim is to create a completely new web page for the IMU as well as its committees and commissions.

With best wishes

Helge Holden  
Secretary of the IMU

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## 1. IMU Leadership and Membership Information

### 1.1. Executive Committee 2015-2018

#### INTERNATIONAL MATHEMATICAL UNION

##### Executive Committee

January 1, 2015 – December 31, 2018

<b>President:</b>	Shigefumi Mori	(Japan)
<b>Vice-Presidents:</b>	Alicia Dickenstein Vaughan Jones	(Argentina) (New Zealand/USA)
<b>Secretary:</b>	Helge Holden	(Norway)
<b>Members-at-Large:</b>	Benedict H. Gross Hyungju Park Christiane Rousseau Vasudevan Srinivas John F. Toland Wendelin Werner	(USA) (Korea) (Canada) (India) (United Kingdom) (Switzerland)
<b>Ex-officio Member (Past President)</b>	Ingrid Daubechies	(USA)



#### Meetings of the Executive Committee in 2015:

86<sup>th</sup> EC Meeting, Berlin, Germany, March 14-15, 2015



## 1.2. IMU Leadership 2015-2018

### IMU Executive Committee (EC) 2015 – 2018

Shigefumi Mori	IMU President	Japan
Helge Holden	IMU Secretary	Norway
Alicia Dickenstein	IMU Vice President	Argentina
Vaughan Jones	IMU Vice President	New Zealand/USA
Benedict H. Gross	IMU EC Member-at-Large	USA
Hyungju Park	IMU EC Member-at-Large	Korea
Christiane Rousseau	IMU EC Member-at-Large	Canada
Vasudevan Srinivas	IMU EC Member-at-Large	India
John Francis Toland	IMU EC Member-at-Large	UK
Wendelin Werner	IMU EC Member-at-Large	Switzerland
Ingrid Daubechies	IMU EC Ex-officio Member (Past President)	USA

### Commission for Developing Countries (CDC) 2015 – 2018

Wandera Ogana	CDC President	Kenya
Olga Gil Medrano	CDC Secretary Policy	Spain
Srinivasan Kesavan	CDC Secretary Grants	India
Mama Foupouagnigni	CDC, African Member	Cameroon
Polly Sy	CDC, Asian Member	Philippines
Alf Onshuus	CDC, Latin American Member	Colombia
Budi Nurani Ruchjana	CDC Member appointed by IMU EC	Indonesia
Angel Pineda	CDC Member appointed by IMU EC	USA/Honduras
Angel Ruiz	CDC Member appointed by ICMI EC	Costa Rica
Shigefumi Mori	CDC Ex-officio Member (IMU President)	Japan

*C. Herbert Clemens (USA), elected CDC Secretary for Policy for the term 2015-2018, retired Oct 2015.*

### International Commission on the History of Mathematics (ICHM) 2015 – 2018

Ciro Ciliberto	ICHM	Italy
Shrikrishna G. Dani	ICHM	India

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

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

**Committee on Electronic Information and Communication (CEIC) 2015 – 2018**

(CEIC terms of membership are staggered.)

James Davenport	CEIC Chair	2015 – 2018	UK
	CEIC Member	2008 – 2014	
Thierry Bouche	CEIC Member	2011 – 2018	France
Olga Caprotti	CEIC Member	2008 – 2016	Sweden
Tim Cole	CEIC Member	2013 – 2016	USA
Carol Hutchins	CEIC Member	2008 – 2016	USA
Patrick Ion	CEIC Member	2015 – 2018	USA
Victoria Stodden	CEIC Member	2015 – 2018	USA
Masakazu Suzuki	CEIC Member	2015 – 2018	Japan
Ravi Vakil	CEIC Member	2011 – 2018	USA

**Committee for Women in Mathematics (CWM) 2015 – 2018**

Marie-Françoise Roy	CWM Chair	France
Caroline Series	CWM Vice-Chair	UK
Carolina Araujo	CWM Member-at-Large	Brazil
Bill Barton	CWM Member-at-Large	New Zealand
Ari Laptev	CWM Member-at-Large	UK/Sweden
Kristin Lauter	CWM Member-at-Large	USA
Sunsook Noh	CWM Member-at-Large	Korea
Marie-Françoise Ouedraogo	CWM Member-at-Large	Burkina Faso
Sujatha Ramdorai	CWM Member-at-Large	Canada
Betül Tanbay	CWM Member-at-Large	Turkey

## Persons representing IMU in various organizations

Body	Representative/liaison	Term
COSPAR, International Scientific Union Representative	T. Padmanabhan	2014 – 2016
Gruber Foundation, Cosmology Prize, Selection Advisory Board	Frans Pretorius	2015 – 2017
ICSU	Christiane Rousseau	2015 – 2018
ICSU Regional office for Latin America and the Caribbean (ROLAC)	Marcelo Viana	2015 – 2018
ICSU Regional office for Asia and the Pacific (ROAP)	Hyungju Park	2015 – 2018
ICSU Regional office for Africa (ROA)	Olabisi O. Ugbebor	2015 – 2018
UNESCO	Christiane Rousseau	2015 – 2018
Ramanujan Prize	Vasudevan Srinivas	2015 – 2018
ICMI (IMU EC liaison)	Alicia Dickenstein	2015 – 2018
CDC (IMU EC liaison)	Hyungju Park	2015 – 2018
ICHM (IMU EC liaison)	Vasudevan Srinivas	2015 – 2018
CEIC (IMU EC liaison)	Ingrid Daubechies	2015 – 2018
CWM (IMU EC liaison)	John Francis Toland	2015 – 2018
IMU-Net editor	Martin Hubert Raussen	2016 – 2019
IMU-Net EC correspondent	Benedict H. Gross	2015 – 2018
Curator of the IMU archive	Guillermo Curbera	2015 – 2018
<i>Mireille Chaleyat-Maurel was IMU-Net editor in 2015.</i>		

### 1.3. Members of the Union

The following countries were Members of IMU through December 2015:

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

\* Associate Member

The following organizations are Affiliate Members of IMU:

- African Mathematical Union (AMU)
- European Mathematical Society (EMS)
- South East Asian Mathematical Society (SEAMS)
- Unión Matemática de América Latina y el Caribe (UMALCA)

## 2. Financial Information

### 2.1. Approved IMU Membership Dues

For the Period 2015–2018

At the IMU General Assembly meeting 2014 in Gyeongju, Korea, the delegates decided about the dues structure for the years 2015-2018, see schedule below.

Associate and Affiliate IMU members do not pay dues.

<b>Approved membership dues 2015 – 2018</b>				
<b>All amounts in EUR</b>				
<b>Year</b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>
Group I	1,395	1,395	1,395	1,395
Group II	2,790	2,790	2,790	2,790
Group III	5,580	5,580	5,580	5,580
Group IV	11,160	11,160	11,160	11,160
Group V	16,740	16,740	16,740	16,740

## 2.2. Approved IMU Budget

For the Period 2015–2018

Date: June 30, 2014

International Mathematical Union												
Proposed new Budget for 2015-2018, in Euro (EUR)												
	2015			2016			2017			2018		
	General	Special	Sum	General	Special	Sum	General	Special	Sum	General	Special	Sum
<b>INCOME</b>												
<b>I. General</b>												
Membership Dues	386.415			386.415			386.415			386.415		
Sum General Income	386.415			386.415			386.415			386.415		
<b>II. Special</b>												
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		10.600			10.600			10.600			10.600	
<b>TOTAL INCOME</b>	<b>386.415</b>	<b>64.600</b>	<b>451.015</b>	<b>386.415</b>	<b>64.600</b>	<b>451.015</b>	<b>386.415</b>	<b>64.600</b>	<b>451.015</b>	<b>386.415</b>	<b>64.600</b>	<b>451.015</b>
<b>EXPENDITURE</b>												
<b>1. Commissions &amp; Committees (C&amp;C)</b>												
1.1 CDC	77.283	44.000	121.283	77.283	44.000	121.283	77.283	44.000	121.283	77.283	44.000	121.283
1.2 CEIC	19.321			19.321			19.321			19.321		
1.3 ICMI	57.962			57.962			57.962			57.962		
1.4 Ad hoc committees	19.321			19.321			19.321			19.321		
1.5 Special support	0			0			0			0		
C&C Expenditure	173.887	44.000	217.887	173.887	44.000	217.887	173.887	44.000	217.887	173.887	44.000	217.887
<b>2. ICM</b>												
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			19.321			19.321			19.321		
2.5 Travel Grants (Young & Senior)	27.049	10.000	37.049	27.049	10.000	37.049	27.049	10.000	37.049	27.049	10.000	37.049
2.6 ICM related admin., outreach	19.321			19.321			19.321			19.321		
ICM Expenditure	85.011	10.000	95.011	85.011	10.000	95.011	85.011	10.000	95.011	85.011	10.000	95.011
<b>3. Union Administration</b>												
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			3.864			3.864			3.864		
Union Administration Expenditure	77.283	0	77.283	77.283	0	77.283	77.283	0	77.283	77.283	0	77.283
<b>4. Outreach</b>												
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	9.464	3.864	5.600	9.464	3.864	5.600	9.464
4.6 Scientific activity support	0			0			0			0		
Outreach Expenditure	23.185	5.600	28.785	23.185	5.600	28.785	23.185	5.600	28.785	23.185	5.600	28.785
<b>5. Overhead</b>												
5.1 Office Expenses	3.864	1.600	5.464	3.864	1.600	5.464	3.864	1.600	5.464	3.864	1.600	5.464
5.2 Bank Charges	3.864	1.000	4.864	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	9.328	7.728	1.600	9.328	7.728	1.600	9.328	7.728	1.600	9.328
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
<b>TOTAL EXPENDITURE</b>			<b>451.015</b>			<b>451.015</b>			<b>451.015</b>			<b>451.015</b>
<b>INCOME LESS EXPENSES</b>			<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>

## 2.3. Independent Auditor's Report 2015



Roever Broenner Susat Mazars

Berlin, 14 November 2016

70753/E

**International Mathematical Union**  
Berlin

Audit Report on the  
Annual Financial Statements as of 31 December 2015

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In the presentation of rounded numbers (€, k€, %), calculation differences may result in tables because calculations are made on the basis of exact numbers.



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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 2015.

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 an audit of the accounts from the Executive Committee. 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 enclosed Budget Comparison 2015 included in Appendix 4 for informational purposes 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 Long-form 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 2015 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 secretariat in Berlin which is hosted by the *Weierstraß-Institut für Angewandte Analysis und Stochastik (WIAS)*, Berlin. The Federal Republic of Germany and the State of Berlin grant annual financial support for the IMU Secretariat, in particular by assuming personnel and material costs in the amount of approximately k€ 500 borne directly by the WIAS, which are therefore not recorded in the statement of income and expenditure.

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.



## **C. Findings and Explanations on Accounting**

### **1. Proper Accounting**

#### **1.1. Bookkeeping and Other Audited Documents**

Financial bookkeeping is performed, by applying the principles of double-entry bookkeeping, using Software Lexware professional 2015 Version 15.05. Wage and salary accounting is not necessary because personnel expenses are borne by the WIAS, the organization 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 requirements and the supplementary provisions of the Statutes.

#### **1.2. Annual Financial Statements**

##### **Preparation of the Annual Financial Statements**

The enclosed annual financial statements were prepared in accordance with the regulations of the Third Book of the HGB (§§ 238 *et seq.*) under observance of the supplementary regulations for corporations in the Second Section (§§ 264 *et seq.*).

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

##### **Recognition and Measurement**

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

##### **Classification**

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

The statement of income and expenditure is prepared in accordance with the total cost (nature of expense) method (§ 275 (2) HGB). Classifications were modified to conform to the requirements of the IMU.

### **Notes to the Annual Financial Statements**

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

#### **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 is number 66 from December 2014. Printed versions of the Bulletin are provided to members. Electronic versions are available on the homepage of the IMU (<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 reporting 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.

Within the framework of our audit we have not made any findings on changes in measurement principles (exercise of accounting and measurement elective options as well as the use of discretion) or on grooming transactions with a material influence on the presentation of the net assets, financial position and results of operations.

The influence of material measurement principles 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 Statements

### 1. Net Assets

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

	31.12.2015		31.12.2014		Change
	k€	%	k€	%	k€
<b>A S S E T S</b>					
<b>Current assets</b>					
Receivables from member contributions	106	6.7	114	8.0	-8
Other assets (including Prepaid Expenses)	1	0.1	1	0.1	0
Cash and cash equivalents	1,481	93.3	1,318	92.0	163
	1,588	100.0	1,433	100.0	155
<b>L I A B I L I T I E S</b>					
<b>Net assets (own funds)</b>	1,421	89.5	1,299	90.6	122
<b>Borrowed capital</b>					
Provisions	13	0.8	9	0.6	4
Liabilities from restricted donations	145	9.1	117	8.2	28
Other liabilities (incl. Deferred Income)	9	0.6	8	0.6	1
	167	10.5	134	9.4	33
	1,588	100.0	1,433	100.0	155



**Receivables from member contributions** are as follows:

Country	Year	WD	Amount
		*	€
Algeria	2015	*	1,395.00
Argentina	2015		5,580.00
Belgium	2015		5,580.00
Bosnia & Herzegovina	2015	*	1,395.00
Cameroon	2015		1,395.00
Cuba	2015	*	1,395.00
France	2015		16,740.00
Iceland	2015		1,395.00
Iran	2015		11,160.00
Ivory Coast	2015		1,395.00
Latvia	2015	*	1,395.00
Montenegro	2015	*	1,395.00
Nigeria	2015		1,395.00
Peru	2015		1,395.00
Philippines	2015		1,395.00
Saudi Arabia	2015	*	1,395.00
Tunisia	2015		1,395.00
Ukraine	2015		2,790.00
Venezuela	2015	*	1,395.00
			61,380.00
Algeria	2014	*	1,416.84
Argentina	2014		4,226.33
Bosnia & Herzegovina	2014	*	1,416.84
Cameroon	2014		985.72
Cuba	2014	*	1,416.84
Iran	2014		8,046.93
Kazakhstan	2014	*	1,416.84
Montenegro	2014	*	1,416.84
Philippines	2014		1,416.84
Saudi Arabia	2014	*	1,416.84
Slovakia	2014		2,820.84
Venezuela	2014	*	1,416.84
			27,414.54
Bosnia & Herzegovina	2013	*	1,410.42
Cuba	2013	*	1,410.42
Greece	2013	*	1,410.42
Latvia	2013	*	1,410.42
Montenegro	2013	*	1,410.42
Saudi Arabia	2013	*	1,410.42
Venezuela	2013	*	1,410.42
			9,872.94
Carry forward:			98,667.48

Country	Year	WD	Amount
		*	€
Carry forward			98,667.48
Algeria	2012	*	1,270.46
Bosnia & Herzegovina	2012	*	1,371.85
Cuba	2012	*	1,371.85
Greece	2012	*	1,371.85
Kazakhstan	2012	*	1,371.85
Latvia	2012	*	1,371.85
Montenegro	2012	*	1,371.85
Venezuela	2012	*	1,371.85
			10,873.41
Bosnia & Herzegovina	2011	*	1,311.29
Cuba	2011	*	1,311.29
Montenegro	2011	*	1,311.29
			3,933.87
Cuba	2010	*	1,080.82
Montenegro	2010	*	414.04
			1,494.86
Total receivables			114,969.62
Write-downs 20 % (marked with a * )			-9,171.58
			105,798.04

At the end of 2015, the outstanding member contributions were k€ 115, of which k€ 83 were open at the time of our audit. As a result of the consistent non-payment of their member contributions, open receivables of the above countries marked with a star “\*” were directly written down by 20 % or the write-down was retained. Receivables are measured at the period-end exchange rate.

**Cash and cash equivalents**, part of which are in foreign currency, are located in accounts with the Berliner (Deutsche) Bank AG and is composed of the following:

	Foreign currency	€
Account in € (5113915 10)		672,391.31
Account in CHF (5113915 01)	CHF 67,157.90	62,017.30
Account in USD (5113915 00)	USD 90,800.34	83,097.20
Account in USD (5113915 06)	USD 41,608.84	38,078.90
Account in € (5113915 00)		382,182.97
Account in € (5113915 05)		179,610.92
Account in € (5113915 04)		63,604.48
Cash in €		<u>0.00</u>
		<u><u>1,480,983.08</u></u>

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

The cash in the Ito-Fund was transferred to the giro account of the Union and is available for use in conformity with the Statutes.

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

	k€	k€
Association capital		307
Reserves		
– Annual surplus 2007 - 2014	735	
– Annual surplus 2015	122	
– ICMI and CDC (Commission Fund)	<u>257</u>	<u>1,114</u>
		<u><u>1,421</u></u>

The Statutes do not make reference to association net assets.

Of the Association capital, € 307,465.98 originate from the time before moving the domicile of the IMU to Germany as of 1 January 2007. Revenues earned as of 2007 are allocated to reserves in accordance with the recommendations of the IMU Secretary and of the Treasurer at the end of the reporting year. The General Assembly reaches a resolution every four years on the creation of reserves.

Reserves are allocated as follows:

	k€
Travel support	
– Fields Medal 2018	12
– ICM 2018 in Brazil	69
Co-financing joint workshops with other ICSU members 2015-2018	10
ICMI and CDC 2016	257
ICM default reserve	436
Support CWM 2017	19
IMU Internet site	17
Unrestricted reserves	<u>294</u>
	<u>1,114</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 € 105,940.00 and to € 151,110.33 for CDC.

**Liabilities from restricted donations** developed as follows:

	€
<b>Special Development Fund</b>	
Per 1 Jan. 2015	47,868.08
Contributions	
– London Mathematical Society (LMS)	<u>4,535.56</u>
Per 31 Dec. 2015	52,403.64 -----
<b>Ito Fund</b>	
Per 1 Jan. 2015	10,500.16
Dissolution and credit entry to the main account	<u>-10,500.16</u>
Per 31 Dec. 2015	0.00 -----
Carry forward	52,403.64 -----

	€	€
Carry forward		52,403.64 -----
<b>Simons Foundation</b>		
Per 1 Jan. 2015		23,325.89
Contribution (kUSD 25)	22,163.12	
Travel Fellowships for 16 mathematicians	<u>-23,114.07</u>	<u>-950.95</u>
Per 31 Dec. 2015		22,374.94 -----
<b>ICSU – forwarded monies</b>		
Per 1 Jan. 2015		0.00
Contribution		<u>34,000.00</u>
Per 31 Dec. 2015		34,000.00 -----
<b>IMU Developing Country Fund</b>		
Per 1 Jan. 2015		35,632.57
No change		<u>0.00</u>
Per 31 Dec. 2015		35,632.57 -----
		<u>144,411.15</u>

The funds shown under **Special Development Fund (SDF)** are for the support of mathematicians from developing countries for travel to International Congresses of Mathematicians (ICM). An international committee decides on the grant applications.

The cash of the SDF collected between 2007 and 2010 for the congress in August 2010 in Hyderabad/India was fully expended. The cash collected for the congress in August 2014 in Seoul/Republic of Korea was not needed to finance the travel costs of ICM participants because the Korean Mathematical Society (KMS) provided travel assistance in the amount of kUSD 2,000 for mathematicians from developing countries. Cash of SDF not required for ICM 2014 is to be used for the ICM 2018 in Brazil.

The cash received from the **Simons Foundation** is designated as a Travel Fellowship for research stays of mathematicians from developing countries.

The cash received from the Friends of IMU (FIMU) during the reporting year included in the **IMU Developing Country Fund** are for the promotion of mathematical research and scholarships in developing countries. Receipt of payment from FIMU for 2015 occurred in 2016.

## 2. Financial Position

The IMU was at all times in a position to meet its payment obligations in a full and timely manner. The cash flow from current activities amounts to k€ 163 and corresponds to the change in the amount of cash between 1 January 2015 (k€ 1,318) and 31 December 2015 (k€ 1,481).

## 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 5		2 0 1 4		Change
	k€	%	k€	%	k€
<b>Revenues</b>	608	100.0	504	100.0	104
Administrative expenses	-61	-10.0	-85	-16.9	24
Expenditures for scientific promotion and activities	-426	-70.1	-471	-93.5	45
<b>Other expenditures</b>	-487	-80.1	-556	-110.3	69
<b>Operating result</b>	121	19.9	-52	-10.3	173
Interest	1	0.2	1	0.2	0
<b>Result before taxes on income</b>	122	20.1	-51	-10.1	173
Taxes on income	0	0.0	0	0.0	0
<b>Annual deficit/surplus</b>	122	20.1	-51	-10.1	173
Withdrawal from/Allocation to reserves (net)	-122	-20.1	51	10.1	-173
<b>Unallocated cash balance</b>	0	0.0	0	0.0	0

The IMU had **revenues** of k€ 608 in the reporting year, consisting largely of member contributions. In addition, the IMU received donations which, as a rule, come from scientific organizations.

**Revenues** are composed of the following:

	k€
Member contributions	392
Third-party contributions	93
Other income	<u>123</u>
	<u>608</u>

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

**Third-party contributions** are composed of the following:

	€
Niels Henrik Abel Board, Norway (thereof approx. k€ 12.4 [kUSD 15] for awarding the Abel Visiting Scholar Program)	39,844.40
ICSU grant	30,000.00
Simons Travel Fellowship	<u>23,114.07</u>
	<u>92,958.47</u>

**Other income** (k€ 123) largely involves exchange rate gains (k€ 108).

**Other expenditures** of k€ 487 (prior year: k€ 556) are shown in detail in the Statement of Income and Expenditures (Appendix 2) as well as in the Budget Comparison (Appendix 4). The increase results from the ICM conducted in the reporting year in Seoul/Republic of Korea. Because the ICM meets every four years (most recently 2014 in Seoul/Republic of Korea), the expense is considerably less in the following three years.

**Interest** represents the interest paid on the bank balances by the Berliner (Deutsche) Bank AG.

## E. Independent Auditor's Report and Concluding Statement

We have issued the following unqualified opinion for the annual financial statements as of 31 December 2015 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 2015 to 31 December 2015. The maintenance of the books and the preparation of the annual financial statements in accordance with the German Commercial Code (HGB) are the responsibility of the Union's management. Our responsibility is to express an opinion on the annual financial statements, together with the bookkeeping system, based on our audit.

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

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

Our audit has not led to any reservations.



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

The above audit report is submitted in compliance with German 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 financial year from 1 January 2015 to 31 December 2015 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, 14 November 2016

Roever Broenner Susat Mazars GmbH & Co. KG  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft

In the original German version signed by

Helmut Schuhmann  
Wirtschaftsprüfer



## International Mathematical Union, Berlin

## STATEMENT OF INCOME AND EXPENDITURE for 2015

		2015	Prior Year
	€	€	€
<b>Revenues</b>		<b>608.512,09</b>	<b>504.266,27</b>
Member contributions	391.995,00		389.560,00
Donations - international	92.958,47		87.270,90
Other income	<u>123.558,62</u>		27.435,37
<b>Other Expenditures</b>		<b>-486.786,62</b>	<b>-555.321,39</b>
<b>Administrative Expenses</b>		<b>-60.953,71</b>	<b>-84.395,97</b>
Reimbursement personnel expenses	-23.000,00		-10.177,66
Travel expenses	-4.593,19		-28.702,32
Audit fees	-8.800,00		-13.369,60
Member contributions	-10.600,00		-10.291,00
Postage	-89,83		-260,29
Bank fees	-529,24		-1.656,79
Other	<u>-13.341,45</u>		-19.938,31
<b>Expenditures for Scientific Promotion and Activities</b>		<b>-425.832,91</b>	<b>-470.925,42</b>
Promotion of scientific activities	-403.771,70		-314.627,02
Expenditures ICM	<u>-22.061,21</u>		-156.298,40
<b>Interest and Similar Income</b>		<b>285,85</b>	<b>412,30</b>
<b><u>Result of Association Activities</u></b>		<b>122.011,32</b>	<b>-50.642,82</b>
<b>Taxes</b>		<b>0,00</b>	<b>0,00</b>
<b><u>Annual Surplus / Deficit</u></b>		<b>122.011,32</b>	<b>-50.642,82</b>
<b>Withdrawals from Reserves</b>		<b>212.420,22</b>	<b>50.642,82</b>
<b>Allocation to Reserves</b>		<b>-334.431,54</b>	<b>0,00</b>
<b><u>Unallocated Cash Balance</u></b>		<b>0,00</b>	<b>0,00</b>

**International Mathematical Union, Berlin****Schedule of Member Contributions 2015**

<b>Country</b>	<b>Amount EUR</b>
Algeria	1.395,00
Argentina	5.580,00
Armenia	1.395,00
Australia	11.160,00
Austria	2.790,00
Belgium	5.580,00
Bosnia & Herzegovina	1.395,00
Brazil	11.160,00
Bulgaria	1.395,00
Cameroon	1.395,00
Canada	16.740,00
Chile	2.790,00
CMS, Beijing	10.044,00
Colombia	1.395,00
Croatia	1.395,00
Cuba	1.395,00
Czech Republic	5.580,00
Denmark	2.790,00
Ecuador	1.395,00
Egypt	2.790,00
Estonia	1.395,00
Finland	5.580,00
France	16.740,00
Georgia	1.395,00
Germany	16.740,00
Greece	1.395,00
Hong Kong	1.395,00
Hungary	5.580,00
Iceland	1.395,00
India	11.160,00
Indonesia	1.395,00
Iran	11.160,00
Ireland	2.790,00
Israel	16.740,00
Italy	16.740,00
Ivory Coast	1.395,00
Japan	16.740,00
Kazakhstan	1.395,00
Korea, Republic of	11.160,00

Latvia	1.395,00
Lithuania	1.395,00
Math Society, Taipei	6.696,00
Mexico	5.580,00
Montenegro	1.395,00
Netherlands	11.160,00
New Zealand	1.395,00
Nigeria	1.395,00
Norway	5.580,00
Pakistan	1.395,00
Peru	1.395,00
Philippines	1.395,00
Poland	11.160,00
Portugal	2.790,00
Romania	1.395,00
Russia	16.740,00
Saudi Arabia	1.395,00
Serbia	1.395,00
Singapore	1.395,00
Slovakia	2.790,00
Slovenia	1.395,00
South Africa	2.790,00
Spain	11.160,00
Sweden	11.160,00
Switzerland	11.160,00
Tunisia	1.395,00
Turkey	1.395,00
Ukraine	2.790,00
United Kingdom	16.740,00
Uruguay	1.395,00
USA	16.740,00
Venezuela	1.395,00
Vietnam	1.395,00
<b>Total</b>	<b>391.995,00</b>

## INTERNATIONAL MATHEMATICAL UNION

## Budget Comparison 2015

	Budget 2015 EUR			Actual 2015 EUR		
	General	Special	Sum	General	Special	Sum
<b>INCOME</b>						
<b>I. General</b>						
I.a Membership Dues	386.415			391.995		
Sum General Income	386.415			391.995		
<b>II. Special</b>						
II.a Special Development Fund		10.000			4.535	
II.b Donations		44.000			39.844	
II.c Grants					53.092	
Sum Special Income from Third Parties		54.000			97.471	
II.d Income from IMU bank accounts		1.000			286	
II.e Other Income		9.600			123.558	
Sum Special Income from Other Sources		10.600			123.844	
<b>TOTAL INCOME</b>	<b>386.415</b>	<b>64.600</b>	<b>451.015</b>	<b>391.995</b>	<b>221.315</b>	<b>613.310</b>
<b>EXPENDITURE</b>						
<b>1. Commissions &amp; Committees (C&amp;C)</b>						
1.1 CDC	77.283	44.000	121.283	119.026	122.231	
1.2 CEIC	19.321			50		
1.3 ICM	57.962			105.984		
1.4 Ad hoc committees	19.321			53.365		
1.5 Special support	0			0	0	
C&C Expenditure	173.887	44.000	217.887	278.425	122.231	400.656
<b>2. ICM</b>						
2.1 Site Committee	3.864			0		
2.2 Program Committee	7.728			21.566		
2.3 Prize Committees	7.728			0		
2.4 Congress Subvention	19.321			0		
2.5 Travel Grants (Young & Senior)	27.049	10.000	37.049	0	0	
2.6 ICM related admin., outreach	19.321			496		
ICM Expenditure	85.011	10.000	95.011	22.061	0	22.061
<b>3. Union Administration</b>						
3.1 General Assembly	3.864			0		
3.2 President & Secretary	46.370			23.000		
3.3 Executive Committee	23.185			4.532		
3.4 Other	3.864			62		
Union Administration Expenditure	77.283	0	77.283	27.593	0	27.593
<b>4. Outreach</b>						
4.1 ICSU Union Member Contribution	7.728			10.600		
4.2 Awards	3.864	0		0		
4.3 Website Support, Media Relations	7.728			4.022		
4.4 Bulletin	0			0		
4.5 Other	3.864	5.600	9.464	0		
4.6 Scientific activity support	0			0		
Outreach Expenditure	23.184	5.600	28.785	14.622	0	14.622
<b>5. Overhead</b>						
5.1 Office Expenses	3.864	1.600	5.464	58	1.600	
5.2 Bank Charges	3.864	1.000	4.864	0	551	
5.3 Legal Advice, Audit Fees	7.728	1.600	9.328	7.200	1.600	
5.4 Other	11.592	800	12.392	10.524	1.249	
Overhead Expenditure	27.048	5.000	32.049	17.782	5.000	22.782
<b>TOTAL EXPENDITURE</b>			<b>451.015</b>			<b>487.715</b>
Draw from Reserves			0			0
Return to Reserves			0			0
<b>Income less expenses</b>			<b>0</b>			<b>125.595</b>
						-3.584
				<b>EUR</b>		<b>122.011</b>

## **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 of the Union 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. The IMU Secretariat is managed by Alexander Mielke.

#### **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.

### **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 2015, the IMU had 71 regular members (voting), 12 associate members (non-voting) and 4 affiliate members (non-contributory and non-voting).

### **Executive Committee**

Since 1 January 2015, the Executive Committee consists of the following persons:

- Shigefumi Mori, Japan (President)
- Helge Holden, Norway (Secretary)
- Alicia Dickenstein, Argentina (Vice-President)
- Vaughan Jones, New Zealand/USA (Vice-President)
- Benedict H. Gross, USA (Member-at-Large)
- Hyungju Park, Korea (Member-at-Large)
- Christiane Rousseau, Canada (Member-at-Large)
- Vasudevan Srinivas, India (Member-at-Large)



- John Francis Toland, Great Britain (Member-at-Large)
- Wendelin Werner, Switzerland (Member-at-Large)
- Ingrid Daubechies, USA (Ex-officio, because she is the former President of the IMU)

### **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](http://www.mathunion.org).

### **General Assembly**

The following was resolved during the last General Assembly in August 2014:

- Appointments to various committees and commissions
- Budget for the time between 2015 and 2018
- No increase in member contributions
- The next General Assembly will take place in 2018 in São Paulo/Brazil.

## **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 fulfilment 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.

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[Translator's notes are in square brackets]  
**General Engagement Terms**  
for

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

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

### 1. Scope

(1) These engagement terms are applicable to contracts between Wirtschaftsprüfer [German Public Auditors] or Wirtschaftsprüfungsgesellschaften [German Public Audit Firms] (hereinafter collectively referred to as the "Wirtschaftsprüfer") and their clients for audits, consulting and other engagements to the extent that something else has not been expressly agreed to in writing or is not compulsory due to legal requirements.

(2) If, in an individual case, as an exception contractual relations have also been established between the Wirtschaftsprüfer and persons other than the client, the provisions of No. 9 below also apply to such third parties.

### 2. Scope and performance of the engagement

(1) Subject of the Wirtschaftsprüfer's engagement is the performance of agreed services - not a particular economic result. The engagement is performed in accordance with the Grundsätze ordnungsmäßiger Berufsausübung [Standards of Proper Professional Conduct]. The Wirtschaftsprüfer is entitled to use qualified persons to conduct the engagement.

(2) The application of foreign law requires - except for financial attestation engagements - an express written agreement.

(3) The engagement does not extend - to the extent it is not directed thereto - to an examination of the issue of whether the requirements of tax law or special regulations, such as, for example, laws on price controls, laws limiting competition and Bewirtschaftungsrecht [laws controlling certain aspects of specific business operations] were observed; the same applies to the determination as to whether subsidies, allowances or other benefits may be claimed. The performance of an engagement encompasses auditing procedures aimed at the detection of the defalcation of books and records and other irregularities only if during the conduct of audits grounds therefore arise or if this has been expressly agreed to in writing.

(4) If the legal position changes subsequent to the issuance of the final professional statement, the Wirtschaftsprüfer is not obliged to inform the client of changes or any consequences resulting therefrom.

### 3. The client's duty to inform

(1) The client must ensure that the Wirtschaftsprüfer — even without his special request — is provided, on a timely basis, with all supporting documents and records required for and is informed of all events and circumstances which may be significant to the performance of the engagement. This also applies to those supporting documents and records, events and circumstances which first become known during the Wirtschaftsprüfer's work.

(2) Upon the Wirtschaftsprüfer's request, the client must confirm in a written statement drafted by the Wirtschaftsprüfer that the supporting documents and records and the information and explanations provided are complete.

### 4. Ensuring independence

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

### 5. Reporting and verbal information

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

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

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

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

(1) The transmission of a Wirtschaftsprüfer's professional statement (long-form reports, expert opinions and the like) to a third party requires the Wirtschaftsprüfer's written consent to the extent that the permission to transmit to a certain third party does not result from the engagement terms. The Wirtschaftsprüfer is liable (within the limits of No. 9) towards third parties only if the prerequisites of the first sentence are given.

(2) The use of the Wirtschaftsprüfer's professional statements for promotional purposes is not permitted; an infringement entitles the Wirtschaftsprüfer to immediately cancel all engagements not yet conducted for the client.

### 8. Correction of deficiencies

(1) Where there are deficiencies, the client is entitled to subsequent fulfilment [of the contract]. The client may demand a reduction in fees or the cancellation of the contract only for the failure to subsequently fulfill [the contract], if the engagement was awarded by a person carrying on a commercial business as part of that commercial business, a government-owned legal person under public law or a special government-owned fund under public law, the client may demand the cancellation of the contract only if the services rendered are of no interest to him due to the failure to subsequently fulfill [the contract]. No. 9 applies to the extent that claims for damages exist beyond this.

(2) The client must assert his claim for the correction of deficiencies in writing without delay. Claims pursuant to the first paragraph not arising from an intentional tort cease to be enforceable one year after the commencement of the statutory time limit for enforcement.

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

### 9. Liability

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

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

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

(3) *Preclusive deadlines*

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

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

## 10. Supplementary provisions for audit engagements

(1) A subsequent amendment or abridgement of the financial statements or management report audited by a Wirtschaftsprüfer and accompanied by an auditor's report requires the written consent of the Wirtschaftsprüfer even if these documents are not published. If the Wirtschaftsprüfer has not issued an auditor's report, a reference to the audit conducted by the Wirtschaftsprüfer in the management report or elsewhere specified for the general public is permitted only with the Wirtschaftsprüfer's written consent and using the wording authorized by him.

(2) If the Wirtschaftsprüfer revokes the auditor's report, it may no longer be used. If the client has already made use of the auditor's report, he must announce its revocation upon the Wirtschaftsprüfer's request.

(3) The client has a right to 5 copies of the long-form report. Additional copies will be charged for separately.

## 11. Supplementary provisions for assistance with tax matters

(1) When advising on an individual tax issue as well as when furnishing continuous tax advice, the Wirtschaftsprüfer is entitled to assume that the facts provided by the client - especially numerical disclosures - are correct and complete; this also applies to bookkeeping engagements. Nevertheless, he is obliged to inform the client of any errors he has discovered.

(2) The tax consulting engagement does not encompass procedures required to meet deadlines, unless the Wirtschaftsprüfer has explicitly accepted the engagement for this. In this event the client must provide the Wirtschaftsprüfer, on a timely basis, all supporting documents and records - especially tax assessments - material to meeting the deadlines, so that the Wirtschaftsprüfer has an appropriate time period available to work therewith.

(3) In the absence of other written agreements, continuous tax advice encompasses the following work during the contract period:

- a) preparation of annual tax returns for income tax, corporation tax and business tax, as well as net worth tax returns on the basis of the annual financial statements and other schedules and evidence required for tax purposes to be submitted by the client
- b) examination of tax assessments in relation to the taxes mentioned in (a)
- c) negotiations with tax authorities in connection with the returns and assessments mentioned in (a) and (b)
- d) participation in tax audits and evaluation of the results of tax audits with respect to the taxes mentioned in (a)
- e) participation in Einspruchs- und Beschwerdeverfahren [appeals and complaint procedures] with respect to the taxes mentioned in (a).

In the afore-mentioned work the Wirtschaftsprüfer takes material published legal decisions and administrative interpretations into account.

(4) If the Wirtschaftsprüfer receives a fixed fee for continuous tax advice, in the absence of other written agreements the work mentioned under paragraph 3 (d) and (e) will be charged separately.

(5) Services with respect to special individual issues for income tax, corporate tax, business tax, valuation procedures for property and net worth taxation, and net worth tax as well as all issues in relation to sales tax, wages tax, other taxes and dues require a special engagement. This also applies to:

- a) the treatment of nonrecurring tax matters, e. g. in the field of estate tax, capital transactions tax, real estate acquisition tax
- b) participation and representation in proceedings before tax and administrative courts and in criminal proceedings with respect to taxes, and
- c) the granting of advice and work with respect to expert opinions in connection with conversions of legal form, mergers, capital increases and reductions, financial reorganizations, admission and retirement of partners or shareholders, sale of a business, liquidations and the like.

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

## 12. Confidentiality towards third parties and data security

(1) Pursuant to the law the Wirtschaftsprüfer is obliged to treat all facts that he comes to know in connection with his work as confidential, irrespective of whether these concern the client himself or his business associations, unless the client releases him from this obligation.

(2) The Wirtschaftsprüfer may only release long-form reports, expert opinions and other written statements on the results of his work to third parties with the consent of his client.

(3) The Wirtschaftsprüfer is entitled - within the purposes stipulated by the client - to process personal data entrusted to him or allow them to be processed by third parties.

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

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

## 14. Remuneration

(1) In addition to his claims for fees or remuneration, the Wirtschaftsprüfer is entitled to reimbursement of his outlays: sales tax will be billed separately. He may claim appropriate advances for remuneration and reimbursement of the 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.

## 2.4. IMU Special Development Fund

Contributions to the IMU Special Development Fund.

2015

London Mathematical Society, UK 4,535.56 EUR

## 2.5. Third-Party Donations (monetary contributions)

2015

ICSU 30,000.00 EUR  
Niels Henrik Abel Board, Norway 39,844.40 EUR  
Simons Foundation, US 22,163.12 EUR

## 2.6. IMU Bank Accounts

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

Deutsche Bank

Otto-Suhr-Allee 6-16, D-10585 Berlin, Germany

BIC (SWIFT) code: DEUTDEDB110

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

### 3. Commissions and Committees

#### 3.1. International Commission on Mathematical Instruction (ICMI)

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

#### Activity and Financial Report 2015

Ferdinando Arzarello, Abraham Arcavi, Lena Koch

##### 2015 at a glance

##### Key activities:

##### Administration and Governance

The ICMI Executive Committee 2013-2016 held its third meeting in Macao, China from May 30 – June 2, 2015. The formation of the Nomination Committee for the upcoming ICMI EC 2017-2020 has commenced. The new ICMI EC will be elected in 2016 at the ICMI General Assembly in Hamburg, Germany.

##### Member Countries

In 2015, ICMI had 92 member countries, 70 are also members of IMU and 10 are associate members of IMU.

##### ICMI Regional Conferences

In 2015 ICMI was involved and supported the following regional conferences:

CIAEM-14 (XIV Inter-American Conference on Mathematics Education) was held in Tuxtla Gutiérrez, Chiapas, Mexico, from May 3-7, 2015. ([http://xiv.ciaemiacme.org/index.php/xiv\\_ciaem/xiv\\_ciaem](http://xiv.ciaemiacme.org/index.php/xiv_ciaem/xiv_ciaem)).

The 7<sup>th</sup> EARCOME conference “In Pursuit Of Quality Mathematics Education for All” was held in the Philippines from May 11-15, 2015. (<http://earcome7.weebly.com/>).

The sixth EMF conference (L’Espace Mathématique Francophone - EMF- 2015) was held in Algeria from October 10-14, 2015.

The Espaço Matemático em Língua Portuguesa was created and held its first meeting from October 28-31, 2015, in Coimbra, Portugal.

##### ICMI Studies

ICMI Study 21 “Mathematics Education and Language Diversity”: Jointly edited by members of the IPC, coordinated by IPC member Richard Barwell (Canada), was finalized in 2014 and was published in 2015 by Springer.

ICMI Study 22 “Task Design in Mathematics Education”: Co-chaired by Anne Watson (UK) and Minoru Ohtani (Japan). The proceedings of the conference were uploaded for free use ([hal.archives-ouvertes.fr/hal-00834054](http://hal.archives-ouvertes.fr/hal-00834054)). The Study Volume was published by Springer in 2015.

ICMI Study 23 “Primary Mathematics Study on Whole Numbers”: Co-chaired by Mariolina Bartolini Bussi (Italy) and Sun Xuhua (China). The IPC meeting was held in January 2014, the ICMI Study Conference was held from June 3-7, in Macau, China (<http://www.umac.mo/fed/ICMI23/>). The book is in advanced stages of preparation.

The ICMI EC is in the process of launching a new ICMI Study.

## **Outreach to Developing Countries**

The following activities under the umbrella of the Capacity and Network Project (CANP) were held in 2015:

**CANP 3, a follow up meeting** was held in the Philippines during the 7<sup>th</sup> EARCOME conference “In Pursuit Of Quality Mathematics Education For All” from May 11-15, 2015.

**CANP 4, East Africa:** The fourth CANP had a follow up meeting held in October, 2015 in Kigali. [http://www.mathunion.org/icmi/activities/outreach-to-developing-countries/canp-project-2014-east-africa/?no\\_cache=1&sword\\_list%5B%5D=tanzania](http://www.mathunion.org/icmi/activities/outreach-to-developing-countries/canp-project-2014-east-africa/?no_cache=1&sword_list%5B%5D=tanzania).

**CANP 5, Andean Region and Paraguay:** In 2014 the ICMI EC selected the Andean region with the participation of: Bolivia, Ecuador, Peru and Paraguay in the fifth CANP held in Lima, Peru in 2016.

## **Klein Project**

The project began in 2008 as an IMU/ICMI joint project, with the aim of producing mathematics resources for secondary teachers on contemporary mathematics. It was inspired by Felix Klein’s book *Elementary Mathematics from an Advanced Standpoint*, first published in 1908.

## **ICMI Awards**

The new ICMI Award named after Emma Castelnuovo was announced in 2015. Also the Felix Klein and the Hans Freudenthal Awards Committee selected two awardees.

## **ICME**

Preparations for the ICME-13 to be held in Hamburg on July 24-31, 2016 (<http://icme13.org/>) continued in 2015, and the second and last IPC meeting was held in Hamburg.

Three EC members and the ICMI administrator visited three sites for ICME 14. At the ICMI EC meeting the site for ICME 14 in 2020 was chosen.

## **Outreach and Dissemination of Information**

### **ICMI NEWSLETTER**

- Three issues of the ICMI Newsletter were published and distributed (March 1, July 1 and November 1, see [http://www.mathunion.org/icmi/publications/icminews/?no\\_cache=1&sword\\_list%5B%5D=newsletter](http://www.mathunion.org/icmi/publications/icminews/?no_cache=1&sword_list%5B%5D=newsletter))

### **ICMI BULLETIN**

- Papers from hitherto unpublished issues of the ICMI Bulletin were assembled and published on the ICMI website: <http://www.mathunion.org/?id=2750>

### **ICMI MATERIALS**

- ICMI materials were distributed at various conferences and events, e.g. at the CANP Events and Regional Conferences.

### **L'ENSEIGNEMENT MATHÉMATIQUE**

- The regular columns on ICMI News were published in the journal *L'Enseignement Mathématique* (the official organ of ICMI) and the December Issue of the Newsletter of the European Mathematical Society.

### **ICMI ARCHIVES:**

- Activities to document and preserve items from the history of ICMI are ongoing.

### **ICMI WEBSITE:**

- In 2015 IMU started a re-launching process of the IMU website which will also influence the design of the ICMI website, therefore ICMI is waiting for the new design of the IMU website and the templates for the commissions to change the ICMI website.

2015 in Detail

## Administration and Governance

### Organization

#### ICMI Members and Representatives

In 2014 ICMI had 92 member countries, 70 are also members of IMU and 10 are associate members of IMU. 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. ICMI EC, in particular the Secretary-General and ICMI Administrator supported its member countries and IMU adhering organizations to re-elect ICMI representatives after their 8-year tenure (KOBÉ RULE).



#### Executive Committee 2013-2016

The members of the EC 2013-2016 are:

PRESIDENT: Ferdinando Arzarello (Italy)

SECRETARY-GENERAL: Abraham Arcavi (Israel)

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

MEMBERS AT LARGE (5):

Catherine P. Vistro-Yu (Philippines), Jean-Luc Dorier (Switzerland), Roger Howe (USA), Yuriko Baldin (Brazil), Zahra Gooya (Iran)

EX OFFICIO MEMBERS:

Bill Barton, Past President of ICMI (New Zealand), Shigefumi Mori, President of IMU (Japan), Helge Holden, Secretary of IMU (Norway)

#### IMU EC member (Liaison to ICMI)

Alicia Dickenstein is the IMU EC liaison person to ICMI until December 31, 2018.

#### Meetings of the ICMI EC

The third meeting of the 2013-2016 ICMI EC took place in Macao, China in May 2015.

#### Nomination ICMI EC 2017-2020

The nomination process of the ICMI EC 2017-2020 started in 2015.

#### IMU Secretariat

The IMU Secretariat in Berlin, Germany continues to give full administrative and logistical support for ICMI activities.

#### ICMI General Assembly

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

#### ICMI Affiliate Organizations

ICMI's organizational outreach includes eleven multi-national organizations and international study groups with interest in mathematics education, which have obtained affiliation to ICMI.

Affiliated organizations are independent of ICMI and are self-financed. They collaborate with ICMI on specific activities, such as the ICMI Studies or CANP. The ICMI Affiliate Organizations also produce activity reports for the General Assembly of ICMI.

In October 2015 the fifth Mathematical Education Society, the Espaço Matemático em Língua Portuguesa held its first meeting and conference in Coimbra, Portugal.



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

- CIAEM: Inter-American Committee on Mathematics Education (2009)
- CIEAEM: International Commission for the Study and Improvement of Mathematics Teaching (2010)
- ERME: European Society for Research in Mathematics Education (2010)
- MERGA: Mathematics Education Research Group of Australasia (2011)
- EMeLP: Espaço Matemático em Língua Portuguesa (2014)

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)

## **The International Congress on Mathematical Education (ICME)**

### **ICME-13**

Hamburg, Germany will host ICME-13 from July 24-31, 2016. More than 3,000 participants from 80 countries are expected to participate. Gabriele Kaiser, of the University of Hamburg, is chairing the International Program Committee (IPC).

Information about the congress is available at: <http://icme13.org>

Each ICME devotes at least 10 per cent of the registration fees to the ICME Solidarity Fund that allows organizers to give support to some participants from developing countries. The composition of the ICME-13 Solidarity Fund Committee will consist of three ex-officio members: the Chairperson of the IPC, the Chairperson of the LOC and the ICMI Secretary-General and three other members 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 Abraham Arcavi, ICMI Secretary-General will represent the ICMI EC in this important committee. Other members of the grant committee are Gabriele Kaiser (Chair of IPC), Marianne Nolte (Chair of LOC), one person representing the IPC (chosen by the chair of IPC) and one person representing the LOC (chosen by the chair of the LOC). The grants selection committee met in January 2016.

### **ICME-14**

The call for intentions to bid for ICME-14 in 2020 was distributed globally and resulted in three firm bids to host ICME-14 in 2020. The site visit committee consisting of the ICMI President, ICMI Secretary General, ICMI Vice President Ruiz and the ICMI Administrator took place in January/February and May 2015.

The ICMI EC selected Shanghai, China as the location for the next ICME in July 2020. The other bids came from Sydney, Australia and Honolulu, Hawaii. The ICMI EC wants to thank all three countries for their immense effort they took to produce the bid and the wonderful site visits.

## **ICMI Regional Conferences**

Launched in the mid-seventies, ICMI Regional Conferences aim to facilitate wider discussion of mathematical education issues in particular regions. No regional conference was held in 2014.

In 2015 ICMI was involved in the preparation of the following regional conferences:

CIAEM-14 (XIV Inter-American Conference on Mathematics Education) was held in Tuxtla Gutiérrez, Chiapas, Mexico, May 3-7, 2015. Angel Ruiz was the chair of the conference. Abraham Arcavi participated on behalf of the ICMI EC in the conference.

The 7<sup>th</sup> EARCOME conference “In Pursuit Of Quality Mathematics Education For All” was held in the Philippines from May 11-15, 2015. Catherine Vistro Yu was the chair of the conference and Yuriko Baldin was the ICMI EC Liaison person. She and Zahra Goya participated in the conference on behalf of the ICMI EC.

The sixth EMF conference (Espace Mathématique Francophone) EMF- 2015) was held in Algeria from October 10-14, 2015. Jean Luc Dorier was the ICMI EC Liaison person and a member of the scientific committee of the conference.

Espaço Matemático em Língua Portuguesa (EMeLP, Network of Portuguese speaking countries). In 2014 Yuriko Baldin became a liaison member of the EMeLP, which was constituted at the joint meeting of ICMI representatives of Brazil, Portugal and Mozambique. The first conference of EMeLP including Cabo Verde was held in Coimbra, Portugal, October 28-31, 2015. <http://www.emelp.org/>

### **ICMI Studies**

A major ICMI program is the series of ICMI Studies. Each Study addresses an issue or topic of particular significance in contemporary mathematical education, and is conducted by an international team of leading scholars and practitioners. Built around an international conference, it is directed towards the preparation of a published volume to promote discussion and action at the international, regional or institutional level. 23 volumes have been published between 1986 and 2015.

The series editors 2013-2016 are ICMI President Ferdinando Arzarello, Secretary-General Abraham Arcavi and Vice President Cheryl Praeger.

Current Studies are:

#### **ICMI Study 21: Mathematics Education and Language Diversity**

The Study Conference took place in Águas de Lindóia, São Paulo, Brazil, on September 16-20, 2011. The Study Volume was published in 2015 (NISS 17). <http://www.springer.com/gp/book/9783319145105>

#### **ICMI Study 22 Task Design**

The study on Task Design was launched 2010. The co-chairs are Anne Watson (Oxford University) and Minoru Ohtani (University of Kanazawa, Japan). The Study conference was held in 2013 in Oxford, UK and Ferdinando Arzarello and Abraham Arcavi represented the ICMI EC. In 2014 the editing process started and the Study Volume was published 2015 (NISS 18). <http://www.springer.com/gp/book/9783319096285>

#### **ICMI Study 23 Primary Mathematics Study on Whole Numbers**

The Study was launched in 2012, Co-Chairs are Mariolina Bartolini Bussi, University Modena e Reggio Emilia, Italy and Sun Xuhua, University of Macau, China. The IPC started working in 2013 and has been held January 19-24, 2014 at the IMU Secretariat in Berlin, Germany. The Study Conference was held in June 2015 in Macau, China. The editing process has started and the book will be published in 2016/ 2017.

#### **The Klein Project**

The project began in 2008 as an IMU/ICMI joint project, with the aim of producing mathematics resources for secondary teachers on contemporary mathematics. It was inspired by Felix Klein’s book *Elementary Mathematics from an Advanced Standpoint*, first published 100 years earlier. A Design Group of 8 people was established in 2008, and plans formed to produce “vignettes” and, ultimately, a

comprehensive book. A vignette is a short, readable piece on a topic of contemporary mathematics. Some money was made available so that the Design Group could meet.

As Vignettes began to be produced and tested amongst teacher readers, the “Klein Vignette Style” evolved, and in 2011 it was decided to establish a Blog (<http://blog.kleinproject.org>) as a means of distribution. It was also decided to make Vignettes available in as many languages as possible. There are currently 24 Vignettes in total, all available in English, and some translated in Arabic, French, German, Italian, Spanish, Portuguese, and Mandarin.

The Blog also has a “Book of the Month” and “Site of the Month” feature, the former featuring books of general mathematical interest for teachers first published more than ten years ago. There is an active “Klein community” of translators, who are mathematicians or mathematics educators or teachers who give their time to creating translations in their own language. All offers of help are welcome. The number of hits on the Klein Blog continue to increase, and currently the Blog receives an average of 100-200 hits per day, with an all-time total of over 118 000 hits. While this is small by web standards, it represents at least 50 vignettes being read by teachers somewhere every day, after accounting for accidental and non-teacher hits.

The future of the project was discussed at length at the ICMI EC meeting and the need to continue it was stressed. ICMI decided to continue to support the part-time employment to mount items on the Blog. The Klein Project, however, has developed a third avenue: Klein Seminars were held in UK, Spain, Portugal, France, USA, Brazil, and Australia. Such seminars are now replaced by workshops or sessions at conferences, most recently at EARCOME 7 in Philippines in May, 2015. Two countries, Brazil and Sweden, have established regular (annual or bi-annual) Klein Meetings of teachers and mathematicians. In both cases, significant national funding was obtained.

At the ICMI EC meeting in Macau in 2015 the EC decided to launch a Second Phase of the Klein Project. Aims are to launch the production of the book and to continue with Vignettes.

## **Outreach to Developing Countries**

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

CANP aims to enhance mathematics education in developing countries by supporting the educational capacity of those responsible for mathematics teachers, and creating sustained regional networks of teachers, mathematics educators and mathematicians, linking them to international support.

**The first CANP Program, CANP EDIMath Sub Sahara Africa:** was held for two weeks in 2011 in Mali with about 40 participants from five countries in the region. The follow up meeting of CANP Sub-Sahara EDIMath was successfully held in September 2012 in Senegal.

**The second CANP Program, CANP Central America and the Caribbean:** held its two week workshop in 2012 with 67 researchers and educators from Colombia, Panama, Venezuela, Dominican Republic, Spain, Mexico, Cuba and host country Costa Rica. The most important result of CANP Costa Rica 2012 was the founding of the *Mathematics Education Network of Central America and the Caribbean*, which seeks to enhance capacities in Mathematics and Mathematics Education in the region. The website is: <http://redumatematicacyc.net>.

In 2013 the Network met (as a follow up) on November 6-8 in Santo Domingo, Dominican Republic. In 2014 the Central American and the Caribbean National Report was translated into English and can be found here: <http://www.mathunion.org/icmi/activities/outreach-to-developing-countries/canp-project-2012-central-america-and-the-caribbean/>.

**CANP 3, SMR-Sub Mekong Region (former name South East Asia):** The Third Capacity and Network Project started with a two week workshop which was held from October 14-25, 2013 in Phnom Penh, Cambodia with more than 40 participants from Cambodia, Laos, Thailand and Vietnam. CANP3 held a follow-up meeting as Special Workshop at EARCOME 7 in Cebu, Philippines on May 14, 2015. Eighteen people attended of whom 15 had also attended CANP-SMR: 5 from Thailand, 2

from Laos, 5 from Cambodia and 2 from the International Committee (three others from the Scientific Committee were at EARCOME but could not attend the Workshop session due to other commitments. Amongst the new people was Yuriko Baldin who was observing as ICMI liaison for the forthcoming CANP5. Discussions were very productive and it was agreed on the following: a) the network was worth preserving, and the name CANP-SMR was suitable; b) to establish a List-serve for communication and to have a CANP-SMR web-page hosted by ICMI; c) the Report is being prepared and most parts are received, but the editing process may take until the end of the year; d) to meet in December in Thailand at the WALS2015 conference.

**CANP 4, East Africa:** Mathematics educators, teachers and mathematicians from East Africa gathered at the Aga Khan University Institute for Educational Development in Dar el Salam, Tanzania from September 1-12, 2014 for the CANP East Africa conference. About 80 mathematics teachers and teachers' educators from Tanzania, Kenya, Uganda and Rwanda participated in the conference aimed at advancing mathematics education in East Africa. In addition to East African representatives, speakers from Botswana, Canada, Mozambique, France, Italy, South Africa, and Sweden participated in the conference. Among the speakers were Edward Lungu (Botswana), Jill Adler (South Africa, former ICMI EC member), Christiane Rousseau (Canada and IMU EC member) and Daniel Nyanganyura (ICSU Regional Office, ROA, South Africa) as well as the local program chair, Anjum Halai from the Aga Khan University, and ICMI president and CANP 4 Program Manager Ferdinando Arzarello.

**CANP 5, Andean Region and Paraguay:** In 2014 the ICMI EC selected the fifth region. The following countries were invited to participate: Bolivia, Ecuador, Peru and Paraguay. The Program Manager and Local Coordinating Chair have been selected (Yuriko Baldin and Uldarico Malaspina) and started working in 2014. The fifth CANP was held in February 2016. About 60 mathematics teachers and teachers' educators from Bolivia, Ecuador, Peru and Paraguay participated in the workshop aimed at advancing mathematics education in the Andean Region and Paraguay and forming a local network. In addition to Andean representatives, speakers from Canada, Costa Rica, France, Italy, participated in the conference. Among the speakers were ICMI Awardee Luis Radford (Canada), Angel Ruiz (Costa Rica, ICMI EC member), as well as ICMI president and CANP 4 Program Manager Ferdinando Arzarello.

**CANP Books.** Ferdinando Arzarello negotiated with Springer the publication of the CANP regional reports. The first book from CANP 4, *Mathematics Education in East Africa Towards Harmonization and Enhancement of Education Quality* (Editors: Halai, Anjum, Tennant, Geoff) was published in 2016 by Springer. The publication of the other four reports is planned.

**Reviewing CANP:** Until 2015 there have been four CANP Workshops spanning over six years. ICMI and IMU have invested considerable funding (about 200,000 Euros), and many requests are received for funding CANP follow-ups. ICMI EC accepted in 2015 a proposal to undertake a thorough and systematic review undertaken by a commission of six members as follows: Michèle Artigue and Bill Barton (as the two originators of the CANP Project), Angel Ruiz (as one of the CANP ICMI Liaisons and in his capacity as CDC member), Ferdinando Arzarello (as ICMI President as well as being a CANP ICMI Liaison), and Lena Koch (for her knowledge of all five CANPs, her international development experience, and her CANP 1-5 financial and project management experience) and Abraham Arcavi as ICMI Secretary General. The proposal was accepted and Lena Koch started in 2015 to create a survey and evaluation process with the CANP participants and lecturers which will be discussed by the review committee in May 2016.

#### **IMU - Commission for Developing Countries**

The ICMI EC also appoints one member of the IMU Commission for Developing Countries. The ICMI EC 2013-2016 nominated Angel Ruiz as member of this Commission. He participated in the CDC meeting in March 2015 in Berlin, Germany. In 2015 CDC supported the CANP 5 (Peru) workshop with EURO 30 000 from the IMU Special Projects grants.

## **ICMI Awards**

In 2003 ICMI created the Felix Klein Award, for lifelong achievement in mathematics education research and the Hans Freudenthal Award for a major program of research on mathematics education. These awards are announced every two years and conferred at the opening ceremonies of ICMEs. The Klein and Freudenthal Awards Committee has six members and is currently chaired by Carolyn Kieran (Canada).

The 2015 Felix Klein Awardee is Alan Bishop (Australia) and the 2015 Hans Freudenthal Awardee is Jill Adler (South Africa).

In 2014 ICMI created a new award named after Emma Castelnuovo. The award committee was formed in 2014 and consists of six members, currently chaired by Jeremy Kilpatrick (USA).

The 2015 Emma Castelnuovo Awardees are Hugh Burkhardt and Malcolm Swan (UK).

## **Communication and Outreach**

ICMI uses the following channels of communication with professional organizations and the general public:

- The ICMI News Newsletter is issued three times a year (July 1, November 1, March 1) and includes relevant news, announces activities, and presents reports. The newsletter includes a short editorial by an ICMI EC member and serves to disseminate ICMI information. The ICMI Newsletter editors are Cheryl Praeger and Abraham Arcavi.
- ICMI has a column in the newsletter of the European Mathematical Society (four publications per year) and in L'Enseignement Mathématique. Jean Luc Dorier is the ICMI contact person.
- ICMI actively maintains its website [www.mathunion.org/icmi](http://www.mathunion.org/icmi). The editors are Lena Koch and Jaime Silva. The ICMI website is hosted on the IMU server in Berlin.
- Each spring ICMI is issuing an annual activity and financial report to IMU.
- The ICMI Facebook page was established in 2011 and has more than 5,500 likes. The editors are Jaime Carvalho e Silva and Lena Koch.

These channels of communication cover ICMI's archival requirements 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 except the Social Media Site are under the Senior Editorship of the ICMI Secretary-General.

## **Further Activities**

### **ICMI Digitization Program**

The ICMI Digital Library Project aims at providing open access to all ICMI publications and thematic Studies. Currently proceedings of the symposium organized in the year 2000 on the occasion of the centennial of L'Enseignement Mathématique, the official organ of ICMI, the first five ICMI Studies, ICMI Bulletins, and proceedings of various meetings and conferences are available for free download on the ICMI website <http://www.mathunion.org/icmi/digital-library/introduction/>.

### **Database Project**

The Database Project, launched in 2011 has as its ultimate goal to build up a free access database of the mathematics curricula (ranging from pre-primary, primary, elementary, middle, secondary to vocational and undergraduate university level) from all over the world. Useful web links can be sent to the ICMI Secretary General. Currently information from 28 countries is available on the ICMI website. The database is already in use by researchers and curriculum developers.

### **Further International Cooperation and Outreach**

All ICMI EC members kept their national organizations and adhering organizations informed about ICMI developments.

**ICMI Archival Activities**

Bernard Hodgson, the ICMI Archive Curator is working towards digitalizing historical ICMI materials.

**Financial Summary**

ICMI's principal source of income is an annual grant from the International Mathematical Union. In 2015 ICMI also received a grant from CDC for the CANP 5 Andean and Paraguay workshop (Euro 30,000).

The other major financial support source for ICMI activities comes from the home institutions of its members. In 2015 many institutions from all over the world supported ICMI activities via financing travel cost of ICMI EC members and other ICMI officials to ICMI events and activities and supporting ICMI activities like ICMI Study conferences (Macao), CANP meetings and workshops, Klein meetings, etc.

The ICMI EC and in particular the ICMI Secretary- General approves the ICMI budget and all its related spending.

The ICMI EC would like to thank IMU, IMU Commission for Developing Countries, UNESCO, the IMU Secretariat and its host institution WIAS Berlin and all institutions who financially and/or administratively supported ICMI activities in 2015.

The ICMI EC would also like to highlight the work of all individuals who are actively involved in ICMI activities and without whom ICMI activities and outreach would not be possible. More information about ICMI can be found on the website: [www.mathunion.org/icmi](http://www.mathunion.org/icmi).

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

March, 18, 2016

**FINANCIAL REPORT ICMI**

<b>ICMI BUDGET 2015</b>	<b>In EURO</b>
<b>INCOME</b>	
<i>Savings</i> ICMI bank account from previous year	€194,611
<b>General Income</b>	
Annual IMU Grant	€57,962
<b>Special Income</b>	
Grant CDC for CANPs	€30,000
UNESCO Grant (CANP 2014, second payment)	€344
IMU grant for ICME 13	€8,000
Springer Royalties ICMI Studies	€1,024
<b>Total Income:</b>	<b>€291,941</b>
<b>EXPENDITURE</b>	
<b>1. ICMI Administrative Costs</b>	
1.1. General Administrative Costs	€2,010
1.2. EC Meetings	€9,000
1.3. Travel EC members and ICMI Administrator	€9,290
<b>Total Expenditure Administration:</b>	<b>€20,300</b>
<b>2. Research/ Studies</b>	

2.1. ICMI Studies	
2.1.1. ICMI Study 23 Conference Grant	€3,500
2.2. Klein Project	€500
<b>Total Expenditure Research</b>	<b>€4,000</b>
<b>3. ICME</b>	
ICMI-13 Hamburg (2016) Congress Subvention	€10,000
<b>Total Expenditure ICME and IMCI GA:</b>	<b>€10,000</b>
<b>4. Developing Countries Activities and Support 2015</b>	
CANP 1-5 (follow up activities and workshops)	€52,300
<b>Total Expenditure Developing Countries:</b>	<b>€52,300</b>
<b>5. Outreach and PR/ Publication</b>	
Translation Freundenthal Book	€3,630
<b>Total Expenditure Outreach:</b>	<b>€3,630</b>
<b>6. Regional Conferences 2015</b>	
EMF, EARCOME, CIAEM, CiEMeLP	
<b>Total Regional Conferences:</b>	<b>€21,000</b>
<b>7. Further Cost: Bank Charges</b>	€1,100
<b>Further Costs:</b>	<b>€1,100</b>
<b>Total Expenditure ICMI</b>	<b>€112,330</b>
<b>Savings 2015</b>	<b>€179,611</b>

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<b>Further Costs:</b>	<b>€1.100</b>
<b>Total Expenditure ICMI</b>	<b>€112.330</b>
<b>Savings 2015</b>	<b>€179.611</b>



### 3.2. Commission for Developing Countries (CDC)

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

#### Activity Report and Financial Statement 2015

Wandera Ogana, Lena Koch

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

The CDC members 2015-2018 are:

- Wandera Ogana (Kenya) - CDC President
- Olga Gil Medrano (Spain) - CDC Secretary for Policy
- Srinivasan Kesavan (India) - CDC Secretary for Grant Selection
- Alf Onshuus (Colombia) - Latin American Member
- Mama Foupouagnigni (Cameroon) - African Member
- Polly Sy (Philippines) - Asian Member
- Budi Nurani Ruchjana (Indonesia) - CDC member appointed by the IMU EC
- Angel Pineda (USA/Honduras) - CDC member appointed by the IMU EC
- Angel Ruiz (Costa Rica) - CDC member appointed by the ICMI EC
  - Shigefumi Mori (Japan) – CDC Ex-officio member (IMU President)

C. Herbert Clemens (USA) - retired as of October 31, 2015 from the position of CDC Secretary for Policy.

The CDC and all CDC related activities are supported by staff members from the IMU Secretariat, Berlin who manage most of the administration of the CDC in addition to the many volunteers who support CDC activities worldwide.



#### CDC - Grants Selection Committee (CDC-GSC)

The CDC grants for conferences and the IMU-Simons Travel Fellowship are allocated by the Grants Selection Committee, a seven-member committee supervised by the Commission for Developing Countries. Its 2015-2018 members are recognized mathematicians from India, Thailand, Colombia, Argentina, Senegal and South Korea. Three GSC members are also members of the Commission for Developing Countries.

**Abel Visiting Scholar Program Selection Committee 2013-2016** consists of

- a) One member chosen by the Abel Board
- b) One member chosen by CDC
- c) One member chosen by the IMU EC

All other programs are evaluated and selected by CDC.

During 2015 the Commission for Developing Countries has continued to use the funds it receives from the IMU and other donors to support mathematics research and advanced mathematical teaching in developing countries, guided by the basic principles incorporated into its original charge:

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

Guided by these principles, the CDC allocated its funds in 2015 for the following purposes:

#### **A) Project Support Program and IMU Special Grant**

Under the Project Support Program the CDC supports capacity building projects and programs in mathematics and mathematics education, be they international, regional or local initiatives in developing countries. The CDC members evaluate and select the grant recipients.

In 2013 the CDC received from the IMU, in addition to its regular annual budget, an additional grant of €100,000. The CDC decided to focus on the MENAO event in 2014 and use the proposals generated in connection with that event as the basis for the competition for awards. During the CDC meeting in March 12-13, 2015 in Berlin the CDC distributed the funds labelled as “IMU SPECIAL GRANT” to projects received from the mathematical communities in the developing world and presented at MENAO. All grants are one-time project grants.

#### **B) Volunteer Lecturer Program**

The goal of this program is to offer universities in the developing world lecturers for intensive 2-4 week courses in mathematics at the advanced undergraduate or master's level.

#### **C) Grants for Conferences**

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

#### **D) IMU-Simons Travel Fellowship for Individuals**

The IMU-Simons Travel Fellowship supports travel costs for research visits (minimum stay is four weeks) by mathematicians based in developing and economically disadvantaged countries to an international center of excellence. The Simons Foundation, based in New York, funds the program. The Foundation has been annually giving the amount of USD 25,000 during the period 9/2013-08/2016. It replaces the Individual Research Travel Grant Program during this time. The CDC Grant Selection Committee selects the grant recipients.

#### **E) 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 NOK 350,000 which include USD 15,000 for the Visiting Scholar Program 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 also sustain a viable research program. The Abel Visiting Scholar Program Selection Committee selects the grant recipients.

#### **F) Library Assistance Scheme**

The IMU-CDC Library Assistance 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 for individual scientists or institutions wishing to donate books in the mathematical sciences to libraries in developing countries.

#### **G) Meetings**

Since 2011 the CDC has met every two years at the IMU Secretariat in Berlin. The CDC also supports the travel costs of its members to selected meetings or workshops.

#### **H) Administration**

Administrative costs are kept to no more than 10% of the CDC operating budget. The ICMI-CDC Administrator salary and many other administrative expenses are covered by the IMU Secretariat budget, which receives its funds from the German Ministry of Education and Research (BMBF) and the Federal State of Berlin.

The ICMI-CDC Administrator in the IMU Secretariat takes care of all administrative tasks related to the above named CDC programs and activities.

#### **CDC Website**

All updates, programs and information about the selection committees can be found on the CDC website: [www.mathunion.org](http://www.mathunion.org).

The CDC website is edited by the ICMI-CDC Administrator.

#### **A) Project Support Program and IMU Special Grant**

In 2015 a total of 14 projects and activities were supported from the CDC Project Grant Program and the IMU Special Grant:

1. AMMSI is a network of mathematics centers in sub-Saharan Africa that organizes conferences and workshops, visiting lectureships and an extensive scholarship program for mathematics graduate students doing PhD work in the African continent. As in the previous years, the CDC supported in 2015 the request from AMMSI to support the African graduate student scholarship program in the amount of EURO 9,000 for the academic year 2015. In 2015 the amount of EURO 5,000 was transferred. The other grants will be transferred in 2016. The AMMSI scholarship program continues to need international bridge funding to maintain its vital work of supporting the continent’s next generation of mathematical leadership in Africa.

More details can be found on the AMMSI website: <http://www.ammsi.org>.

2. The third workshop on African Women Mathematicians, held during July 16-18, 2015 at Lake Naivasha Panorama Park, Naivasha, Kenya received the amount of EUR 3,000 to support travel cost of participants. The workshop entitled “Women in Mathematics for Social

Change and Sustainable Livelihoods” addressed gender inequality in mathematics across the African continent.

3. The MARM Project received the amount of EUR 14,000 to keep its projects in Africa running. The amount of Euro 8,100 was taken from the IMU Special Grant. CDC agreed to support MARM in 2017 with another grant of EURO 14,000.

4. The CDC has supported 12 mathematical leaders from Nepal to participate from August 31 to September 8, 2015, in Ho Chi Minh City, Vietnam in the SEAMS School “Number Theory and Applications in Cryptography and Coding Theory”. This contributed to connect mathematicians from Nepal with mathematicians from Vietnam and neighboring countries and to help them to make plans for support and regional projects after the earthquake. The supported grant was EURO 10,000.

5. The CDC donated Euro 10,000 to support the purchase of 25 computers for a computer lab in the mathematics department of RUPP in Phnom Penh, Cambodia.

6. Kev Da, a Cambodian student who finished his master at RUPP in 2014, received a grant from CDC to travel to Pune, India in February 2015. During his stay in Pune, he worked with Professor Anup Biswas and they discussed possible solutions to mathematical problems relating to “Measure theory relating to probability”. The grant was Euro 750.

#### IMU SPECIAL GRANT

7. The graduate program in Mathematics and its Application at the University of Botswana, Gaborone, Botswana was supported with EUR 8,000.

8. The Ouagadougou University in Burkina Faso received EUR 8,000 to support Mathematics PhD training.

9. Three Ph.D. students of the Doctoral School of Pure Mathematics, in Brazzaville, Congo were supported with a total of Euro 9,900.

10. The Project “Integrating Technology in Mathematics Education in Cambodia” received the amount of EUR 8,000.

11. An intensive 10-day training program on calculus content and the teaching of calculus in Philippines was supported with a project grant of EUR 8,000.

12. The 'Regional PhD program in Mathematics launched by the Higher University Council of Central American Universities', received the amount Euro 12,000.

13. The 'Central America and Caribbean Math Olympiad (OMCC)' to be held in 2016 in Jamaica received the amount EUR 8,000.

14. CDC supported the ICMI Capacity and Network Project (CANP 5 to be held in Peru 2016) with a grant of Euro 30,000.

All updates and pictures of the supported projects in 2015 can be found here:  
<http://www.mathunion.org/cdc/grants/project-support/project-support-2015/>

#### **B) Volunteer Lecturer Program (VLP)**

The CDC supported eight lecturers under its Volunteer Lecturer Program in 2015:

1. Michel Jambu, France gave a course in Topology from November 12, 2014-January 15, 2015 at the Master Program at RUPP, Cambodia. During his visit, Cambodian and French mathematicians met in January 2015 to discuss a new initiative “Excellence Program in Mathematics” which aims to prepare Mathematics Bachelor students for the Master in Mathematics at RUPP who can continue directly for a PhD.
2. Brigitte Lucquin, France gave a course on Approximation of PDE 1 from March 23-April 10, 2015 at RUPP, Cambodia.
3. Michel Waldschmidt, France taught a 45 hours course to the students of year 1 of the Master of Science in Mathematics of the Royal University of Phnom Penh (RUPP) from April 20-May 8, 2015.
4. Mark Gockenbach, USA gave a course on “Ordinary Differential Equations” in June/July 2015 at RUPP, Cambodia.

All Cambodian reports can be found here: <http://www.mathunion.org/cdc/volunteer-lecturerprogram/country-reports/vlp-cambodia/cambodia-2015/>

5. Christopher Thron, USA visited the National School of Agro-Industrial Sciences (ENSAI) in Cameroon and taught a course in “Numerical Methods” from March 5-April 20, 2015.
6. Christopher Thron, USA also volunteered as a lecturer from June 18-July 14, 2015 at the University of N'Djamena FSEA in Chad. He gave a course on Numerical Analysis to 30 Bachelor students.
7. Christophe Petit from the University of London, UK gave a course in the African Institute for Mathematical Sciences (AIMS), Senegal, from March 28-April 19, 2015.
8. Friedrich Hubalek from the TU Wien, Austria gave a course on Probability Theory at the National University of Mongolia, Department of Mathematics, from June 8-26, 2015.
9. Chandan Dalawat, India gave a course on Numerical Analysis at IPM Tehran, Iran on September 10-30, 2015. The course of Prof. Dalawat is not accounted to 2015 but 2016.

The reports can be found online.

<http://www.mathunion.org/cdc/volunteer-lecturer-program/country-reports/>

### **C) Grants for Conferences**

During the interval January 1–December 31, 2015, the Grant Selection Committee supported conferences, in the two existing categories:

Conferences in developing countries<sup>1</sup>

Conferences in developed countries<sup>2</sup>

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<sup>1</sup> In 2010, the IMU/CDC definition of a developing country was where the Per Capita Gross National Income according to the World Bank's Development Indicators (Atlas methodology) was not in excess of USD 7,500 (World Development Indicators database, World Bank, revised July 9, 2010).

For a list of the supported conferences, please go here:

<http://www.mathunion.org/cdc/grants/conference-support-program/conferencessupported-in-2015/>

Total transfers* for Conference Grants /Year 2015	Total value of awards (Euro)
74	68,500 €

\*Bank transfers done from Jan 1 - Dec 12, 2015.

#### D) IMU-Simons Travel Fellowship for Individuals

Number of Awards	Total value of awards (Euro)
16	24,251.92 €

*The IMU Simons Funds (USD 25,000) are not budgeted to the general CDC budget, but kept in a separate budget line.*

#### E) Abel Visiting Scholar Program

In 2015 the following scholars received an Abel Visiting Fellowship Award:

**Hammed Praise Adeyemo** (b. 1975) is a lecturer at the University of Ibadan, Nigeria. His area of research is the study of the cohomology of flag manifolds and algebraic groups. His research project is a continuation of earlier work with his host, giving geometric explanations for certain formulas in cohomology and K-theory. He was hosted by Frank Sottile at the Texas A & M University, USA.

**Amin Rafiei** (b. 1978) is an assistant professor Hakim Sabzevari University, Iran. He works in applied mathematics. His proposed research project is to implement the pivoting strategy for factoring a matrix using a backward factored inverse approximation. He was hosted by professor Matthias Bollhöfer at the Technical University Braunschweig, Germany.

**Anju Saini** (b. 1980) is a postdoctoral fellow at the CTRANS, IIT Roorkee, India. Her research area is mathematical modeling and biomechanics, and her proposed project concerns the study of hyper-elasticity in the lungs. She was hosted by Maia Angelova at Northumbria University, Newcastle in the UK.

*The Funds for the Abel Visiting Scholar Program (USD 15,000) are not budgeted to the general CDC budget, but kept in a separate budget line.*

#### F) Library Assistant Scheme

In 2015 the CDC supported three shipments of books:

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

Claude Mitschi from Strasbourg, France donated and shipped in July 2015 books to the Département de Mathématiques, N'djamena (Chad) as well as to the African Institute for Mathematical Sciences in Senegal. The cost for both shipments was 668 €.

Angel Pineda, USA donated in May 2015 books from the California State University Fullerton, USA to the Mathematics Department Mandalay University in Myanmar. The cost for the shipment to Myanmar was 766 €.

## **G) Meetings**

The newly elected CDC 2015-2018 met on March 12-13, 2015 in the IMU Secretariat in Berlin, Germany. Key issues discussed included the new CDC Grant Selection Committee 2015-2018, new programs and activities and the distribution of a special IMU Grant for projects. During the meeting in Berlin the CDC decided to launch a new program: The African Diaspora Mathematician Project. CDC President Wandera Ogana is the chair of pilot program (two years). It is aimed to announce the program to the public in 2016.

On March 13, the CDC had a joint meeting with the IMU EC 2015-2018. Key issues discussed included the IMU/CDC definition of “Developing Country”. Most expenditure of the meeting was covered from the funds of the IMU Secretariat. The CDC spent the amount of 3,662 € on the meeting.

In July 2015, CDC member Polly Sy participated in a meeting at the Royal University of Phnom Penh which was organized by ISP Uppsala (Sweden) to discuss common activities with emphasis on master training in the region. The aim is to set up a network (in mathematics) between RUPP in Cambodia, NUOL in Laos and Mandalay University in Myanmar, starting from this year - South-East Asia Mathematical Network (SEAMaN). The cost of her travel was 992 €.

## **H) Administrative Costs**

Administrative costs are kept to no more than 10% of the CDC operating budget. The CDC Administrator salary and many other administrative expenses are covered by the IMU Secretariat budget, which receives its funds from the German Ministry of Education and Research and the Federal State of Berlin.

The total administrative costs were 1,269 € (mainly shipment costs) and 2,509 € for bank transfer costs.

## **CDC Income**

The CDC's principal source of income is an annual grant from the International Mathematical Union.

Additionally the CDC received support from the Niels Henrik Abel Board (Norway), the Simons Foundation (USA), the Mathematical Society of Japan, the Swiss Mathematical Society and the American Mathematical Society (AMS).

The CDC Administration is supported by a staff member from the IMU Secretariat (WIAS Berlin).

Further information about CDC and its activities can be found on the website: [www.mathunion.org/CDC](http://www.mathunion.org/CDC)

Wandera Ogana, CDC President  
 Lena Koch, IMU Secretariat  
 March 2016

## FINANCIAL STATEMENT CDC 2015

<b>Revenue by Source</b>	<b>In EURO</b>
Savings 2014 (1.1.2015)	183,144
IMU Grant	77,283
Niels Henrik Abel Board	24,511
Donation Japanese Mathematical Society	1,095
Donation Swiss Mathematical Society	550
Donation AMS, Grant for the VLP	3,921
Return of funds (un-used grants or reimbursement by WIAS for travel costs)	3,682
<b>Total Budget 2015</b>	<b>294,186</b>
<b>EXPENDITURE 2015 by Category</b>	<b>In EURO</b>
Administrative Cost	1,269
Bank Transfer	2,509
CDC Meeting Berlin 2015	3,341
CDC Members participating in other meetings	992
Conference Grant Program (transfers 1.1.2015-31.12.2015)	68,500
Library Assistance Scheme	1,434
Project Support Program including IMU Special Grant	134,665
Volunteer Lecturer Program (VLP)	17,662
Unforeseen Cost	210
<b>Total spending in 2015</b>	<b>230,582</b>
<b>CDC Savings 2015 (31.12.2015)</b>	<b>63,604</b>

*Note: The Simons Funds as well as the funds for the Abel Visiting Scholar Program are not budgeted to the general CDC budget, but kept in a separate budget line.*



### 3.3. International Commission on the History of Mathematics (ICHM)

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

#### Report on the ICHM Activities in 2015

Craig Fraser

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

The Executive Council of the ICHM had four electronic meetings (E-meetings) in 2015.

#### Webpage

The ICHM continues to maintain a webpage (<http://www.unizar.es/ichm/home.htm>) of its activities and of matters of interest to historians of mathematics internationally. It is updated at least four times yearly.

#### Conferences co-sponsored by the ICHM

The ICHM continues actively to solicit and to co-sponsor special sessions and conferences internationally. These conferences are posted on the ICHM website (<http://www.unizar.es/ichm/events.htm>):

[ICHM Co-Sponsored Conference Mathematics Emerging: a tribute to Jackie Stedall and her influence on the history of mathematics \(The Queen's College, Oxford, UK, April 9-10, 2016\)](#)

[ICHM Co-Sponsored AMS-MAA Special Sessions on History of Mathematics \(Seattle, Washington, USA, January 6-8, 2016\)](#)

[ICHM Co-Sponsored International Meeting \*The Mathematical Sciences Under Dictatorships\* \(Lisbon, December 9-12, 2015\)](#)

[ICHM Co-Sponsored 26th Novembertagung on the History of Mathematics \(Università di Torino, Palazzo dell'Università di Torino, Torino, Italy, November 26-28, 2015\)](#)

[ICHM Co-Sponsored AMS-MAA Special Sessions on History of Mathematics \(San Antonio, Texas, USA, January 10-11, 2015\)](#)



**Reports on these conferences are posted** or will be posted on the ICHM website (<http://www.unizar.es/ichm/activity.htm>):

[Report on the ICHM Co-Sponsored AMS-MAA Special Sessions on History of Mathematics in memory of Ivor Grattan-Guinness \(1941-2014\) \(San Antonio, Texas, USA, January 10-11, 2015\)](#)

## Changes to the Executive Council

New representatives of the IMU on the EC were appointed in 2015 (<http://www.unizar.es/ichm/members.htm>):

Ciro Ciliberto (Italy) and Shrikrishna G. Dani (India) replaced Jesper Lützen (Denmark) and Kim Plofker (USA).

As part of a process of renewal of the Executive Committee two members-at-large of the EC completed their terms and were replaced (<http://www.unizar.es/ichm/members.htm>):

QU Anjing (China) was replaced by GUO Shirong (China) as the member-at-large representing Asia.

Alejandro Garciadiego (Mexico) was replaced by Clara Sanchez (Columbia) as the member-at-large representing Latin America.

New executive officers and more new members at large of the EC of the ICHM will be installed at the Open Meeting of the ICHM at the 25th International Congress of History of Science and Technology in Rio de Janeiro in July of 2017.

## Publications

*Historia Mathematica* is the official journal of the ICHM. It appears four times annually and publishes roughly 525 pages of original research in the history of mathematics from all times and cultures. The journal is currently edited by Thomas Archibald (Simon Fraser University, Canada) and Niccolò Guicciardini (Universita' degli Studi di Bergamo, Italy). It is published by Elsevier Science and is available electronically to subscribers of [ScienceDirect](#).

Craig Fraser, Chair  
March 29, 2016

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

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

## CEIC Activity Report 2015

James H. Davenport

## World Heritage Digital Mathematics Library

On August 17, 2014, in conjunction with the International Congress of Mathematicians in Seoul, South Korea, the IMU and CEIC hosted a meeting of a select group of 21 experts plus at least eight remote participants to plan the next practical steps towards the construction of the Global Digital Mathematical Library (GDML). As a result, a smaller eight person working group (WG) under the sponsorship of the IMU, was created. The WG members are Patrick Ion (who has now also joined CEIC), chair (USA), Thierry Bouche (France), Bruno Buchberger (Austria), Michael Kohlhasse (Germany), Jim Pitman (USA), Olaf Teschke

(Germany), Stephen Watt (Canada), and Eric Weisstein (USA). The WG is charged with the tasks of designing a road map for the practical next steps towards the GDML, determining its organizational structure, prioritizing the different requirements for its implementation, estimating an incremental budget, both start-up and sustaining funds, and fostering the writing of proposals to funding organizations. The WG held 40 minuted telcons in 2015 (12 in 2014) and also practiced outreach (community building) by presenting at the Spring CNI briefing, at OPSFA13 at NIST (PI) and CICM in DC (Jim Pitman), while holding a F2F in DC in association with CICM.

Questions of appropriate governance for this activity, which took up a lot of 2015, now seem to be resolved, and plans are well under way for creation of an International Mathematical Knowledge Trust, as an overall governing body.

In addition, the WG spent time in 2015 organising a session at the January 2016 Joint Mathematics Meeting in Seattle, and a Sloan/Wolfram/Fields workshop on Semantic Capture Language, in February 2016 in Toronto.

### **Other Business**

CEIC considered various other issues.

**DOIs.** It was noted that IMU-Net had no persistent URLs, e.g. DOIs. The same applied to various IMU documents, such as the “Best Practices” and the “Citations” report. We set up a working group to investigate this.

**IMU-Net.** CEIC's column in IMU-Net is entitled “IMU on the Web”, which confuses many people: this is now called “CEIC Notes and Comments”.

**Archiving.** This is a matter of ongoing discussion. The 2014 ICM seems to fairly well-archived, which is probably due to the attention paid to this question *before* the ICM itself. The next challenge being picked up after the 2015 officer/committee rotation, is to make this into standard practice. In addition, the office staff have now done an excellent job of recovering the videos of the 2006 ICM, now at <http://www.mathunion.org/activities/icm/videos/icm-2006-madrid/>.

**Copyright.** The 2001 “Best Practice” document was looking dated. It needs updating to cover items such as Green/Gold Open Access, Creative Commons licences (which version?), copyright in items such as TeX macros, interaction between ArXiv and publishers' policies. We had asked Doug Arnold, Victoria Stodden and Ulf Rehmann to form a working party, with James Davenport as CEIC liaison. This involves understanding the current landscape, which seems to be moving every day with funders' announcements changing the scene, and occasionally in ways very confusing to international collaboration.

**ICSU** (International Council for Science). CEIC is an Associate Member of the ICSU World Data System. Olga Caprotti maintains our liaison here.

### **Expenditure**

Expenditure in 2015 related to CEIC activities was EUR 4,700 (incl. EUR 50 from the IMU budget).

James H. Davenport, Chair  
March 2016

### 3.5. Committee for Women in Mathematics (CWM)

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

#### CWM Activity Report 2015

Marie-Françoise Roy, Caroline Series

##### Committee Members

Marie-Françoise Roy, France (Chair); Caroline Series, UK, (Vice Chair); Carolina Araujo, Brazil; Bill Barton, New Zealand; Ari Laptev, UK and Sweden; Kristin Lauter, USA (President, Association for Women in Mathematics (AWM)); Sunsook Noh, S. Korea; Marie-Françoise Ouedraogo, Burkina Faso; Sujatha Ramdorai, Canada; Betül Tanbay, Turkey. Non-voting EC Liaison: John Toland (UK).

##### Launching the committee

Immediately after CWM was approved by the EC in March 2015, MFR met with Helge Holden and Sylwia Markwardt in Berlin. The necessity of having a first CWM meeting in person was quickly decided, and also that it would take place at the end of EWM general meeting in Cortona, Italy, September 2015. For the CWM terms of reference, see Annex A (and also the CWM website).

##### First meeting in Cortona, September 5-6, 2015

Most members were able to attend, several using grants from their own institutions. SR was replaced by Neela Nataraj, and KL by Magnhild Lien (AWM Executive Secretary), and for the EC liaison JT by Alicia Dickenstein. AL was unable to come at short notice. Those members who were not able to be present in Cortona were contacted through Skype in advance. The meeting was very positive. After introductions and background we reviewed the remit of CWM and discussed actions to further these goals, see Annex B.

It was decided that a main aim between now and ICM Rio 2018 would be to support and encourage the formation of networks of female mathematicians on a regional and intra-national basis. It was also decided to make a call for projects to further this aim, see below. We agreed to support a meeting in Sao Paulo, March 2016, for Brazilian female mathematicians, by funding the participation of additional representatives from other Latin American countries who will participate in a panel discussion (see Annex F).

##### Meeting (WM)<sup>2</sup>

We initiated the idea of a meeting for female mathematicians with a strong Latin American focus immediately prior to Rio ICM. At this meeting we hope to see the launch (or consolidation) of a network for Latin America. The meeting will be called World Meeting for Women in Mathematics (WM)<sup>2</sup>. Considerable planning has been done for this meeting. A professional designer created an attractive logo. CA submitted a proposal for it to be named as a satellite meeting of the ICM in December, see Annex D. The meeting was approved on 15 February 2016 by the committee for Parallel Activities and Satellite Events, ICM 2018.

## CWM website and Publicity

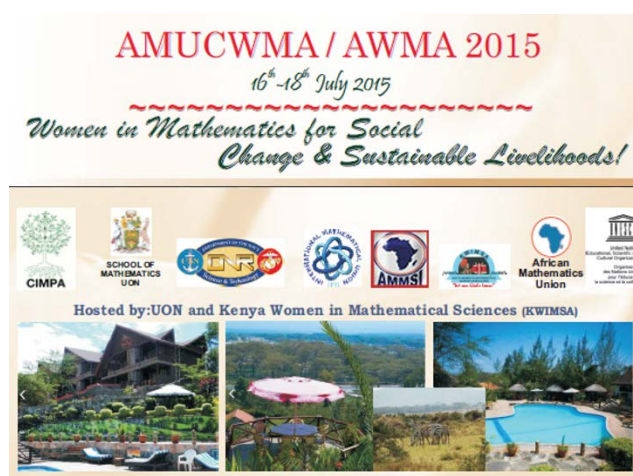
Prior to the establishment of CWM, a group of female mathematicians led by Ingrid Daubechies gathered and organised information for a new the Women in Maths section of the IMU website. The website was launched at the ICM in Seoul2014; announcements were sent to a number of mailing lists and placed in, for examples, the EMS, AMS and LMS newsletters. When the CWM was started the website was updated accordingly; publicity for the new committee was done at the same time. Since then CS has kept the site continuously updated based on information supplied by the CWM committee and others. Items (events, new women in maths organisations, newsworthy items, resources etc) are added every few weeks. The site lists an impressive number of events in 2015-16 in all parts of the world. In addition, 22 countries are listed with some form of organization, activities or contacts. For countries without much formal organisation, CS has encouraged women nevertheless to post basic contact details according to circumstance, giving them much greater visibility and providing a means for women in a given region to contact each other. The site has a unique and important function as the only platform for coordinating so much diverse worldwide activity. It is currently managed by CS with occasional help from the IMU's technician Gerhard Telschow.

CS was asked to be part of a small working group whose remit is to discuss and oversee the redesign of the whole IMU website. To this end she spent 2 days in Berlin and drafted the specifications for the new site which will be put out to tender.

## Budget and activities supported in 2015

CWM received a 19,320 euros budget from IMU for 2015. We have also 10 000 dollars available at Friends of IMU but we did not use them yet. The following activities were supported by CWM from the 2015 budget (see Financial Report):

- Creation of the African Women in Mathematics Association (AWMA) website <http://africanwomeninmath.org/>, launched in July 2015. The site is in English and French and has the same format as the EWM website. It is hosted on the same server.
- AWMA meeting in Kenya (July 2015; Annex E)
- CWM Cortona meeting (September 2015; Annex B)
- Design of  $(WM)^2$  logo (December 2015)
- Meeting in Sao Paolo Brazil (March 2016; Annex F)



## Launching a call and selecting the proposals for funding

There are already several existing associations for female mathematicians, in particular AWM (Association for Women in Mathematics, USA based), EWM (European Women in

Mathematics) and AWMA (see above). As described above, CWM decided that one of its main priorities up until Rio2018 would be to support the formation of regional and intra-national networks of female mathematicians in other parts of the world. It was decided to launch a call for funding of up to €3000 for projects with this aim (Annex C). Using our annual budget together with additional monies from previous years, we would be able to fund 6-7 projects. The call, with a deadline of January 16, 2016, was publicised as widely as possible by members of the committee and on our website; also through CIMPA, EWM, AWM, AMS, EMS, and to all women who had attended the ICWM in Seoul. We received almost 50 applications from 28 countries, mostly in the developing world, of which almost 30 were appropriate to the stated aims (the rest being for funding individual travel and research). The proposals were collated by CMS and MF and evaluated by the committee. Seven proposals fit precisely with the stated aims and will be funded. They are: Columbia (Latin America), India (India), Indonesia (S. E. Asia), Kazakhstan (Central Asia), Mexico (Latin America), Senegal (West Africa), Tunisia (North Africa). In addition various forms of constructive suggestions and moral support will be sent as feedback to projects we were unable to fund.

### **Email network**

We are in the process of compiling a list of about 100 contact persons worldwide to whom we can publicize initiatives and events and who we will ask to keep us informed of relevant activities. These people will forward our communications more widely via their networks or regions as appropriate. The initial basis of the list is a subset of the ICWM Seoul mailing list and other suitable mathematicians known to members of the committee.

### **Promoting good practices**

MFR will be participating in the ERCOM meeting in St. Petersburg (chaired by AL who is a CWM member), 5-16 April 2016. In particular she will raise issues about childcare and family friendly policies at conferences and research institutes, particularly in Europe, which have been raised and discussed by a number of EWM members and others.

### **CWM operation mode and Liaison with EC**

Apart from the Cortona meeting, most of the CWM work has been done through email. Skype meetings and phone calls have also been used. The liaison with EC through JT -and AD in the Cortona meeting period- has been active and regular. MF and CS met in London in February 2016 to discuss ongoing issues. We would like to thank the IMU office staff who have consistently been very helpful.

### **Future meetings**

A meeting has been scheduled for July 19th, during the European Congress of Mathematicians, in Berlin when a number of committee members will be present. It is hoped that other members will be able to join the meeting electronically.

Report by Marie-Françoise Roy and Caroline Series, Chair and Vice-chair of the CWM, London, Feb 2016.

### **Annexes\***

- A Committee members and terms of reference
- B Report from the meeting in Cortona
- C CWM call
- D Application to (WM)<sup>2</sup> as a satellite meeting of ICM Rio

E AWMA Report in Kenya  
 F Presentation of Sao Paulo meeting

\*Annexes available on request

### CWM Expenditure 2015

	budget	expenses	<i>balance</i>	Documents
<b>CWM 2015 from IMU</b>	19 320,00 €		<b>19 320,00 €</b>	
AWMA website		3 600,00 €	<b>15 720,00 €</b>	
AWMA workshop		3 000,00 €	<b>12 720,00 €</b>	Annex E
CWM meeting in Cortona		7 151,86 €	<b>5 568,14 €</b>	Annex B
bank charges		201,03 €	<b>5 367,11 €</b>	
Logo (WM) <sup>2</sup>		500,00 €	<b>4 867,11 €</b>	Annex C
Meeting in Sao Paolo		2 540,00 €	<b>2 327,11</b>	Annex D



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

##### IMU AO Circular Letter 1/2015

### International Mathematical Union



January 12, 2015  
**IMU AO Circular Letter 1/2015**

To: IMU Adhering Organizations  
From: Helge Holden, IMU Secretary

#### Contact information

Dear colleagues,

This is the first email I send out after taking over as Secretary of the IMU from Martin Groetschel. First of all I would like to take this opportunity to thank him for the outstanding work he has done for the IMU.

It is necessary on a regular basis to check the contact information for each IMU member. We are setting up a new system where each IMU member will have the email address <ao.country>@mathunion.org (<ao-affiliate-member>@mathunion.org for affiliate members). AO Circular letters sent to these generic email addresses will be forwarded to the recipient(s) that you request in your country.

I will in the near future send out an email to each IMU member, checking the current contact information. The present information can be found at <http://www.mathunion.org/Members/Countries.html>.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

##### IMU AO Circular Letter 2/2015

### International Mathematical Union





January 13, 2015  
**IMU AO Circular Letter 2/2015**

To: IMU Adhering Organizations  
From: Helge Holden, IMU Secretary

**Program Committee for the ICM2018**

Dear colleagues,

One of the important tasks of the Executive Committee of the IMU is to establish the Program Committee (PC) for the International Congress of Mathematicians (ICM). The next ICM will take place in Rio de Janeiro in 2018.

The General Assembly of the IMU decided at its recent meeting in Gyeongju, Korea, that "The IMU AOs should be invited to make suggestions for possible members of the Program Committee.", see Resolution 7 at <http://www.mathunion.org/fileadmin/IMU/Organization/GA/Resolutions/RESOL2014.pdf>.

You are hereby invited to propose members for the PC for ICM 2018.

Please note that members of recent Program Committees are not eligible (a list of all former PCs can be found at <http://www.mathunion.org/activities/icm/pc/>). Guidelines for the PC are given at <http://www.mathunion.org/fileadmin/IMU/PC-OC-Guidelines.pdf>.

Your proposal should include a brief letter of recommendation as well as a CV of the candidates [pdf-format only]. Candidates should not be contacted prior to the nomination, as the composition of the PC (except its chair) will only be made public at the ICM2018.

The deadline is March 1, 2015,  
and proposals should be sent to me at [secretary@mathunion.org](mailto:secretary@mathunion.org).

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 3/2015**

**International Mathematical Union**



January 30, 2015  
**IMU AO Circular Letter 3/2015**

To: IMU Adhering Organizations

From: Helge Holden, IMU Secretary

### **Call for Nominations for the Ramanujan Prize 2015**

Dear colleagues,

The Ramanujan Prize for young mathematicians from developing countries has been awarded annually since 2005. The Prize is funded by the Department of Science and Technology of the Government of India (DST).

It is administered jointly by the Abdus Salam International Centre for Theoretical Physics (ICTP), the International Mathematical Union (IMU), and the DST.

The Ramanujan Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work. The Prize is awarded annually to a researcher from a developing country who is less than 45 years of age on 31 December of the year of the award, and who has conducted outstanding research in a developing country.

The deadline for nominations is April 15, 2015.

Nominations are to be sent to [math@ictp.it](mailto:math@ictp.it). The official call for nominations can be found at <http://www.ictp.it/about-ictp/media-centre/news/2015/1/call-for-nominations.aspx>.

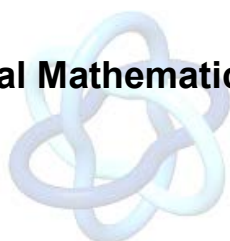
Please advertise this call for nominations for the Ramanujan Prize in your mathematical community.

Sincerely,

Helge Holden  
Secretary of the International Mathematical Union

### **IMU AO Circular Letter 4/2015**

**International Mathematical Union**



January 30, 2015  
**IMU AO Circular Letter 4/2015**

To: IMU Adhering Organizations

From: Helge Holden, IMU Secretary

### **Nominations for ICMI**

Dear colleagues,

ICMI, the International Commission on Mathematical Instruction (<http://www.mathunion.org/icmi>), which is a commission of the International Mathematical Union, will have the election of new members for its Executive Committee.

You are hereby invited to send your nominations for each of the following positions:

President, Secretary-General, Vice-Presidents, and Members-at-Large of the ICMI.

Please see the attached letter for further details.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 5/2015**

**International Mathematical Union**



March 17, 2015  
**IMU AO Circular Letter 5/2015**

To: IMU Adhering Organizations

From: Helge Holden, IMU Secretary

**Report of General Assembly 2014 and  
Chair of Program Committee ICM2018**

Dear colleagues,

This letter contains two separate issues:

1. The report of the General Assembly 2014 (GA2014)

The full report of the GA2014 can be downloaded from

[http://www.mathunion.org/fileadmin/IMU/Organization/GA/GA\\_2014/17\\_GA\\_Report\\_Final\\_140810\\_Gyeongju.pdf](http://www.mathunion.org/fileadmin/IMU/Organization/GA/GA_2014/17_GA_Report_Final_140810_Gyeongju.pdf).

Draft of the report first went to the IMU Executive Committee and subsequently for comment to all delegates of the General Assembly. All suggestions have been included into the final version of the report that was approved by the IMU Executive Committee on

March 15, 2015 at its meeting in Berlin. Thus this report is the final report of the 17th meeting of the IMU General Assembly.

## 2. Chair of the ICM 2018 Program Committee

It is the privilege of the IMU President to select the chair of the Program Committee of the forthcoming ICM. IMU President Shigefumi Mori asked Janós Kollár, Princeton University, to act as Program Committee Chair, and I'm happy to report that Kollár accepted this important duty, and he was present at the recent EC meeting in Berlin. His email address for this task is

[PC-chair-ICM2018@mathunion.org](mailto:PC-chair-ICM2018@mathunion.org).

The members of the ICM 2018 Program Committee have now been selected. However, the names of the committee members will remain secret until the opening ceremony in Rio de Janeiro in 2018.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

### **IMU AO Circular Letter 6/2015**

## International Mathematical Union



March 17, 2015  
**IMU AO Circular Letter 6/2015**

To: IMU Adhering Organizations

From: Helge Holden, IMU Secretary

### **Postal Ballot 1/15 IMU legal representative**

Dear colleagues,

As you know, the IMU Secretariat in Berlin is established in cooperation with the Weierstrass Institute (WIAS). The cooperation is governed by an agreement between the IMU and WIAS. The second paragraph in item 2.1 of the agreement states that

"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."

By an oversight, we forgot to pass a resolution at the General Assembly last year to the effect that the Secretary of the IMU is authorized to sign on behalf of IMU. We are thus asking the Adhering Organizations (AO) to pass this resolution by a postal ballot.

You are asked to vote on the following resolution:

"The Secretary of the IMU is authorized to sign on behalf of IMU in general as its legal representative."

Each AO of member countries will receive a voting slip in regular mail only with three alternatives (approve/against/abstain), and you are asked to fill out and return the voting slip (regular mail/email/fax) to the IMU Secretariat no later than May 31, 2015. Together with the voting slip you will receive the full cooperation agreement between IMU and the WIAS.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

### **IMU AO Circular Letter 7/2015**

## **International Mathematical Union**



March 27, 2015  
**IMU AO Circular Letter 7/2015**

To: IMU Adhering Organizations

From: Helge Holden, IMU Secretary

### **IMU Media Platform**

Dear colleagues,

The IMU is now providing a Media Platform, see

<http://www.mathunion.org/Publications/historic-material/>.

This project is aimed at setting up a collection of photographs relevant for IMU and the mathematics community at large. The IMU is providing the platform for use by members who all have free access to upload, search and download photographs. Registration is free and open to all. Uploaded photos are screened prior to publication.

The regulations governing the use of the platform and the instructions on how to use it are contained in the

*Terms and Conditions of Use for the Platform*

[http://www.mathunion.org/fileadmin/IMU/Publications/MediaPlatform/Terms\\_and\\_Conditions\\_of\\_Use\\_for\\_the\\_Platform.pdf](http://www.mathunion.org/fileadmin/IMU/Publications/MediaPlatform/Terms_and_Conditions_of_Use_for_the_Platform.pdf))

as well as the

*Licence Agreement between Right Holders and Users*

[http://www.mathunion.org/fileadmin/IMU/Publications/MediaPlatform/Licence\\_Agreement\\_between\\_Rights\\_Holders\\_and\\_Users\\_for\\_Editorial\\_Purposes.pdf](http://www.mathunion.org/fileadmin/IMU/Publications/MediaPlatform/Licence_Agreement_between_Rights_Holders_and_Users_for_Editorial_Purposes.pdf)).

You are invited to contribute to this photo collection. Become a member of the IMU Media Platform and share photos that you think are of interest to the mathematical community. Please advertise the IMU Media Platform to your colleagues.

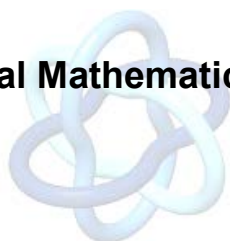
Sincerely

Helge Holden

Secretary of the International Mathematical Union

### **IMU AO Circular Letter 8/2015**

## **International Mathematical Union**



July 7, 2015

### **IMU AO Circular Letter 8/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

### **ICM 2018 Program Structure**

Dear colleagues,

The GA 2014 in Gyeongju, Korea, decided that the next ICM will take place in Rio de Janeiro, Brazil. The IMU President Shigefumi Mori has appointed János Kollár (Princeton, USA) Chair of the Program Committee (PC), and the IMU Executive Committee has appointed all other members of the PC. The PC will meet in October this year in order to determine the program structure of ICM 2018.

In line with the PC/OC Guidelines, see

<http://www.mathunion.org/fileadmin/IMU/PC-OC-Guidelines.pdf>, the IMU Adhering Organizations and mathematical societies are invited to make suggestions for the ICM scientific program structure. If you have suggestions on the program structure, please contact János Kollár directly using the e-mail address:

[chair@pc18.mathunion.org](mailto:chair@pc18.mathunion.org).

The deadline for proposals is September 30, 2015.

Please subscribe to ICM 2018 newsletter, see <http://www.icm2018.org/portal/en/news>, to keep updated on the ICM 2018.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 9/2015**

**International Mathematical Union**



July 7, 2015

**IMU AO Circular Letter 9/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

**Postal Ballot on IMU legal representative**

Dear colleagues,

I would like to report about the outcome of the postal ballot on IMU legal representative, see IMU AO Circular Letter 6/2015 ([http://www.mathunion.org/fileadmin/IMU/Publications/CircularLetters/2015-2016/IMU\\_AO\\_CL\\_6\\_2015.pdf](http://www.mathunion.org/fileadmin/IMU/Publications/CircularLetters/2015-2016/IMU_AO_CL_6_2015.pdf)).

The resolution

“The Secretary of the IMU is authorized to sign on behalf of IMU in general as its legal representative.”

was passed. We received votes from 32 countries with a total vote of 91 votes in favor, 0 against, and 0 abstentions or spoiled votes.

This resolution was added as Resolution 14 to the list of resolutions that were passed at the 17th General Assembly meeting in Gyeongju, Korea, August 10-11, 2014, see

<http://www.mathunion.org/fileadmin/IMU/Organization/GA/Resolutions/RESOL2014amended.pdf>.

Thank you for your contribution.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 10/2015**

**International Mathematical Union**



July 17, 2015

**IMU AO Circular Letter 10/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

**Call for bids for the ICM2022**

Dear colleagues,

This letter is about the International Congress of Mathematicians to be held in the year 2022 (ICM 2022).

One of the objectives of the International Mathematical Union defined in the IMU Statutes is

“... To support and assist the International Congress of Mathematicians ...”,

The IMU Executive Committee (EC) cordially invites all Adhering Organizations and national mathematical societies in IMU member countries to submit bids for hosting the International Congress of Mathematicians in the year 2022 and the IMU General Assembly meeting prior to this Congress.

Only electronic submissions are accepted. Submissions should be sent to

[secretary@mathunion.org](mailto:secretary@mathunion.org).

For a bid to be considered by the Site Selection Committee (SSC) it must be received no later than

**November 30, 2016.**

The Site Selection Committee (SSC) will evaluate all bids received taking into account, but not restricted to, the mathematical ambience, the infrastructure and the economic conditions offered by each bidder, as well as the accessibility of the proposed site, the



involvement of the local mathematical community, and the geographical distribution of places where ICMs took place in the past.

The IMU EC will prepare a recommendation based on the SSC's advice and refer this recommendation to the 18th IMU General Assembly (GA), which will take place in São Paulo, Brazil, prior to the ICM2018.

The GA will make the final decision on the location of ICM 2022.

Attached hereto are the ICM Bidding Guidelines endorsed by the IMU General Assembly 2014 providing advice and instructions to potential bidders. These guidelines have recently been amended by the IMU EC. In particular, this concerns:

- (i) The General Assembly venue does no longer have to be located in a city different from the ICM.
- (ii) Only electronic submissions are considered.
- (iii) All bidders have to make sure that there are no copyright infringements in the material used.

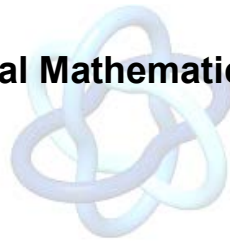
Every country interested in making a bid for ICM 2022 is strongly encouraged to do so.

Sincerely

Shigefumi Mori, IMU President  
Helge Holden, IMU Secretary

**IMU AO Circular Letter 11/2015**

**International Mathematical Union**



October 5, 2015

**IMU AO Circular Letter 11/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

**Important changes for the ICM 2018**

Dear colleagues,

This email concerns the ICM 2018.

Please note that there is an important change in terms of date and venue.

The new and final information is

**ICM 2018**  
**August 1 – 9, 2018**  
**Rio Centro Convention Center, Rio de Janeiro, Brazil.**

The General Assembly of the IMU will be held in São Paulo, on July 29–30, with the transfer of delegates taking place during July 31.

We apologize for any inconvenience this may cause.

Please make sure that this important information is widely distributed to all your colleagues.

The official web page of the ICM2018 is <http://www.icm2018.org/>. Please subscribe to the ICM 2018 newsletter to be kept informed.

Regards

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 12/2015**

**International Mathematical Union**



November 11, 2015  
**IMU AO Circular Letter 12/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

**Heidelberg Laureate Forum**

Dear colleagues,

The 4th Heidelberg Laureate Forum (HLF), see <http://www.heidelberg-laureate-forum.org>, will take place in Heidelberg, Germany during September 18–23, 2016. At HLF all winners of the Fields Medal, the Abel Prize, the Alan Turing Award and the Nevanlinna Medal are invited to attend. In addition, young and talented computer scientists and mathematicians are invited to apply for participation. The three previous HLFs have been an exceptional success. The HLF serves as a great platform for interaction between the masters in the fields of mathematics and computer science and young talents.

Applications for participation at the 4th HLF are open in three categories:  
*Undergraduate, Graduate PhD, and PostDoc.*

See the webpage [www.application.heidelberg-laureate-forum.org](http://www.application.heidelberg-laureate-forum.org)

for the online application form and further information. The IMU Adhering Organizations and national mathematical societies can nominate young researchers. Nominated persons get “priority treatment”, but, since there may be too many nominations, they have no acceptance guarantee. During the nomination process you will be asked for an Org-ID, which is *IMU83214* for the IMU. The deadline for application is February 3, 2016. Observe that the HLF reserves the right to close the application website earlier.

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

The HLF was initiated by the late German entrepreneur Klaus Tschira, and is supported by the Klaus Tschira Foundation, The Norwegian Academy of Science and Letters, The Association for Computing Machinery, as well as The International Mathematical Union.

Regards

Helge Holden  
Secretary of the International Mathematical Union

### **IMU AO Circular Letter 13/2015**

## **International Mathematical Union**



November 27, 2015  
**IMU AO Circular Letter 13/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

### **Call for Nominations for the Ramanujan Prize 2016**

Dear colleagues,

The Ramanujan Prize for young mathematicians from developing countries has been awarded annually since 2005. The Prize is funded by the Department of Science and Technology of the Government of India (DST). It is administered jointly by the Abdus

Salam International Centre for Theoretical Physics (ICTP), the International Mathematical Union (IMU), and the DST.

The Ramanujan Prize is usually awarded to one person, but may be shared equally among recipients who have contributed to the same body of work. The Prize is awarded annually to a researcher from a developing country who is less than 45 years of age on 31 December of the year of the award, and who has conducted outstanding research in a developing country.

The deadline for nominations is **March 1, 2016**.

Nominations can only be made by using the online system. See <http://www.ictp.it/about-ictp/media-centre/news/2015/11/ramanujan-call.aspx>

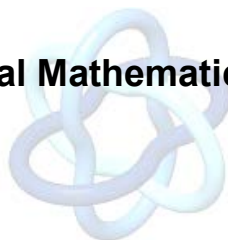
Please advertise this call for nominations for the Ramanujan Prize in your mathematical community.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

**IMU AO Circular Letter 14/2015**

**International Mathematical Union**



December 15, 2015  
**IMU AO Circular Letter 14/2015**

To: The Adhering Organizations of the International Mathematical Union (IMU)

From: Helge Holden, IMU Secretary

**IMU Bulletin No. 65/66, December 2014**

Dear colleagues,

The IMU Bulletin No. 66, reporting about the IMU activities in 2014, is available on the IMU Web server at <http://www.mathunion.org/Publications/bulletins/archive/>.  
A printed version will be mailed to the Adhering Organizations.

IMU Bulletin No. 65 (post-congress) is also available at <http://www.mathunion.org/Publications/bulletins/archive/>.

No printed version will be mailed to the Adhering Organizations.

I apologize for the delayed publication.

Sincerely

Helge Holden  
Secretary of the International Mathematical Union

## 5. The IMU Secretariat

Since January 2011, the Secretariat of the International Mathematical Union has been permanently based in Berlin, Germany, at the Weierstrass Institute. (<https://www.wias-berlin.de/index.jsp?lang=1>).

Under the supervision of the IMU Executive Committee, the Secretariat runs IMU's day-to-day business and provides support for many IMU operations, including administrative assistance for the International Commission on Mathematical Instruction (ICMI) and the Commission for Developing Countries (CDC) as well as mainly technical assistance for the Committee on Electronic Information and Communication (CEIC) and the Committee for Women in Mathematics (CWM).

The IMU Secretariat also hosts the IMU archive.

The IMU Secretariat is supported by a grant from the German Federal Ministry of Education and Research (BMBF) and the Berlin Senate.

A Memorandum of Understanding and a Cooperation Agreement provide the legal basis of the relationship of IMU and WIAS.



IMU Secretariat staff:

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Anita Orłowsky: IMU Accountant (✉ [accountant@mathunion.org](mailto:accountant@mathunion.org))

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Ramona Keuchel: Project Assistant (✉ [assistant@mathunion.org](mailto:assistant@mathunion.org))

IMU Secretary:

Helge Holden (✉ [secretary@mathunion.org](mailto:secretary@mathunion.org))

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## 6. Impressum

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