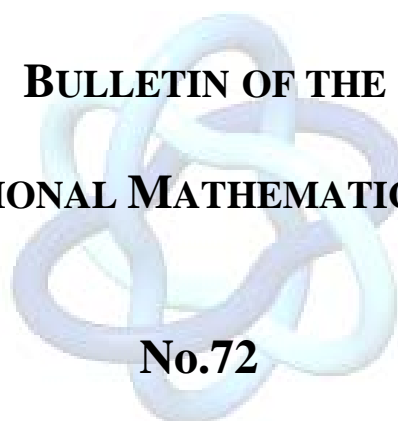


**IMU**

**BULLETIN OF THE  
INTERNATIONAL MATHEMATICAL UNION**



**No.72**

**December 2020**

**Secretariat:**

*International Mathematical Union  
Secretariat  
Hausvogteiplatz, 11a  
D-10117 Berlin, Germany*

<https://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>CoD</b>	Ad hoc Committee on Diversity
<b>CWM</b>	Committee for Women in Mathematics
<b>DCSG</b>	Developing Countries Strategy Group
<b>EC</b>	Executive Committee
<b>FIMU</b>	Friends of the International Mathematical Union
<b>GA</b>	General Assembly
<b>ICHM</b>	International Commission on the History of Mathematics
<b>ICM</b>	International Congress of Mathematicians
<b>ICM OC</b>	ICM Opening Ceremony
<b>ICMI</b>	International Commission on Mathematical Instruction
<b>ICSU/ISC</b>	International Council for Science/International Science Council
<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

Last year's Bulletin ended with the paragraph:

*Little did we know at the end of 2019 of what the following year would bring us. In 2020, most scientific events scheduled after March have either been cancelled or postponed for a year, with all traveling equally affected or cancelled due to the COVID-19 pandemic. The consequences for the IMU will be described in the 2020 Bulletin.*

Indeed, the pandemic has changed the life of billions of people across the globe. In addition to the tragic loss of millions of lives, the global economic consequences have been severe. With infection numbers still running high, we cannot yet put the pandemic behind us. However, while the long-term consequences of the first huge pandemic in a hundred years remain to be seen, there is thankfully more optimism now as widespread vaccination is rolled out.

The pandemic has also had considerable consequences for the IMU. Fortunately, modern video technology has made virtual meetings easy. While virtual meetings cannot fully replace physical ones, they are surprisingly efficient for many purposes. It is easier to schedule more frequent and shorter meetings, although time zones present a particular challenge for global organizations such as the IMU.

In response to this situation and its effect on many aspects of our work and community, the IMU launched a webpage with links to online resources covering general information, virtual seminars and mathematical research on the pandemic. It was the intention of the IMU to thus provide a resource website for many of these initiatives, to advocate for the work being undertaken by mathematicians and also to provide the broader mathematical community with the opportunity to access various resources and materials.

2020 was also the year in which various IMU committees undertook the bulk of their work in preparation for the International Congress of Mathematicians in 2022 (ICM 2022). In particular, the Program Committee had the arduous task of selecting speakers for the ICM 2022, about 200 in total, with selections being made according to the «template» (i.e. the scientific sections and their relative size), set by the novel Structure Committee. In addition, all prize committees began the difficult selection process, in which they remain fully engaged. Last, but not least, the local organizing committee has been deeply involved in the detailed planning of the ICM 2022. The uncertainty caused by the pandemic adds another layer of complications to an already challenging task.

The official launch of the first International Day of Mathematics, March 14, 2020, with the theme *Mathematics is Everywhere*, scheduled for the Paris headquarters of UNESCO, had to be cancelled due to the pandemic. Nevertheless, the IDM got off to a great start, with more than one thousand events taking place worldwide.

Similarly, our plans to mark 2020 as the centennial of the IMU with a celebratory conference in Strasbourg were also affected by the pandemic. It was decided to postpone the celebration to September 2021.

2020 also marked the year when the ISC funded project *A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to Measure It, How to Reduce It?* –

The Gender Gap Project for short – was completed. It was initiated and led by the IMU Committee for Women in Mathematics. The final report is freely available.

In the last few years, there has also been a considerable increase of attention devoted worldwide to the issues of diversity and inclusion. Many institutions and organizations have recognized the need to re-assess their relationship in this regard. The IMU itself has focused additional attention on these issues. This has been combined with an increased consideration of conflicts of interest and implicit biases. These changes have certainly improved the operations of the IMU. To build on this, the Executive Committee of the IMU decided to create an ad hoc committee called the Committee on Diversity (CoD) in 2020, which will offer advice regarding diversity and inclusion in the form of a report. Based on this report, the Executive Committee will make recommendations to the General Assembly in 2022. The CoD report will also be made public.

Our International Commission on Mathematical Instruction (ICMI) was to host its quadrennial congress ICME-14 in Shanghai in 2020, but the congress had to be postponed for a hybrid event in 2021. A reduced General Assembly, focusing on the election of the new Executive Committee, could however be carried out as a virtual event.

Finally, membership as always remains a matter of foremost importance for the IMU, with member engagement vitally significant. On this note, it was welcome news to see Denmark progress from Group II to Group III adherence in 2020. Conversely, 2020 saw the end of Moldova's second term as an Associate Member. The next stage would be an application for regular membership, which we hope will be forthcoming.

Looking ahead, there are still many challenges to be overcome, with the pandemic not yet conquered. It is impossible to tell now what the long-term consequences of this dramatic event will be. However, it is already clear that the pandemic and its impact will also form much of the focus of the 2021 Bulletin.

With best wishes

Helge Holden  
Secretary General of the International Mathematical Union

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# 1. IMU Leadership and Membership Information

## 1.1. Executive Committee 2019-2022

### INTERNATIONAL MATHEMATICAL UNION

#### Executive Committee

January 1, 2019 – December 31, 2022

<b>President:</b>	Carlos E. Kenig	(USA)
<b>Vice-Presidents:</b>	Nalini Joshi Loyiso G. Nongxa	(Australia) (South Africa)
<b>Secretary General:</b>	Helge Holden	(Norway)
<b>Members-at-Large:</b>	Luigi Ambrosio Andrei Okounkov Paolo Piccione R. T. Ramadas Gang Tian Günter M. Ziegler	(Italy) (Russia) (Brazil) (India) (China) (Germany)
<b>Ex-officio Member (Past President)</b>	Shigefumi Mori	(Japan)



*Photo: Rene January, AIMS*

#### Meetings of the Executive Committee in 2020:

92<sup>nd</sup> EC Meeting, Cape Town, South Africa, February 22-23, 2020

## 1.2. IMU Leadership 2019-2022

### IMU Executive Committee (EC) 2019 – 2022

Carlos E. Kenig	IMU President	USA
Helge Holden	IMU Secretary General	Norway
Nalini Joshi	IMU Vice President	Australia
Loyiso G. Nongxa	IMU Vice President	South Africa
Luigi Ambrosio	IMU EC Member-at-Large	Italy
Andrei Okounkov	IMU EC Member-at-Large	Russia
Paolo Piccione	IMU EC Member-at-Large	Brazil
R. T. Ramadas	IMU EC Member-at-Large	India
Gang Tian	IMU EC Member-at-Large	China
Günter M. Ziegler	IMU EC Member-at-Large	Germany
Shigefumi Mori	IMU EC Ex-officio Member (Past President)	Japan

### Commission for Developing Countries (CDC) 2019 – 2022

Dipendra Prasad	CDC President	India
Olga Gil Medrano	CDC Secretary Policy	Spain
Alf Onshuus	CDC Secretary Grants	Colombia
Mama Foupouagnigni	CDC, African Member	Cameroon
José Maria Balmaceda	CDC, Asian Member	Philippines
Andrea Solotar	CDC, Latin American Member	Argentina
Galina Rusu	CDC Member appointed by IMU EC	Moldova
Michel Waldschmidt	CDC Member appointed by IMU EC	France
Jean-Luc Dorier	CDC Member appointed by ICMI EC	Switzerland
Carlos E. Kenig	CDC Ex-officio Member (IMU President)	USA
Luigi Ambrosio	CDC-IMU Liaison	Italy

### International Commission on the History of Mathematics (ICHM) 2019 – 2022

Isobel Falconer	ICHM	UK
Catherine Goldstein	ICHM	France
Gang Tian	ICHM-IMU Liaison	China

### International Commission on Mathematical Instruction (ICMI) 2017 – 2020

Jill Adler	ICMI President	South Africa
Abraham Arcavi	ICMI Secretary-General	Israel
Merrilyn Goos	ICMI Vice President	Australia
Luis Radford	ICMI Vice President	Canada
Anita Rampal	ICMI EC Member-at-Large	India
Jean-Luc Dorier	ICMI EC Member-at-Large	Switzerland
Binyan Xu	ICMI EC Member-at-Large	China
Yuriko Yamamoto Baldin	ICMI EC Member-at-Large	Brazil
Zahra Gooya	ICMI EC Member-at-Large	Iran
Ferdinando Arzarello	ICMI EC Ex-officio Member (ICMI President 2013-2016)	Italy
Carlos E. Kenig	ICMI EC Ex-officio Member (IMU President)	USA
Helge Holden	ICMI EC Ex-officio Member (IMU Secretary General)	Norway
Paolo Piccione	ICMI-IMU Liaison	Brazil

### **Committee on Electronic Information and Communication (CEIC) 2019 – 2022**

(CEIC terms of membership are staggered.)

Henry Cohn	CEIC Chair	2019 – 2022	USA
Tim Cole	CEIC Member	2013 – 2020	USA
Marie Farge	CEIC Member	2019 – 2022	France
Patrick Ion	CEIC Member	2015 – 2022	USA
Rajeeva Karandikar	CEIC Member	2019 – 2022	India
Alf Onshuus	CEIC Member	2017 – 2020	Colombia
Mila Runnwerth	CEIC Member	2019 – 2022	Germany
Victoria Stodden	CEIC Member	2015 – 2022	USA
Nalini Joshi	CEIC-IMU Liaison	2019 – 2022	Australia

### **Committee for Women in Mathematics (CWM) 2019 – 2022**

Marie-Françoise Roy	CWM Chair	France
Carolina Araujo	CWM Vice-Chair	Brazil
Alejandro Adem	CWM Member-at-Large	Canada
Petra Bonfert-Taylor	CWM Member-at-Large	USA
Tony Ezome	CWM Member-at-Large	Gabon
Josephine Kagunda	CWM Member-at-Large	Kenya
Motoko Kotani	CWM Member-at-Large	Japan
Neela Nataraj	CWM Member-at-Large	India
Ekin Ozman	CWM Member-at-Large	Turkey
Cheryl Praeger	CWM Member-at-Large	Australia
Carlos E. Kenig	CWM-IMU Liaison	USA



## Persons representing IMU in various organizations

<b>Body</b>	<b>Representative/ liaison</b>	<b>Term</b>
COSPAR, International Scientific Union Representative	Nalini Joshi	2019 – 2020
Gruber Foundation, Cosmology Prize, Selection Advisory Board	Frans Pretorius	2015 – 2020
ISC	Loyiso G. Nongxa	2019 – 2022
UNESCO	Loyiso G. Nongxa	2019 – 2022
Ramanujan Prize	R. T. Ramadas	2019 – 2022
ICMI (IMU EC liaison)	Paolo Piccione	2019 – 2022
CDC (IMU EC liaison)	Luigi Ambrosio	2019 – 2022
ICHM (IMU EC liaison)	Gang Tian	2019 – 2022
CEIC (IMU EC liaison)	Nalini Joshi	2019 – 2022
CWM (IMU EC liaison)	Carlos E. Kenig	2019 – 2022
IMU-Net editor	Martin Hubert Raussen	2016 – 2020
IMU-Net EC correspondent	Andrei Okounkov	2019 – 2022
IDM (IMU EC liaison)	Günter M. Ziegler	2019 – 2022
Curator of the IMU archive	Guillermo Curbera	2019 – 2020

### 1.3. Members of the Union

The following countries were Members of IMU through December 2020:

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

\*Associate Member | \*\*Associate Member till August 2020

The following organizations are Affiliate Members of IMU:

- African Mathematical Union (AMU)
- European Mathematical Society (EMS)
- Mathematical Council of the Americas (MCoFA)
- 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 2019–2022

At the IMU General Assembly meeting 2018 in São Paulo, Brazil, the delegates decided on the dues structure for the years 2019-2022, see schedule below.

Associate and Affiliate IMU members do not pay dues.

<b>Approved membership dues 2019 – 2022</b>				
<b>All amounts in EUR</b>				
Year	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Group I	1,430	1,430	1,430	1,430
Group II	2,860	2,860	2,860	2,860
Group III	5,720	5,720	5,720	5,720
Group IV	11,440	11,440	11,440	11,440
Group V	17,160	17,160	17,160	17,160

## 2.2. Approved IMU Budget

For the Period 2019–2022

Date: June 27, 2018

International Mathematical Union													
Proposed new Budget for 2019-2022, in Euro (EUR)													
	% of General Income	2019			2020			2021			2022		
		General	Special	Sum	General	Special	Sum	General	Special	Sum	General	Special	Sum
<b>INCOME</b>													
<b>I. General</b>													
I.a Membership Dues		417.560			417.560			417.560			417.560		
Sum General Income		417.560			417.560			417.560			417.560		
<b>II. Special</b>													
II.a Special Development Fund			14.000		14.000			14.000			14.000		
II.b Donations and Grants			80.000		80.000			80.000			80.000		
Sum Special Income from Third Parties			94.000		94.000			94.000			94.000		
II.c Income from IMU bank accounts			100		100			100			100		
II.d Other Income			30.000		30.000			30.000			30.000		
Sum Special Income from Other Sources			30.100		30.100			30.100			30.100		
<b>TOTAL INCOME</b>		<b>417.560</b>	<b>124.100</b>	<b>541.660</b>	<b>417.560</b>	<b>124.100</b>	<b>541.660</b>	<b>417.560</b>	<b>124.100</b>	<b>541.660</b>	<b>417.560</b>	<b>124.100</b>	<b>541.660</b>
<b>EXPENDITURE</b>													
<b>1. Commissions &amp; Committees (C&amp;C)</b>	<b>45.0%</b>												
1.1 CDC	20,0%	83.512	44.000	127.512	83.512	44.000	127.512	83.512	44.000	127.512	83.512	44.000	127.512
1.2 CMI	15,0%	62.634			62.634			62.634			62.634		
1.3 CWM	5,0%	20.878	10.000	30.878	20.878	10.000	30.878	20.878	10.000	30.878	20.878	10.000	30.878
1.4 CEIC	4,0%	16.702	4.176	20.878	16.702	4.176	20.878	16.702	4.176	20.878	16.702	4.176	20.878
1.5 Ad hoc committees	1,0%	4.176	4.176	8.352	4.176	4.176	8.352	4.176	4.176	8.352	4.176	4.176	8.352
1.6 Special support	0,0%	0	26.000	26.000	0	26.000	26.000	0	26.000	26.000	0	26.000	26.000
C&C Expenditure		187.902	88.352	276.254	187.902	88.352	276.254	187.902	88.352	276.254	187.902	88.352	276.254
<b>2. ICM</b>	<b>22.0%</b>												
2.1 Site Committee	1,0%	4.176			4.176			4.176			4.176		
2.2 Program Committee	2,0%	8.351			8.351			8.351			8.351		
2.3 Prize Committees	2,0%	8.351			8.351			8.351			8.351		
2.4 Congress Subvention	5,0%	20.878			20.878			20.878			20.878		
2.5 Travel Grants (Young & Senior)	7,0%	29.229	14.000	43.229	29.229	14.000	43.229	29.229	14.000	43.229	29.229	14.000	43.229
2.6 ICM related admin., outreach	5,0%	20.878			20.878			20.878			20.878		
ICM Expenditure		91.863	14.000	105.863	91.863	14.000	105.863	91.863	14.000	105.863	91.863	14.000	105.863
<b>3. Union Administration</b>	<b>20.0%</b>												
3.1 General Assembly	1,0%	4.176			4.176			4.176			4.176		
3.2 President & Secretary	12,0%	50.107			50.107			50.107			50.107		
3.3 Executive Committee	6,0%	25.054			25.054			25.054			25.054		
3.4 Other	1,0%	4.176			4.176			4.176			4.176		
Union Administration Expenditure		83.512	0	83.512	83.512	0	83.512	83.512	0	83.512	83.512	0	83.512
<b>4. Outreach</b>	<b>6.0%</b>												
4.1 ICSU Union Member Contribution	2,0%	8.351			8.351			8.351			8.351		
4.2 Awards	1,0%	4.176			4.176			4.176			4.176		
4.3 Website Support, Media Relations	2,0%	8.351	4.176	12.527	8.351	4.176	12.527	8.351	4.176	12.527	8.351	4.176	12.527
4.4 Bulletin	0,0%	0			0			0			0		
4.5 Other	1,0%	4.176	5.600	9.776	4.176	5.600	9.776	4.176	5.600	9.776	4.176	5.600	9.776
4.6 Scientific activity support	0,0%	0	6.972	6.972	0	6.972	6.972	0	6.972	6.972	0	6.972	6.972
Outreach Expenditure		25.054	16.748	41.802	25.054	16.748	41.802	25.054	16.748	41.802	25.054	16.748	41.802
<b>5. Overhead</b>	<b>7.0%</b>												
5.1 Office Expenses	1,0%	4.176	1.600	5.776	4.176	1.600	5.776	4.176	1.600	5.776	4.176	1.600	5.776
5.2 Bank Charges	1,0%	4.176	1.000	5.176	4.176	1.000	5.176	4.176	1.000	5.176	4.176	1.000	5.176
5.3 Legal Advice, Audit Fees	2,0%	8.351	1.600	9.951	8.351	1.600	9.951	8.351	1.600	9.951	8.351	1.600	9.951
5.4 Other	3,0%	12.527	800	13.327	12.527	800	13.327	12.527	800	13.327	12.527	800	13.327
Overhead Expenditure		29.229	5.000	34.229	29.229	5.000	34.229	29.229	5.000	34.229	29.229	5.000	34.229
<b>TOTAL EXPENDITURE</b>				<b>541.660</b>			<b>541.660</b>			<b>541.660</b>			<b>541.660</b>
<b>INCOME LESS EXPENSES</b>				<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>

## **2.3. Independent Auditor's Report**

### **Audit Report**

# **Annual Financial Statements as at 31 December 2020**

International Mathematical Union  
Berlin

Mazars GmbH & Co. KG  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft

86572/E

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1. Statement of Assets and Liabilities as at 31 December 2020
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3. Schedule of Member  
Contributions 2020
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5. Legal and Tax Position  
Special Engagement Terms  
General Engagement Terms

To the International Mathematical Union, Berlin:

## A. AUDIT ENGAGEMENT

We were engaged by the Secretary General of the

International Mathematical Union  
Berlin  
(hereinafter “IMU” or “Association”)

to audit and report on the annual financial statements for the reporting year ending 31 December 2020.

In performing the audit engagement awarded to us by the Secretary General, we conducted our audit of the annual financial statements as at 31 December 2020 together with the accounting system in accordance with § 317 HGB (German Commercial Code) and the German generally accepted standards for the audit of financial statements.

In addition, we were engaged to provide an economic analysis of the net assets, financial position and results of operations of the Union in this audit report. We have presented this analysis in section D. of this audit report.

In accordance with § 321 (4a) HGB, we confirm our observance of the applicable regulations governing independence during the performance of our audit.

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 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 annual financial statements consist of a statement of assets and liabilities as well as a statement of income and expenditures. According to the size definitions of § 267 German Commercial Code (HGB), the IMU would be classified as a micro entity. However, the audit was performed in conformity with the accounting regulations applicable to small entities.

This report was prepared by us in accordance with the auditing standards of the *Institut der Wirtschaftsprüfer in Deutschland e.V.* IDW PS 450 n.v. “Generally Accepted Standards for the Presentation of Long-form Audit Reports for the Audit of Financial Statements”.



The performance of our engagement and our responsibility, also towards any third parties, are governed by the Special Engagement Terms for Audits and Audit-related Services of Mazars GmbH & Co. KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft from 1 June 2019 as well as by the General Engagement Terms for Wirtschaftsprüfer (*German Public Auditors*) and Wirtschaftsprüfungsgesellschaften (*Public Audit Firms*) as amended on 1 January 2017, attached as appendices. Accordingly, our liability is limited in accordance with No. 9 of the General Engagement Terms for Wirtschaftsprüfer. Towards third parties, No. 1 (2) and No. 9 of the General Engagement Terms apply.

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

## B. SUBJECT, NATURE AND SCOPE OF THE AUDIT

### I. Subject of the audit

The subject of our audit was the annual financial statements (statements of assets and liabilities and income and expenditures) together with the bookkeeping system, prepared in accordance with German accounting principles.

Bookkeeping and the preparation of the annual financial statements are the responsibility of the IMU's Treasurer.

Our responsibility is to provide an opinion on the annual financial statements including the bookkeeping system 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 expenditures.

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.

Pursuant to § 317 (4a) HGB the audit does not extend to whether the ability of the International Mathematical Union to continue as a going concern or the effectiveness and efficiency of its management can be assured.

### II. Nature and scope of the audit

Our audit was conducted analogous to § 317 HGB taking into account the German generally accepted accounting standards as promulgated by the *Institut der Wirtschaftsprüfer in Deutschland e.V. (IDW)*, in particular observing IDW PS 750 "Audits of Associations".

Those standards require that we plan and perform the audit such that misstatements and violations 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.

The audit included assessing the accounting policies, measurement methods and classification principles applied and significant estimates made by management as well as critically evaluating the overall presentation of the annual financial statements.

Our audit commenced with our unqualified independent auditor's report on the prior year's annual financial statements for the year ended 31 December 2019. The Statutes do not provide for an adoption of the annual financial statements. Instead, on the basis of every fourth annual financial statement (most recently on 31 December 2017) the preparation of a budget for the following four-year-period is anticipated. The budget for the period from 1 January 2019 to 31 December 2022 was approved by the 18<sup>th</sup> General Assembly in São Paulo/Brazil on 29 and 30 July 2018.

On the basis of the risk of material misstatements, we prepared a risk profile for disclosures in the accounting. For this purpose we conducted audit procedures for assessing risk and first obtained an understanding of the Union as well as an overview of its economic and legal environment. Based on this understanding, we analysed the objectives and strategies of the Union as well as their implementation in order to determine business risks that could lead to significant errors in accounting.

Based on our professional judgement, we reviewed and assessed the design of the association's internal control system and which measures the Union has taken to particularly ensure the propriety and reliability of the accounting in order to mitigate business risks, however without conducting a detailed system analysis.

We audited the complete and timely recording of business transactions on a test basis and were convinced of the implementation of the four-eye principle as the main instrument of the internal control system.

We refrained from obtaining balance confirmations from debtors since they exclusively involve members of the Union.

We conducted our audit, with interruptions in April 2021.

Management provided us with the information and documentation we requested. In the written letter of representation provided to us, the management as the legal representative of the Union assured us that the explanations and evidence were complete. Furthermore, it stated that all business transactions have been recorded and disclosed in the annual financial statements.

## C. FINDINGS ON AND EXPLANATIONS OF THE ACCOUNTING

### I. Generally accepted accounting principles

#### 1. Accounting records and other documents audited

Our audit verified that the formal and material propriety of the accounting complied with German generally accepted accounting principles and other legal requirements.

The accounting records of the Union were maintained properly. The records were complete. Based on the findings of our audit, the accounting records and other documents audited complied with legal regulations in all material respects. The information extracted from other documents audited was properly reflected in the accounting records and in the annual financial statements in all material respects.

The organization of the accounting, the accounting-related internal control system, data flows and recordkeeping were fundamentally appropriate for ensuring the completeness, the accuracy, the timely and orderly recording and booking of business transactions.

#### 2. Annual financial statements

The annual financial statements we have audited for the financial year from 1 January 2020 to 31 December 2020 have been properly derived from the accounting records and the underlying documents of the Union in all material respects. The enclosed annual financial statements were prepared in analogous application of the regulations of the Third Book of the HGB (§§ 238 *et seq.*) in all material respects, under observance of the supplementary regulations for corporations in the Second Section (§§ 264 *et seq.*).

The opening balances were properly taken over from the prior year annual financial statements. Statutory regulations on recognition, disclosure and measurement were observed in all material respects.

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.

#### 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 is No. 71 from December 2019. Printed versions of the Bulletin are provided to members. The electronic documents are available on the homepage of the IMU (<https://www.mathunion.org/membership/imu-bulletins>).

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 information of the legal representatives and the results of our audit, no events of particular importance occurred after the conclusion of the reporting year.

## II. Overall presentation of the annual financial statements

### 1. Explanations of the overall presentation

The exercise of accounting policy and measurement elective options as well as the use of discretionary judgment correspond to the prior year and do not indicate any tendency with a significant influence on the net assets, financial position and results of operations in 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.

### 2. Findings on the overall presentation of the annual financial statements

On the basis of the audit we performed by executing our professional duties, we are of the opinion that the annual financial statements as a whole give a true and fair view of the net assets, financial position and results of operations of the Union in accordance with generally accepted accounting principles.

## D. OTHER CLASSIFICATIONS AND EXPLANATIONS OF THE ANNUAL FINANCIAL STATEMENTS

### I. Results of operations

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

	2020		2019		Change
	k€	%	k€	%	k€
<b>Revenues</b>	502	100.0	559	100.0	-57
Expenditures for scientific promotion and scientific activities	-136	-27.1	-239	-42.8	103
Administrative expenses	-92	-18.3	-82	-14.7	-10
<b>Expenses</b>	-228	-45.4	-321	-57.4	93
<b>Operating result</b>	274	54.6	238	42.6	36
Interest result	0	0.0	0	0.0	0
<b>Result before taxes on income</b>	274	54.6	238	42.6	36
Taxes on income	0	0.0	0	0.0	0
<b>Annual surplus</b>	274	54.6	238	42.6	36
Withdrawal from/Allocation to reserves (net)	-274	-54.6	-238	-42.6	-36
<b>Unallocated cash balance</b>	0	0.0	0	0.0	0

The IMU had **revenues** of k€502 in the reporting year, consisting largely of member contributions. In addition, the IMU received donations which usually come from scientific organizations.

**Revenues** are composed of the following:

	k€
Member contributions	428
Third-party contributions	69
Other income	<u>5</u>
	<u>502</u>

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

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

	k€
FIMU – IMU Breakout Fellowship	43
Niels Henrik Abel Board, Norway	14
Simons Foundation – Simons Africa Award	3
FIMU – IMU Volunteer Lecturer Program	4
Canada Council for the Arts	3
HLFF	<u>2</u>
	<u>69</u>

**Other income** (k€ 5) largely involves payments received for written-down receivables (k€ 4).

**Expenditures** of k€ 228 (prior year: k€ 321) are shown in detail in the statement of income and expenditures (Appendix 2) as well as in the Budget Comparison (Appendix 4). In particular, as a result of losses from currency fluctuation (k€ 29), **administrative expenses** increased slightly, whereas **expenditures for scientific promotion and scientific activities** have decreased significantly by k€ 103 as a result of the worldwide Corona pandemic.

## II. Net assets

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

	31.12.2020		31.12.2019		Change
	k€	%	k€	%	k€
<b>ASSETS</b>					
<b>Current assets</b>					
Receivables from member contributions	71	3.2	63	3.5	8
Other assets (including Prepaid expenses)	21	0.9	21	1.2	0
Cash and cash equivalents	2,160	95.9	1,740	95.4	420
	<b>2,252</b>	<b>100.0</b>	<b>1,824</b>	<b>100.0</b>	<b>428</b>
<b>LIABILITIES</b>					
<b>Net assets (own funds)</b>	<b>1,867</b>	<b>82.9</b>	<b>1,593</b>	<b>87.3</b>	<b>274</b>
<b>Borrowed capital</b>					
Provisions	24	1.1	12	0.7	12
Liabilities from restricted donations	297	13.2	205	11.2	92
Other liabilities (incl. Deferred income)	64	2.8	14	0.8	50
	<b>385</b>	<b>17.1</b>	<b>231</b>	<b>12.7</b>	<b>154</b>
	<b>2,252</b>	<b>100.0</b>	<b>1,824</b>	<b>100.0</b>	<b>428</b>



**Receivables from member contributions** are broken down by country as follows:

Country	Year	WD	Amount
		*	€
Algeria	2020		1,430.00
Bosnia & Herzegovina	2020	*	1,430.00
Cameroon	2020		1,430.00
Cuba	2020	*	1,430.00
Iceland	2020		1,430.00
Indonesia	2020		1,430.00
Iran	2020	*	11,440.00
Kazakhstan	2020		1,430.00
Kenya	2020		1,402.62
Kyrgyzstan	2020		1,430.00
Mexico	2020		5,720.00
Montenegro	2020	*	1,430.00
Morocco	2020	*	1,430.00
Nigeria	2020		1,430.00
Oman	2020		1,430.00
Peru	2020	*	1,430.00
Philippines	2020		1,430.00
Romania	2020		1,430.00
Senegal	2020		1,430.00
Singapore	2020		1,430.00
Tunisia	2020		1,430.00
Venezuela	2020		1,430.00
			45,732.62
Algeria	2019		1,430.00
Bosnia & Herzegovina	2019	*	1,430.00
Cameroon	2019		1,430.00
Cuba	2019	*	1,430.00
Iran	2019	*	11,440.00
Kyrgyzstan	2019		1,430.00
Montenegro	2019	*	1,430.00
Morocco	2019	*	1,430.00
Peru	2019	*	1,430.00
Tunisia	2019		35.00
Venezuela	2019		1,345.00
			24,260.00
Carry forward:			69,992.62

Country	Year	WD	Amount
		*	€
Carry forward:			69,992.62
Bosnia & Herzegovina	2018	*	1,395.00
Cuba	2018	*	1,395.00
Iran	2018	*	11,160.00
Kyrgyzstan	2018		581.25
Montenegro	2018	*	1,395.00
Morocco	2018	*	1,046.25
Peru	2018	*	1,395.00
			18,367.50
Bosnia & Herzegovina	2017	*	1,395.00
Cuba	2017	*	1,395.00
Iran	2017	*	3,808.23
Montenegro	2017	*	1,395.00
Peru	2017	*	423.87
			8,417.10
Cuba	2016	*	1,395.00
Montenegro	2016	*	1,269.11
			2,664.11
Cuba	2015	*	1,395.00
			1,395.00
Total receivables			100,836.33
Write-down 50 % (marked with a *)			-29,701.76
			71,134.57

At the end of 2020 the outstanding member contributions were k€ 101, of which k€ 18 were outstanding at the time of our audit. As a result of consistent non-payment of their member contributions, open receivables of the above countries, marked with a star “\*”, were directly written down by 50 %.

**Cash and cash equivalents**, parts of which are in foreign currency, are located in accounts with the Deutsche Bank AG and are composed of the following:

	Foreign currency	€
Account in € (5113915 10)		932,148.61
Account in CHF (5113915 01)	CHF 73,864.37	68,238.80
Account in USD (5113915 00)	USD 270,644.53	220,654.00
Account in USD (5113915 06)	USD 226,062.09	184,306.00
Account in € (5113915 00)		267,204.69
Account in € (5113915 05)		192,702.45
Account in € (5113915 04)		254,135.74
Account in € (5113915 11)		39,804.42
Account in € (5113915 01) ITO-Fonds		432.13
Cash in €		<u>296.94</u>
		<u>2,159,923.78</u>

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

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

	k€	k€
Association capital (Net assets)		307
Reserves		
- Annual surplus 2007 - 2019	825	
- Annual surplus 2020	274	
- ICMI and CDC (Commission Fund)	<u>461</u>	<u>1,560</u>
		<u>1,867</u>

The Statutes do not make reference to association capital.

Of the Net assets, € 307,465.98 originates 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 General 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 2022	15
- ICM 2022 in Russia	60
- Project Simons Fellowships	141
ICMI and CDC 2020	461
ICM default reserve	436
Project Breakout Fellowship/FIMU	50
Support CWM	20
IMU internet site	13
Outreach (IDM 2020/100 years IMU)	25
Support Gender GAP-Project	15
Co-financing and support of international projects	6
Unrestricted reserves	<u>317</u>
	<u>1,559</u>

Disclosed under ICMI and CDC (Commission Fund) are funds which 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 € 122,810.33 and for CDC to € 337,892.02.

**Provisions** involve the audit of the annual accounts and the preparation of tax returns for 2019 and 2020 (k€ 17) as well as the IYBSSD contributions for 2021/2022 (k€ 5) and the IMU cost participation in the IDM 2021 (k€ 2).

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

	€	€
<b>Special Development Fund</b>		
Per 1 Jan 2020		5,626.14
Allocation for ICM 2022		
- London Mathematical Society (USD 5,000)		<u>4,549.18</u>

Per 31 Dec 2020		10,175.32 -----
<b>Simons Foundation Africa Fund</b>		
Per 1 Jan 2020		98,469.48
Contribution Simons Africa Award (USD 69.850)		46,133.20
Travel Fellowship for 2 mathematicians		<u>-3,825.08</u>
Per 31 Dec 2020		<u>140,777.60</u> -----
<b>Commemorative Publication 100 Years IMU</b>		
Per 1 Jan 2020		100,000.00
Per 31 Dec 2020		<u>100,000.00</u> -----
<b>Springer Nature AG for CDC</b>		
Per 1 Jan 2020		1,000.00
Per 31 Dec 2020		<u>1,000.00</u> -----
<b>IDM 2020 &amp; 2021</b>		
Per 1 Jan 2020		0.00
Contribution		
- Simons Foundation (USD 14.850)	12,455.96	
- Canada Council for the Arts	3,181.27	
- Heidelberg Laureate Forum Foundation	<u>2,000.00</u>	17,637.23
Outflows for IDM measures		<u>-8,093.17</u>
Per 31 Dec 2020		<u>9,544.06</u> -----
<b>Graduate Assistantships in Developing Countries Program</b>		
Per 1 Jan 2020		0.00
Contribution FIMU		12,099.02
Per 31 Dec 2020		<u>12,099.02</u> -----
<b>Special Support CDC</b>		
Per 1 Jan 2020		0.00
Contribution		
- Niels Henrik Abel Board, Norway	17,084.46	

- Unione Matematica Italiana	5,612.00	
- Japan Mathematical Society	<u>1,257.91</u>	<u>23,954.37</u>
Per 31 Dec 2020		23,954.37 -----
		<u>297,550.37</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 funds provided by the Simons Foundation are designated as a Travel Fellowship for research stays of mathematicians from developing countries. The **Simons Foundation Africa Fund** is especially reserved for mathematicians from Africa.

The donation of the Simons Foundation is intended to support various activities surrounding the International Day of Mathematics (IDM), including a committee at the Next Einstein Forum Global Gathering (NEF), as well as the implementation of diverse virtual events. On behalf of the IMU, a global online event is being prepared, among other things, with a 48h Live-Blog on social media and live-streaming presentations in English, Spanish and French: <https://www.idm314.org/launch-2021.html>

The **Graduate Assistantships in Developing Countries Program (GRAID)** supports newly developing research groups in developing countries. With the support of GRAID, research groups can finance the studies (Masters or PhD) of their most gifted students. GRAID is financed by donations of mathematicians and mathematical associations from all over the world.

The IMU's Commission CDC receives the **Special Support CDC** on the basis of an agreement with the Det Norske Videnskaps-Akademi (initially until 2025), in the amount of approximately k€17 annually for the support of programmes in developing countries, above all for conferences (Conference Support Program) and guest lectures from international lecturers (Volunteer Lecturer Program). Additional special donations provide support for general CDC activities and programmes (conferences, research stipends, etc.)

The funds received from the **Klaus Tschira Stiftung (KTS)** are designated for financing a commemorative publication on occasion of the 100<sup>th</sup> anniversary of the founding of the International Mathematical Union. This is currently in progress, however, it was not yet complete as at 31 December 2020. **Other liabilities** largely involve the bank balance held for the International Commission on the History of Mathematics (ICHM) in the amount of k€40 as well as monies to be further transferred in conjunction with the Project Gender Gap in Mathematical and Natural Sciences in the amount of k€13.

### III. 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€ 420 and corresponds to the change in the amount of cash between 1 January 2020 (k€ 1,740) and 31 December 2020 (k€ 2,160).

## E. ATTESTATION OF THE ANNUAL FINANCIAL STATEMENTS

We issue the annual financial statements of the International Mathematical Union, Berlin as at 31 December 2020, in the version enclosed in this report as Appendices 1 and 2, the following unqualified attestation:

### **Attestation of the Auditor**

International Mathematical Union, Berlin

We have audited the annual financial statements of the International Mathematical Union, Berlin, – consisting of the statement of assets and liabilities and the statement of income and expenditures – together with the bookkeeping system, for the financial year from 1 January 2020 to 31 December 2020. The maintenance of the books and records and the preparation of the annual financial statements in accordance with statutory provisions as well as with the supplementary provisions of the Association's Statutes are the responsibility of the legal representatives of the Association. Our responsibility is to express an opinion of the annual financial statements on the basis of the bookkeeping, based on our audit.

We conducted our audit in compliance with the audit standards promulgated by the Institut der Wirtschaftsprüfer in Deutschland (IDW): *Audit of Associations* (IDW PS 750). Those standards require that we plan and perform the audit such that misstatements and violations materially affecting the presentation of the annual financial statements are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Association and expectations of possible misstatements are taken into account. The effectiveness of the accounting-related 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 with the framework of the audit. 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.

In our opinion, based on our audit, the books and records along with the statement of assets and liabilities and the statement of income and expenditures of the Association comply with the principles of proper accounting and the legal requirements of an association.

## F. FINAL REMARKS

Publication or reproduction of the annual financial statements of the International Mathematical Union, Berlin, for the financial year from 1 January 2020 to 31 December 2020 in a form different from the certified form, which is attached as an Appendix to this report, again requires our consent if our attestation is quoted or if reference is made to our audit. We herein refer to § 328 HGB.

Berlin, 7 June 2021

Mazars GmbH & Co. KG  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft

In the original German version signed by:

Ralf Bierent  
Wirtschaftsprüfer  
(German Public Auditor)

Jacqueline Kotynski  
Wirtschaftsprüfer  
(German Public Auditor)



International Mathematical Union, Berlin

STATEMENT OF ASSETS AND LIABILITIES as at 31 December 2020

ASSETS	per 31 Dec 2020	Prior year	LIABILITIES	per 31 Dec 2020	Prior year
	€	€		€	€
<b>A. Current Assets</b>			<b>A. Net Assets</b>		
<b>I. Receivables and other assets</b>			I. Association net assets	307,465.98	307,465.98
1. Receivables from member contributions	71,134.57	63,346.34	II. Reserves	1,559,372.46	1,285,335.46
2. Other assets	20,000.00	20,000.00		<b>1,866,838.44</b>	<b>1,592,801.44</b>
		<b>83,346.34</b>	<b>B. Provisions</b>	<b>24,400.00</b>	<b>11,675.00</b>
<b>II. Cash-in-hand, bank balances*</b>			<b>C. Liabilities</b>		
			1. Liabilities from restricted donations	297,550.37	204,095.62
<b>B. Prepaid Expenses</b>			2. Other liabilities	53,374.01	9,620.01
				<b>350,924.38</b>	<b>213,715.63</b>
<b>Total Assets</b>			<b>D. Deferred Income</b>		
				<b>9,909.53</b>	<b>5,720.00</b>
			<b>Total Liabilities</b>	<b>2,252,072.35</b>	<b>1,823,912.07</b>

\* contained therein ICMI € 192,702.45 and CDC € 254,173.42

## International Mathematical Union, Berlin

## STATEMENT OF INCOME AND EXPENDITURES for 2020

	€	€	€	Prior year €
<b>Revenues</b>			<b>501,722.45</b>	<b>559,368.65</b>
Member contributions	428,046.60			426,497.50
Donations - international	69,243.54			109,917.83
Other income	<u>4,432.31</u>			22,953.32
<b>Expenses for Scientific Promotion and Scientific Activities</b>		<b>-135,992.78</b>		<b>-239,737.99</b>
Promotion of scientific activities	-135,992.78			-217,053.48
Expenditures ICM	<u>0.00</u>			-22,684.51
<b>Administrative Expenses</b>		<b>-91,762.65</b>		<b>-81,983.03</b>
Reimbursement personnel expenses	-23,000.00			-35,000.00
Travel expenses	-8,373.35			-9,998.10
Audit fees	-8,700.00			-8,700.00
Member contributions	-4,275.00			-3,897.00
Postage	-365.00			-402.30
Bank fees	-3,476.26			-938.02
Other	<u>-43,573.04</u>			-23,047.61
<b>Other Expenditures</b>			<b>-227,755.43</b>	<b>-321,721.02</b>
<b>Interest and Similar Income</b>			<b>69.98</b>	<b>66.10</b>
<b>Interim Result</b>			<b>274,037.00</b>	<b>237,713.73</b>
<b>Other Taxes</b>			<b>0.00</b>	<b>0.00</b>
<b>Annual Surplus</b>			<b>274,037.00</b>	<b>237,713.73</b>
<b>Withdrawals from Reserves</b>			<b>0.00</b>	<b>0.00</b>
<b>Allocation to Reserves</b>			<b>-274,037.00</b>	<b>-237,713.73</b>
<b>Unallocated Cash Balance</b>			<b>0.00</b>	<b>0.00</b>

## International Mathematical Union, Berlin

## Schedule of Member Contributions 2020

Country	Amount EUR
Algeria	1,430.00
Argentina	5,720.00
Armenia	1,430.00
Australia	11,440.00
Austria	2,860.00
Belgium	5,720.00
Bosnia & Herzegovina	1,430.00
Brazil	17,160.00
Bulgaria	1,430.00
Cameroon	1,430.00
Canada	17,160.00
Chile	5,720.00
China, CMS Beijing	10,296.00
China, TMS Taipei	6,864.00
Colombia	1,430.00
Croatia	1,430.00
Cuba	1,430.00
Czech Republic	5,720.00
Denmark	3,336.60
Ecuador	1,430.00
Egypt	2,860.00
Estonia	1,430.00
Finland	5,720.00
France	17,160.00
Georgia	1,430.00
Germany	17,160.00
Greece	1,430.00
Hong Kong	1,430.00
Hungary	5,720.00
Iceland	1,430.00
India	11,440.00
Indonesia	1,430.00
Iran	11,440.00
Ireland	2,860.00
Israel	17,160.00
Italy	17,160.00
Ivory Coast	1,430.00
Japan	17,160.00
Kazakhstan	1,430.00
Kenya	1,430.00

## International Mathematical Union, Berlin

## Schedule of Member Contributions 2020

Country	Amount EUR
Korea, Republic of	11,440.00
Kyrgyzstan	1,430.00
Latvia	1,430.00
Lithuania	1,430.00
Luxembourg	1,430.00
Malaysia	1,430.00
Mexico	5,720.00
Montenegro	1,430.00
Morocco	1,430.00
Netherlands	11,440.00
New Zealand	1,430.00
Nigeria	1,430.00
Norway	5,720.00
Oman	1,430.00
Pakistan	1,430.00
Peru	1,430.00
Philippines	1,430.00
Poland	11,440.00
Portugal	5,720.00
Romania	1,430.00
Russia	17,160.00
Saudi Arabia	1,430.00
Senegal	1,430.00
Serbia	1,430.00
Singapore	1,430.00
Slovakia	2,860.00
Slovenia	1,430.00
South Africa	2,860.00
Spain	11,440.00
Sweden	11,440.00
Switzerland	11,440.00
Thailand	1,430.00
Tunisia	1,430.00
Turkey	2,860.00
Ukraine	2,860.00
United Kingdom	17,160.00
Uruguay	1,430.00
USA	17,160.00
Venezuela	1,430.00
Vietnam	1,430.00
Cyprus	1,430.00
<b>Total</b>	<b>428,046.60</b>

## INTERNATIONAL MATHEMATICAL UNION

## Budget Comparison 2020

	% of General Income	Budget 2020 EUR			Actual 2020 EUR		
		General	Special	Sum	General	Special	Sum
<b>INCOME</b>							
<b>I. General</b>							
I.a Membership Dues		417,560			428,047		
Sum General Income		417,560			428,047		
<b>II. Special</b>							
II.a Special Development Fund			14,000			4,549	
II.b Donations			80,000			32,156	
II.c Grants						119,274	
Sum Special Income from Third Parties			94,000			155,979	
II.d Income from IMU bank accounts			100			70	
II.e Other Income			35,500			44,331	
Sum Special Income from Other Sources			35,600			44,401	
<b>TOTAL INCOME</b>		<b>417,560</b>	<b>129,600</b>	<b>547,160</b>	<b>428,047</b>	<b>200,381</b>	<b>628,427</b>
<b>EXPENDITURE</b>							
<b>1. Commissions &amp; Committees (C&amp;C)</b>	45.00%						
1.1 CDC	20.00%	83,512	44,000	127,512	7,148	4,152	11,300
1.2 ICMI	15.00%	62,634			55,642		
1.3 CWM	5.00%	20,878	10,000	30,878	8,263	0	8,263
1.4 CEIC	4.00%	16,702	4,176	20,878	0	0	
1.5 ICHM	0.00%	0	5,500	5,500			
1.6 Ad hoc committees	1.00%	4,176	4,176	8,352	0	0	
1.7 Special support	0.00%	0	26,000	26,000	0	42,763	
C&C Expenditure		187,902	93,852	281,754	71,053	46,915	117,968
<b>2. ICM</b>	22%						
2.1 Site Committee	1%	4,176			0		
2.2 Program Committee	2%	8,351			0		
2.3 Prize Committees	2%	8,351			0		
2.4 Congress Subvention	5%	20,878			0		
2.5 Travel Grants (Young & Senior)	7%	29,229	14,000	43,229	0	0	
2.6 ICM related admin., outreach	5%	20,878			0	0	
ICM Expenditure		91,863	14,000	105,863	0	0	0
<b>3. Union Administration</b>	20%						
3.1 General Assembly	1%	4,176			0		
3.2 President & Secretary	12%	50,107			23,000		
3.3 Executive Committee	6%	25,054			8,203		
3.4 Other	1%	4,176			170		
Union Administration Expenditure		83,512	0	83,512	31,373	0	31,373
<b>4. Outreach</b>	6%						
4.1 ICSU Union Member Contribution	2%	8,351			4,275		
4.2 Awards	1%	4,176			0		
4.3 Website Support, Media Relations	2%	8,351	4,176	12,527	9,931	8,093	
4.4 Bulletin	0%	0			0		
4.5 Other	1%	4,176	5,600	9,776	0	0	
4.6 Scientific activity support	0%	0	6,972	6,972	0	0	
Outreach Expenditure		25,054	16,748	41,802	14,206	8,093	22,299

## Appendix 4/cont'd

<b>5. Overhead</b>	7%						
5.1 Office Expenses	1%	4,176	1,600	<u>5,776</u>	1,567	0	<u>1,567</u>
5.2 Bank Charges	1%	4,176	1,000	<u>5,176</u>	3,476	0	
5.3 Legal Advice, Audit Fees	2%	8,351	1,600	<u>9,951</u>	8,700	0	
5.4 Other	3%	12,527	800	<u>13,327</u>	42,371	0	
Overhead Expenditure		29,229	5,000	<u>34,229</u>	56,114	0	<u>56,114</u>
TOTAL EXPENDITURE				<u>547,160</u>			<u>227,755</u>
Transfer to liabilities from donations not yet spent							0
<b>Interim Result</b>				<u>0</u>			<u>400,672</u>
Draw from Reserves				0			0
Return to Reserves				0			-274,038
<b>Result</b>				<u>0</u>		EUR	<u>126,634</u>

## **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.

Since 1 January 2011 the permanent Secretariat of the Union is located in Berlin/Germany.

#### **Place of Management**

IMU Secretariat, Hausvogteiplatz 11A, 10117 Berlin/Germany

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

#### **Statutes**

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

### **Objectives of the Association**

According to Article 1 of the Statutes:

- “(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 2020, the IMU had 80 regular members (voting), 8 associate members (non-voting) and 5 affiliate members (non-contributory and non-voting).

### **Executive Committee, Representatives**

As of 1 January 2019, the members of the Executive Committee are the following persons:

- Carlos E. Kenig, USA (President)
- Helge Holden, Norway (Secretary General)
- Nalini Joshi, Australia (Vice-President)
- Loyiso G. Nongxa, South Africa (Vice-President)
- Luigi Ambrosio, Italy (Member-at-Large)
- Andrei Okounkov, Russia (Member-at-Large)
- Paolo Piccione, Brazil (Member-at-Large)
- R. T. Ramadas, India (Member-at-Large)



- Gang Tian, China (Member-at-Large)
- Günter M. Ziegler, Germany (Member-at-Large)
- Shigefumi Mori, Japan (Member of the Executive Committee ex-officio because he was the President of the IMU in the preceding term of office)

### **Reporting Year**

The reporting year corresponds to the calendar year.

The Bulletins are made available to members via the homepage [www.mathunion.org](http://www.mathunion.org). All members are informed about each new publication via e-mail. A printed version of the Bulletin will be produced and sent upon individual request.

### **General Assembly**

The following was resolved during the last General Assembly in São Paulo/Brazil in July 2018:

- The “Stable Office” of the IMU, established in cooperation between the WIAS and the IMU, should remain permanently in Berlin.
- Adoption of the annual financial statements of 2014 to 2017 and development of financial reserves from the annual surpluses, corresponding to the respective Statement of Income and Expenditures.
- Release from liability of the IMU Executive Committee and IMU Treasurer for the years from 2014 to 2017
- Budget for the time between 2019 and 2022
- Increase in member contributions between 2019 and 2022 to € 1,430.00 per unit (unit contribution)
- Appointments to various committees and commissions
- The next General Assembly will take place in 2022 in Saint Petersburg/Russia.

## **2. Tax Information**

The Association is registered with the Finanzamt für Körperschaften (tax office for corporations) 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.

The Finanzamt für Körperschaften I issued its last notice of exemption for 2015 to 2017, 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 2022. The IMU is entitled to issue donation confirmations.

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**Special Engagement Terms  
for audits and audit-related  
services**  
of  
**Mazars GmbH & Co. KG**  
**Wirtschaftsprüfungsgesellschaft**  
As of June 1, 2019

**Preamble**

These Special Engagement Terms of Mazars GmbH & Co. KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft ("Mazars KG") complement and clarify the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms] issued by the Institut der Wirtschaftsprüfer e. V. [Institute of German Public Auditors, Incorporated Association] in the version enclosed to the engagement letter/proposal and have priority over the General Engagement Terms issued by the Institut der Wirtschaftsprüfer e. V. The Special Engagement Terms apply in a subordinate manner to the engagement letter/proposal. The engagement letter/proposal along with all enclosures form the "Entire Engagement Terms".

**A. Supplementary terms for audits of annual financial statements pursuant to § [Article] 317 HGB [German Commercial Code: Handelsgesetzbuch] and comparable audits according to national and international auditing standards**

Mazars KG shall perform the audit pursuant to § 317 HGB and with due respect to the German Generally Accepted Auditing Standards ("GAAS") [Grundsätze ordnungsgemäßer Abschlussprüfung] as promulgated by the Institut der Wirtschaftsprüfer e. V. According to these, Mazars KG shall plan and perform the audit in compliance with the German Principles of Proper Professional Conduct [Grundsätze ordnungsgemäßer Berufsausübung] such that misstatements and violations materially affecting the subject of the audit defined by the engagement letter are identified with reasonable assurance.

Mazars KG shall perform all audit procedures which it considers necessary in the circumstances for a proper assessment and examine in which form the audit opinion provided for in § 322 HGB resp. the GAAS can be issued. Mazars KG shall report on the audit of the subject matter to the extent customary in the profession. In order to determine the nature, time and scope of the individual audit procedures in an appropriate manner, Mazars KG shall, where deemed necessary, audit and assess the accounting-related internal control system, in particular as far as it serves to ensure proper accounting. As is customary for the profession, Mazars KG shall perform the audit procedures on the basis of selected samples, so that there remains an unavoidable risk that even material misstatements may not be identified even though the audit has been carried out in accordance with professional standards. Therefore, e.g. acts of misappropriation and other irregularities will not necessarily be identified by the audit. Mazars KG points out that the objective of the audit is not to detect misappropriations or other irregularities that do not affect the compliance of the subject of the audit with the applicable accounting principles. Should Mazars KG, however, identify such facts during the audit, the Engaging Party ("Engaging Party") of Mazars KG shall be informed immediately.

All aforementioned engagement terms regarding objectives and methods of the audit apply to other audits according to national and international auditing standards in analogous manner.

It is the responsibility of the Engaging Party's management to correct material errors in the subject of the audit and to confirm to us in a letter of representation that the impact of any uncorrected errors identified by us during the current engagement are immaterial to the subject of the audit both individually and in the aggregate.

**B. Contractual relationship**

Under certain circumstances, Mazars KG may be provided, in the context of the engagement and for safeguarding the Engaging Party's economic interests, with documents directly related to the client and having legal relevance. Mazars KG expressly states that it has neither an obligation to provide legal advice or legal review, nor that this engagement includes general legal advice; therefore, the Engaging Party is obliged to submit any sample formulations provided by Mazars KG in connection with the execution of the engagement to its responsible legal advisor for final legal review. The Engaging Party is responsible for all management decisions in connection with the services of Mazars KG as well as for the use of the results of the services and the decision as to whether the services of Mazars KG are suitable for the Engaging Party's own internal purposes.

**C. Access to information**

It is the responsibility of the Engaging Party's management to grant Mazars KG unlimited access to records, documents and other information required for the engagement. The same applies to the submission of additional information (e.g. annual reports, statements regarding the declaration of compliance pursuant to § 161 AktG [German Stock Corporation Act: Aktiengesetz]) which is published by the Engaging Party together with the financial statements and the associated management report, if any. The Engaging Party shall make this information available in due time before the audit opinion is issued or as soon as it is available. All information made available to Mazars KG by the Engaging Party or on behalf of the Engaging Party must be fully complete ("Engaging Party's Information").

**D. Consultation of Mazars members and third parties**

Mazars KG shall be entitled to subcontract parts of the services to other members of the worldwide Mazars network ("Mazars members") or to other service providers who may directly contact the Engaging Party. Irrespective of this, Mazars KG will exclusively be held liable for all results of the engagement, the provision of the services and the other obligations towards the Engaging Party resulting from the engagement letter.

The Engaging Party is therefore not entitled to assert contractual claims or initiate proceedings in connection with the services or on the basis of the engagement letter in general against another Mazars members or its subcontractors, members, shareholders, members of the management board, partners or members of staff ("Mazars persons") or Mazars persons of Mazars KG. Consequently, the Engaging Party shall be obliged to assert contractual claims or initiate proceedings exclusively against Mazars KG. Mazars members and Mazars personnel are entitled to refer to this provision.

In accordance with applicable law, Mazars KG shall be entitled for the purpose of

- (a) the provision of the services of Mazars KG,
- (b) compliance with professional standards as well as with regulatory requirements,
- (c) the identification of potential conflicts of interest,
- (d) risk management and quality assurance,
- (e) internal accounting as well as the provision of other administrative or IT support services

(letters (a) – (e) hereinafter referred to as "processing purposes") to disclose the Engaging Party's Information to other Mazars members, Mazars persons and to external service providers of Mazars KG, ("Service Providers") who are allowed to collect, use, transmit, save or process data otherwise (hereinafter referred to as "to process") in the various jurisdictions in which they operate. An overview of the locations of all Mazars members is available at [www.mazars.com](http://www.mazars.com).

Mazars KG shall be held liable towards the Engaging Party for assuring confidentiality of Engaging Party's Information, irrespective of who processes this information on behalf of Mazars KG.

#### E. Oral information

If the Engaging Party intends to make a decision or any other economic disposition on the basis of orally given information and/or advice by Mazars KG to the Engaging Party, the Engaging Party is obliged either (a) to inform Mazars KG in a timely manner prior to such a decision and to ask Mazars KG to confirm in writing the Engaging Party's understanding of such information and/or advice or (b) with regard to the above-mentioned risk of such orally given information and/or advice to make the decision at its own discretion and under its sole responsibility.

#### F. Draft versions of Mazars KG

The draft versions of the working results are only for internal purposes of Mazars KG and/or for the coordination with the Engaging Party and therefore represent only a preliminary stage of the working results and are neither final nor binding and require further review. Mazars KG is not obliged to update the final working result with regard to circumstances which have come to its knowledge or which occur after the time of completion of the work stated in the working result or in absence of such a deadline since the delivery of the working result.

This shall not apply if Mazars KG is obliged to do so due to the nature of the services.

#### G. Indemnity and liability

The Engaging Party is obliged to indemnify Mazars KG from all claims by third parties (including affiliated companies) as well as from any resulting obligations, damages, costs and expenses (in particular reasonable external lawyer's fees) resulting from the use of the working results by third parties, insofar the working results have been transferred directly or indirectly by the Engaging Party or at its instigation. This obligation does not exist to the extent Mazars KG has expressly agreed in writing that the third party may rely on the working result.

Regarding the liability for the underlying contractual relationship, number 9 of the General Engagement Terms as well as the statutory limitation of liability pursuant to § 323 Abs. 2 [paragraph 2] HGB shall apply. Should claims arise in connection with the contractual relationship from ancillary services relating to the statutory or voluntary audit or other audit services provided by us, our liability for such ancillary services is limited to € 4 million.

#### H. Electronic data transmission (e-mails)

The parties are allowed to use electronic media for the exchange and transmission of information and this form of communication as such does not constitute a breach of any confidentiality obligations. The parties are aware that the electronic transmission of information (especially via e-mail) involves risks (e.g. unauthorized access by third parties).

Any amendments to the documents transmitted via electronic media by Mazars KG as well as the disclosure of these documents to third parties via electronic media require the written consent of Mazars KG.

The transfer of personal data is subject to the data protection regulations of Mazars, which are available at [www.eng.mazars.de/Data-protection](http://www.eng.mazars.de/Data-protection). Mazars KG processes personal data in accordance with the applicable law und professional regulations, in particular in compliance with the German Federal Data Protection Act [Bundesdatenschutzgesetz (BDSG)] and the European data protection regulations. Mazars KG obliges data service providers who process personal data on behalf of Mazars KG to also abide by these regulations.

#### I. Letter of representation

The letter of representation requested by Mazars KG from the Engaging Party's management may also include the confirmation that the impact of uncorrected false information in the subject of the audit, summarized in an appendix to the representation letter, are immaterial both individually and in the aggregate.

#### J. Scope of application

The regulations contained in the Entire Engagement Terms, including the liability regulation, also apply to all future engagements placed by the Engaging Party accordingly, unless separate agreements have been made or defined in a framework agreement or unless national or foreign statutory or regulatory requirements which are binding for Mazars KG are opposed to individual regulations in favor of the Engaging Party.

For the services provided by Mazars KG the terms of the Entire Engagement Terms apply exclusively; other terms do not become terms of the agreement if the Engaging Party has not agreed these with Mazars KG in detail expressly in writing. General conditions of purchase, to which reference is made in the context of automated orders, shall not apply, even if Mazars KG does not expressly object to them or if Mazars KG starts to provide the services without reservation.

#### K. Applicable law / Place of jurisdiction

The professional standards developed and adopted by the relevant German professional organisations (Wirtschaftsprüferkammer [Chamber of Public Accountants], Institut der Wirtschaftsprüfer e. V., Steuerberaterkammer [Chamber of Tax Consultants]) are decisive for the performance of the engagement insofar as they are applicable to the engagement in the individual case.

This contractual relationship and all non-contractual issues or obligations resulting from this contractual relationship or from the provision of services agreed therein shall be governed by German law.

The exclusive place of jurisdiction for all legal disputes arising in connection with the engagement or services provided thereunder shall be the respective location of the contracting branch office or, at the discretion of Mazars KG, (i) the court at which the branch office of Mazars KG primarily responsible for providing the services has its registered office or (ii) the courts at the location at which the Engaging Party has its registered office.

#### L. Data Protection

For the processing purposes listed under letter D, Mazars KG and other Mazars persons or Service Providers are entitled to process the Engaging Party's Information that can be attributed to specific persons ("personal data") in the various jurisdictions in which they operate.

[Translator's notes are in square brackets]

# General Engagement Terms

for  
**Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften**  
[German Public Auditors and Public Audit Firms]  
as of January 1, 2017

## 1. Scope of application

(1) These engagement terms apply to contracts between German Public Auditors (*Wirtschaftsprüfer*) or German Public Audit Firms (*Wirtschaftsprüfungsgesellschaften*) – hereinafter collectively referred to as "German Public Auditors" – and their engaging parties for assurance services, tax advisory services, advice on business matters and other engagements except as otherwise agreed in writing or prescribed by a mandatory rule.

(2) Third parties may derive claims from contracts between German Public Auditors and engaging parties only when this is expressly agreed or results from mandatory rules prescribed by law. In relation to such claims, these engagement terms also apply to these third parties.

## 2. Scope and execution of the engagement

(1) Object of the engagement is the agreed service – not a particular economic result. The engagement will be performed in accordance with the German Principles of Proper Professional Conduct (*Grundsätze ordnungsmäßiger Berufsausübung*). The German Public Auditor does not assume any management functions in connection with his services. The German Public Auditor is not responsible for the use or implementation of the results of his services. The German Public Auditor is entitled to make use of competent persons to conduct the engagement.

(2) Except for assurance engagements (*betriebswirtschaftliche Prüfungen*), the consideration of foreign law requires an express written agreement.

(3) If circumstances or the legal situation change subsequent to the release of the final professional statement, the German Public Auditor is not obligated to refer the engaging party to changes or any consequences resulting therefrom.

## 3. The obligations of the engaging party to cooperate

(1) The engaging party shall ensure that all documents and further information necessary for the performance of the engagement are provided to the German Public Auditor on a timely basis, and that he is informed of all events and circumstances that may be of significance to the performance of the engagement. This also applies to those documents and further information, events and circumstances that first become known during the German Public Auditor's work. The engaging party will also designate suitable persons to provide information.

(2) Upon the request of the German Public Auditor, the engaging party shall confirm the completeness of the documents and further information provided as well as the explanations and statements, in a written statement drafted by the German Public Auditor.

## 4. Ensuring independence

(1) The engaging party shall refrain from anything that endangers the independence of the German Public Auditor's staff. This applies throughout the term of the engagement, and in particular to offers of employment or to assume an executive or non-executive role, and to offers to accept engagements on their own behalf.

(2) Were the performance of the engagement to impair the independence of the German Public Auditor, of related firms, firms within his network, or such firms associated with him, to which the independence requirements apply in the same way as to the German Public Auditor in other engagement relationships, the German Public Auditor is entitled to terminate the engagement for good cause.

## 5. Reporting and oral information

To the extent that the German Public Auditor is required to present results in writing as part of the work in executing the engagement, only that written work is authoritative. Drafts are non-binding. Except as otherwise agreed, oral statements and explanations by the German Public Auditor are binding only when they are confirmed in writing. Statements and information of the German Public Auditor outside of the engagement are always non-binding.

## 6. Distribution of a German Public Auditor's professional statement

(1) The distribution to a third party of professional statements of the German Public Auditor (results of work or extracts of the results of work whether in draft or in a final version) or information about the German Public Auditor acting for the engaging party requires the German Public Auditor's written consent, unless the engaging party is obligated to distribute or inform due to law or a regulatory requirement.

(2) The use by the engaging party for promotional purposes of the German Public Auditor's professional statements and of information about the German Public Auditor acting for the engaging party is prohibited.

## 7. Deficiency rectification

(1) In case there are any deficiencies, the engaging party is entitled to specific subsequent performance by the German Public Auditor. The engaging party may reduce the fees or cancel the contract for failure of such subsequent performance, for subsequent non-performance or unjustified refusal to perform subsequently, or for unconscionability or impossibility of subsequent performance. If the engagement was not commissioned by a consumer, the engaging party may only cancel the contract due to a deficiency if the service rendered is not relevant to him due to failure of subsequent performance, to subsequent non-performance, to unconscionability or impossibility of subsequent performance. No. 9 applies to the extent that further claims for damages exist.

(2) The engaging party must assert a claim for the rectification of deficiencies in writing (*Textform*) [Translator's Note: *The German term "Textform" means in written form, but without requiring a signature*] without delay. Claims pursuant to paragraph 1 not arising from an intentional act expire after one year subsequent to the commencement of the time limit under the statute of limitations.

(3) Apparent deficiencies, such as clerical errors, arithmetical errors and deficiencies associated with technicalities contained in a German Public Auditor's professional statement (long-form reports, expert opinions etc.) may be corrected – also versus third parties – by the German Public Auditor at any time. Misstatements which may call into question the results contained in a German Public Auditor's professional statement entitle the German Public Auditor to withdraw such statement – also versus third parties. In such cases the German Public Auditor should first hear the engaging party, if practicable.

## 8. Confidentiality towards third parties, and data protection

(1) Pursuant to the law (§ [Article] 323 Abs 1 [paragraph 1] HGB [German Commercial Code: *Handelsgesetzbuch*], § 43 WPO [German Law regulating the Profession of *Wirtschaftsprüfer: Wirtschaftsprüferordnung*], § 203 StGB [German Criminal Code: *Strafgesetzbuch*]) the German Public Auditor is obligated to maintain confidentiality regarding facts and circumstances confided to him or of which he becomes aware in the course of his professional work, unless the engaging party releases him from this confidentiality obligation.

(2) When processing personal data, the German Public Auditor will observe national and European legal provisions on data protection.

## 9. Liability

(1) For legally required services by German Public Auditors, in particular audits, the respective legal limitations of liability, in particular the limitation of liability pursuant to § 323 Abs. 2 HGB, apply.

(2) Insofar neither a statutory limitation of liability is applicable, nor an individual contractual limitation of liability exists, the liability of the German Public Auditor for claims for damages of any other kind, except for damages resulting from injury to life, body or health as well as for damages that constitute a duty of replacement by a producer pursuant to § 1 ProdHaftG [German Product Liability Act: *Produkthaftungsgesetz*], for an individual case of damages caused by negligence is limited to € 4 million pursuant to § 54 a Abs. 1 Nr. 2 WPO.

(3) The German Public Auditor is entitled to invoke demurs and defenses based on the contractual relationship with the engaging party also towards third parties.

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(4) When multiple claimants assert a claim for damages arising from an existing contractual relationship with the German Public Auditor due to the German Public Auditor's negligent breach of duty, the maximum amount stipulated in paragraph 2 applies to the respective claims of all claimants collectively.

(5) An individual case of damages within the meaning of paragraph 2 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 regardless of whether the damages occurred in one year or in a number of successive years. In this case, multiple acts or omissions based on the same source of error or on a source of error of an equivalent nature are deemed to be a single breach of duty if the matters in question are legally or economically connected to one another. In this event the claim against the German Public Auditor is limited to € 5 million. The limitation to the fivefold of the minimum amount insured does not apply to compulsory audits required by law.

(6) A claim for damages expires if a suit is not filed within six months subsequent to the written refusal of acceptance of the indemnity and the engaging party has been informed of this consequence. This does not apply to claims for damages resulting from scienter, a culpable injury to life, body or health as well as for damages that constitute a liability for replacement by a producer pursuant to § 1 ProdHaftG. The right to invoke a plea of the statute of limitations remains unaffected.

#### 10. Supplementary provisions for audit engagements

(1) If the engaging party subsequently amends the financial statements or management report audited by a German Public Auditor and accompanied by an auditor's report, he may no longer use this auditor's report.

If the German Public Auditor has not issued an auditor's report, a reference to the audit conducted by the German Public Auditor in the management report or any other public reference is permitted only with the German Public Auditor's written consent and with a wording authorized by him.

(2) If the German Public Auditor revokes the auditor's report, it may no longer be used. If the engaging party has already made use of the auditor's report, then upon the request of the German Public Auditor he must give notification of the revocation.

(3) The engaging party has a right to five official copies of the report. Additional official copies will be charged separately.

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

(1) When advising on an individual tax issue as well as when providing ongoing tax advice, the German Public Auditor is entitled to use as a correct and complete basis the facts provided by the engaging party – especially numerical disclosures; this also applies to bookkeeping engagements. Nevertheless, he is obligated to indicate to the engaging party any errors he has identified.

(2) The tax advisory engagement does not encompass procedures required to observe deadlines, unless the German Public Auditor has explicitly accepted a corresponding engagement. In this case the engaging party must provide the German Public Auditor with all documents required to observe deadlines – in particular tax assessments – on such a timely basis that the German Public Auditor has an appropriate lead time.

(3) Except as agreed otherwise in writing, ongoing tax advice encompasses the following work during the contract period:

- a) preparation of annual tax returns for income tax, corporate tax and business tax, as well as wealth tax returns, namely on the basis of the annual financial statements, and on other schedules and evidence documents required for the taxation, to be provided by the engaging party
- b) examination of tax assessments in relation to the taxes referred to in (a)
- c) negotiations with tax authorities in connection with the returns and assessments mentioned in (a) and (b)
- d) support in tax audits and evaluation of the results of tax audits with respect to the taxes referred to in (a)
- e) participation in petition or protest and appeal procedures with respect to the taxes mentioned in (a).

In the aforementioned tasks the German Public Auditor takes into account material published legal decisions and administrative interpretations.

(4) If the German Public auditor receives a fixed fee for ongoing tax advice, the work mentioned under paragraph 3 (d) and (e) is to be remunerated separately, except as agreed otherwise in writing.

(5) Insofar the German Public Auditor is also a German Tax Advisor and the German Tax Advice Remuneration Regulation (*Steuerberatungvergütungsverordnung*) is to be applied to calculate the remuneration, a greater or lesser remuneration than the legal default remuneration can be agreed in writing (*Textform*).

(6) Work relating to special individual issues for income tax, corporate tax, business tax, valuation assessments for property units, wealth tax, as well as all issues in relation to sales tax, payroll tax, other taxes and dues requires a separate engagement. This also applies to:

- a) work on non-recurring tax matters, e.g. in the field of estate tax, capital transactions tax, and real estate sales tax;
- b) support and representation in proceedings before tax and administrative courts and in criminal tax matters;
- c) advisory work and work related to expert opinions in connection with changes in legal form and other re-organizations, capital increases and reductions, insolvency related business reorganizations, admission and retirement of owners, sale of a business, liquidations and the like, and
- d) support in complying with disclosure and documentation obligations.

(7) To the extent that the preparation of the annual sales tax return is undertaken as additional work, this includes neither the review of any special accounting prerequisites nor the issue as to whether all potential sales tax allowances have been identified. No guarantee is given for the complete compilation of documents to claim the input tax credit.

#### 12. Electronic communication

Communication between the German Public Auditor and the engaging party may be via e-mail. In the event that the engaging party does not wish to communicate via e-mail or sets special security requirements, such as the encryption of e-mails, the engaging party will inform the German Public Auditor in writing (*Textform*) accordingly.

#### 13. Remuneration

(1) In addition to his claims for fees, the German Public Auditor is entitled to claim reimbursement of his expenses; sales tax will be billed additionally. He may claim appropriate advances on remuneration and reimbursement of expenses and may make the delivery of his services dependent upon the complete satisfaction of his claims. Multiple engaging parties are jointly and severally liable.

(2) If the engaging party is not a consumer, then a set-off against the German Public Auditor's claims for remuneration and reimbursement of expenses is admissible only for undisputed claims or claims determined to be legally binding.

#### 14. Dispute Settlement

The German Public Auditor is not prepared to participate in dispute settlement procedures before a consumer arbitration board (*Verbraucherschlichtungsstelle*) within the meaning of § 2 of the German Act on Consumer Dispute Settlements (*Verbraucherstreitbeilegungsgesetz*).

#### 15. Applicable law

The contract, the performance of the services and all claims resulting therefrom are exclusively governed by German law.

## 2.4. IMU Special Development Fund

Contributions to the IMU Special Development Fund.

2020

London Mathematical Society, UK 4,549.18 EUR

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

2020

American Mathematical Society, US	4,152.37 EUR
FIMU, US	43,184.70 EUR
FIMU, US – GRAID	12,099.02 EUR
Heidelberg Laureate Forum	2,000.00 EUR
Mathematical Society of Japan, Japan	1,257.91 EUR
Niels Henrik Abel Board, Norway	30,892.26 EUR
Simons Foundation, US	46,133.20 EUR
Simons Foundation, US – IDM Supplement	12,455.96 EUR
UNESCO - Canada Council for the Arts	3,181.27 EUR
Unione Matematica Italiana	5,612.00 EUR

## 2.6. IMU Bank Accounts

International Mathematical Union, Hausvogteiplatz 11A, 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

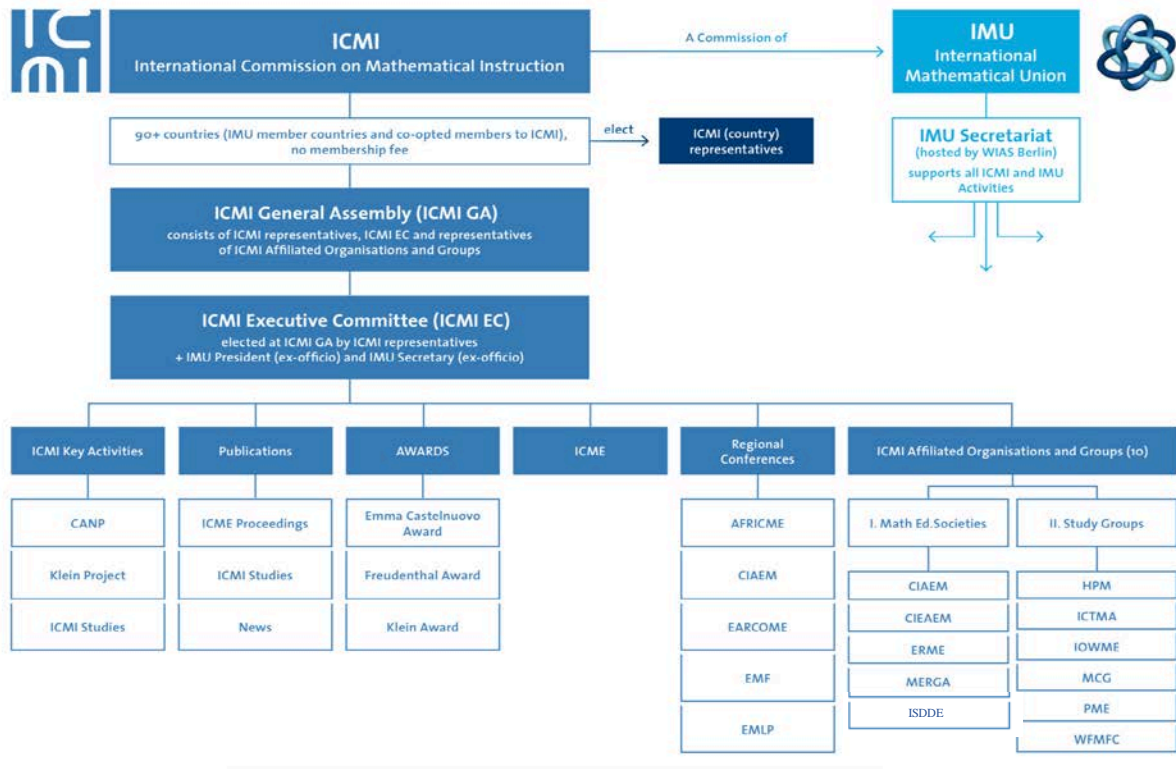
### 3. Commissions and Committees

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

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

### Activity Report 2020

#### Schematic presentation of the ICMI Organization



#### A brief description of the 2020 ICMI activities

##### Administration and Governance

- The ICMI **Executive Committee** (term in office 2017-2020) held its fourth annual meeting online on September 9<sup>th</sup>-11<sup>th</sup>.
- The ICMI **General Assembly** was held online on July 13, 2020 and the new Executive Committee was elected.
- A reformulation of the status of affiliation to ICMI of Thematic and Regional Organizations was decided.
- President Jill Adler appointed the new Chairs, as well as requisite new members of the two Awards Committees, to serve during 2021-2024. The guidelines of the awards were modified according to emerging needs.



## **ICME-14**

ICME 14 was postponed to July 2021 and arrangements are being made to hold the congress in a hybrid mode (combining online with face-to-face activities). The IPC held a third meeting in early December to review and accommodate the scientific program accordingly.

## **ICME-15**

The EC met with the convener and the head of the Local Organizing Committee to discuss the beginning of the preparations of the congress in the light of global developments. The EC appointed the IPC of ICME15 following an orderly online procedure, and guidelines for its functioning were issued and approved by the EC.

## **ICM 2022**

The preparations of Section 19 on Mathematical Education and Popularization of Mathematics are in progress (2 base lecture slots + 3 panels).

## **ICMI Studies**

- The writing of ICMI Study 24 volume is in progress ("School Mathematics Curriculum Reforms") and the manuscript is expected to be handed to Springer for productions as an open access online publication during the first half of 2021.
- The ICMI Study 25 conference was successfully held in Lisbon on February 3<sup>rd</sup>-7<sup>th</sup>, 2020. The writing of the chapters of the volume are in progress and the handing in of the manuscript to Springer is expected during the second half of 2021.
- The first stage of the comprehensive evaluation study of the last ICMI Studies has been concluded and presented at the ICMI EC meeting. The EC approved the launching and funding of the second stage, which is expected to start in January 2021.
- ICMI signed a contract with Springer for the open access publication of three past ICMI Studies.
- The translation of ICMI Study 23 into Chinese was completed. The manuscript was submitted to the Chinese publisher.

## **Outreach to Developing Countries**

The five CANPs have each reported on their progress in their three-year ICMI funded continuation and expansion projects.

## **Klein Project**

Hans-Georg Weigand continued the work of dissemination of the Klein Project and made new proposals, which will be discussed by the new EC in 2021.

## **Outreach, Dissemination of Information, Archiving and Reporting**

- ICMI Newsletter
- ICMI Website
- ICMI Facebook
- A section in the Newsletter of the European Mathematical Society
- ICMI Archive (based in the IMU Archive in Berlin/IMU Secretariat)
- ICMI Posters and other materials
- Reports to IMU, ICMI GA and the general public
- ICMI Digitization Program

### **ICMI AMOR (ICMI Awardees Multimedia Online Resources Project)**

Development of the ICMI AMOR Project is ongoing both in France/Switzerland and in Israel. Jean-Luc Dorier, presented a progress report to the EC. **A detailed description of the 2020 ICMI activities**

### **Administration and Governance**

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#### **ICMI Executive Committee**

During its fourth and last year in office, the EC composition was as follows:

<b>Position</b>	<b>Name</b>	<b>Country</b>
President	Jill Adler	S. Africa
Secretary-General	Abraham Arcavi	Israel
Vice Presidents	Merrilyn Goos	Ireland
	Luis Radford	Canada
Members-at-large	Yuriko Baldin	Brazil
	Jean-Luc Dorier	Switzerland
	Anita Rampal	India
	Binyan Xu	China
	Zahra Gooya	Iran
Ex-officio members	Ferdinando Arzarello, Past President of ICMI	Italy
	Carlos Kenig, President of IMU	USA
	Helge Holden, Secretary General of IMU	Norway
IMU Liaison Person	Paolo Piccione	Brazil

Due to the Covid-19 pandemic, the 2017-2020 ICMI Executive Committee held its fourth and last annual meeting online. The three-day meeting (September 9<sup>th</sup>-11<sup>th</sup>) was arranged to take place over three consecutive days (5 hours each) accommodating the different time zones in the home countries of the members, all of whom attended in full. The committee heard reports, discussed issues, made decisions and established item actions (where needed) on the following: ICMI awards, ICMI

Studies, ICME14, ICME 15, the ICMI archive, outreach to developing countries and particularly the CANP Continuation and Extension project, the quadrennial General Assembly, the IMU report, the AMOR Project, The Database Project, country representatives, the Klein Project, the status of Affiliated Organizations and the financial balance for 2020 and the prospection of incomes and expenses for the future. Key items and decisions are discussed briefly below. The detailed minutes are available for the IMU EC upon request from the ICMI Administrative Manager.

### **The ICMI General Assembly (GA)**

Since 2008, the ICMI General Assembly (GA) has convened every four years on the day before of the opening ceremony of an ICME. Due to the postponement of ICME14 to July 2021, the 2020 GA was held on time, online on 13 July, in order not to delay the election of the incoming ICMI EC, scheduled to take office on January 1 2021. Due to the constraints of an online meeting (time zones of attendees from all over the world), the meeting involving all GA participants (Country Representatives, invited members of affiliate organizations and so on) was scheduled for one hour (as opposed to a usual full day) and devoting this time to main issues only: Greetings from The IMU and the ICMI Presidents, report by the ICMI President, presentation of the slate of candidates for the election of the future EC by Michele Artigue (head of the Nominating Committee) and presentation of questions and comments sent in advance by country representatives.

The GA meeting was attended by invitation only and included: 55 Country Representatives, the ICMI EC, members of the Nominating Committee, nominees for the next EC, representatives of ICMI Affiliated Organizations and Study Groups, and members of the IMU Secretariat and other invited guests.

An ad hoc website accessible by password to the invited participants to the GA was designed to display materials for the country representatives to preview. An electronic voting system was hired to conduct the election procedures, which took place in the two subsequent days. Both the meeting itself and the election procedure took place smoothly, and here too, detailed minutes are available for the IMU EC upon request from the ICMI Administrative Manager).

The following is the composition of the elected EC to take office on January 1, 2021.

<b>Position</b>	<b>Name</b>	<b>Country</b>
President	Frederic K S Leung	Hong Kong, SAR, China
Secretary-General	Jean-Luc Dorier	Switzerland
Vice Presidents	Merrilyn Goos	Ireland
	Anjum Halai	Pakistan
Members-at-large	Marta Civil	USA
	Patricio Felmer	Chile
	Mercy Kazima	Malawi
	Nuria Planas	Spain
	Susanne Prediger	Germany
Ex-officio members	Jill Adler, Past President of ICMI	South Africa
	Carlos Kenig, President of IMU	USA

	Helge Holden, Secretary General of IMU	Norway
IMU Liaison Person	Paolo Piccione	Brazil

The ICMI EC outgoing executive officers (President, the two Vice Presidents and the Secretary General) held a three-day handover meeting with the four incoming executive officers on October 28<sup>th</sup>, 29<sup>th</sup> and November 4<sup>th</sup>. All pending issues and potential new directions and challenges were discussed in order to ensure a smooth transition between ECs.

The incoming ICMI President, Secretary General and two Vice Presidents held a first meeting on December 18. The first EC meeting and various issues were discussed.

### **ICMI Affiliate Organizations and Study Groups**

ICMI's organizational outreach includes eleven multi-national regional organizations and international study groups in mathematics education that have obtained affiliation with ICMI. These organizations are independent and self-financed. They collaborate with ICMI on specific activities, such as the ICMI Studies (<https://www.mathunion.org/icmi/conferences/icmi-study-conferences>) or CANP. The Affiliate Organizations present activity reports to the General Assembly of ICMI (<https://www.mathunion.org/icmi/organization/icmi-organization#on-page-2>).

The existing two groups of affiliated organizations (societies and international study groups), together with groups emerging from ICMI regional conferences and their respective labels can be confusing since they do not reflect clear distinctions between these, particularly as all the organizations are international (multi-national). The EC agreed to rename and reallocate the organizations into two newly named groups: Thematic Affiliated Organizations (such as PME, ICTMA) and Regional Affiliated Organizations (such as EMF, EARCOME). President Jill Adler (following a request from the incoming President and SG as the initial work for this had been carried out and agreed by the outgoing EC) communicated with all organizations in November and again in December. The new groups and their distinctions as well as processes for new organizations to apply for such status with ICMI have also been finalized and the ICMI administrator will place all this new information on the ICMI website.

### **Awards**

President Jill Adler announced the appointment of the two new chairs of the awards committees: Alan H. Schoenfeld for the Felix Klein and the Hans Freudenthal awards and Helen Forgasz for the Emma Castelnuovo award. She also reported on the appointment of the committee members, whose names remain undisclosed until their term expires.

Following the reports from the previous chairs, who noted some difficulties in the process of making the awards, the EC discussed and approved modifications to the guidelines for the awards committees. More details can be found in the minutes of the EC meeting, available upon request of the IMU members from the ICMI Administrative Manager.

### **ICME 14**

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Conversations about the feasibility of holding ICME 14 (the 14<sup>th</sup> International Congress on Mathematical Education) in Shanghai, on July 12<sup>th</sup>-19<sup>th</sup>, 2020, started early in 2020 with the first news about the Covid-19 pandemic. Jill Adler attended an IMU meeting in February 2020 in which the discussion started, and after monitoring the situation, in mid-March, ICMI and the ICME organizers decided to postpone the congress to July 2021. Following the global developments throughout the year, it became clear in October that even July 2021 might be not feasible for a full face-to-face congress. The EC requested from the congress convener to begin exploring the possibility of holding an hybrid conference, so that many people who will not be able or not be willing to travel may attend online. The logistics of such reorganization is complex given the different time zones, the need to reform the registration fees scheme, and to update the program components. The latter included issuing new invitations to replace colleagues who resigned from invited roles, as well as a proposal from a sub-committee of the IPC to include new sessions about the role of mathematics and mathematics education communities in pandemic times. The IPC was convened to discuss the reorganization and a well thought out plan was established (details are available at [www.icme14.org](http://www.icme14.org)). The incoming ICMI President and Secretary General joined the IPC.

## **ICME 15**

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The organizers of ICME15 were invited to meet the officials of the outgoing and incoming ECs during their handover meeting in November. Questions, comments and exchanges of ideas revolved around uncertainties regarding the 2024 ICME. It was decided to postpone the signature of the contract between ICMI and the ICME organizers (usually signed four years in advance) to 2021, in order to monitor required changes in the clauses, as the global situation clears.

## **ICME 16**

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As it is tradition and according to the ICMI calendar of pre-established activities, a call for intentions to bid for ICME 16 to be held in 2028 was published in the November 2020 issue of the ICMI Newsletter. The purpose of this call is to spark conversations within mathematics education communities about the feasibility of hosting the congress. Full bids are expected by the end of 2022.

## **ICMI Studies**

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There are two ongoing ICMI Studies: ICMI Study 24 on “School Mathematics Curriculum Reforms: Challenges and Changes” and ICMI Study 25 on “Mathematics Teachers Working and Learning in Collaborative Groups”. Both are in the stage of writing towards production. ICMI Study 25 conducted its Study Conference, which was very successful, at the Lisbon University in Portugal on February 2<sup>nd</sup>-7<sup>th</sup>, 2020. The Conference Proceedings were completed and posted in the ICMI website (see <https://www.mathunion.org/fileadmin/ICMI/Publications/ICMI%20Study%2025/updated%20DD/201114%20ICMI25Proceedings6.13.2020.pdf>). Online publication of both volumes as open access is expected in 2021, with the Study 24 volume available before ICME14, and the Study 25 volume towards the end of the second half of 2021.

As planned for 2020, the first stage of the review of ICMI Studies was completed and a report was issued and presented to the EC in September. The data from questionnaires was analyzed and the results were very encouraging. A detailed report of this stage of the study can be found in the July 2020 issue of the ICMI Newsletter ([https://www.mathunion.org/fileadmin/ICMI/General%20Assembly/GA%202020/Documents/ICMI%20Newsletter\\_July%201.2020.pdf](https://www.mathunion.org/fileadmin/ICMI/General%20Assembly/GA%202020/Documents/ICMI%20Newsletter_July%201.2020.pdf)).

An in-depth follow up of the first stage, consisting of hour-long interviews with ICMI officials and ICMI Study co-chairs, was approved by the EC and funds were allocated for that purpose. This second stage is scheduled to begin on January 2021 and will be completed and its results made public during the calendar year.

ICMI signed a contract with Springer to publish online as open access three past ICMI Studies (ICMI Studies 19, 20 and 22), which will be available during 2021. The incoming EC will re-evaluate the policy of open access publications with Springer and decide if and how to extend it further.

The translation into Chinese of ICMI Study 23 on “Building the foundation: Whole numbers in Primary Grades” was completed and handed over to the publisher for distribution.

## **Outreach to Developing Countries**

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

The CANP CEP (Continuation and Expansion Project) was set up towards the end of 2018 and supports each of the five CANPs with 10,000 Euros over three years to continue to with activities and building infrastructure to enhance mathematical and pedagogical expertise in their respective developing regions. Vice President Luis Radford took charge of the CANP project within the EC, supported by the President and an EC liaison person for each CANP. Luis presented a detailed report on the CANP CEP progress to the EC in September (see minutes for details). Each CANP began work during 2019, and as could be expected, has had disruptions to their proposed activities in 2020. Updated reports and revised proposals where appropriate were received in December and have been passed on to the incoming EC. Luis and Jill initiated a further joint activity going forward by inviting each of the CANPs to collect critical experiences in their regions as they responded to the challenges of the pandemic on their educational activities, so that these could possibly be shared during ICME14. Anjum Halai, incoming Vice President who will be coordinating CANP in the incoming EC, is taking the submission of a Discussion Group to ICME14 forward.

ICMI signed a contract with Springer to publish as open access the following CANP reports.

- Mathematics Teacher Education in the Andean Region and Paraguay (available at <https://link.springer.com/book/10.1007%2F978-3-319-97544-3>).
- Mathematics Teacher Preparation in Central America and the Caribbean (available at <https://www.springer.com/gp/book/9783319441764>).
- Mathematics Education in East Africa (available at <https://link.springer.com/book/10.1007%2F978-3-319-27258-0>).

## The Klein Project

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The activities of the Klein Project (<http://blog.kleinproject.org/>) continued under the leadership of Hans-Georg Weigand (Germany). Members of the leading team are Michèle Artigue (France), Ferdinando Arzarello (Italy), Yuriko Baldin (Brazil), Bill McCallum (Arizona, USA) and Samuel Bengmark (Sweden). There are plans to recruit new members, and to issue a new plan of activities to be submitted for funding to the new EC, in the first months of 2021.

## Outreach, Dissemination of Information, Archiving and Reporting

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- **ICMI Newsletter**

Like in previous years, three issues of the ICMI Newsletter were published and distributed (March 1, July 1<sup>st</sup> and November 1). The Editors were Abraham Arcavi, Merrilyn Goos and Lena Koch. See <https://www.mathunion.org/icmi/publications/icmi-newsletter/icmi-newsletter-archive-starting-july-2014>

- **ICMI Website**

The new ICMI website <https://www.mathunion.org/icmi> is fully operational since December 2017. Occasional “bugs” are being fixed as they emerge during the use of the site. They receive technical support from the IMU technician Frank Kloeppe, assisted by Lena Koch.

- **ICMI Facebook**

The ICMI Facebook page was established in 2011 and has more than 5,500 subscribers (fans). The editors are Jaime Carvalho e Silva (former ICMI Secretary General) and Lena Koch. See <https://www.facebook.com/icmi.math.edu/>

- **L'Enseignement Mathématique and the Newsletter of the EMS (European Mathematical Society)**

The regular columns on ICMI News were published in the journal L'Enseignement Mathématique (<http://www.unige.ch/math/EnsMath>) (historically connected to ICMI) and the Newsletter of the European Mathematical Society. The editor was ICMI EC member-at-large Jean-Luc Dorier.

- **ICMI Archive**

Preservation of ICMI historical documents is ongoing under the joint coordination of former ICMI Secretary General Bernard Hodgson and IMU archivist Birgit Seeliger. Bernard has a permanent column in the ICMI Newsletter in which he published interesting vignettes related to the ICMI history.

- **ICMI Materials**

ICMI materials were distributed at various conferences and events.

- **Reports**

Each spring ICMI submits to the IMU EC an activity and financial report on the preceding calendar year (similar to the present one).

- **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 first five ICMI Studies (and the corresponding Discussion Documents), ICMI Bulletins, proceedings of various meetings and conferences and other relevant documents are available for perusal and free download from <https://www.mathunion.org/icmi/publications/icmi-digital-library-project>

### **ICMI AMOR (Awardees Multimedia Online Resources Project)**

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This project, led by Jean-Luc Dorier, aims to compile a series of specially developed short videos displaying key issues of the work of the Felix Klein and Hans Freudenthal ICMI awardees, along with a collection of their publications. A pilot website was developed by Jean-Luc Dorier in Geneva and is now transferred to the ICMI website. The website is accessible at: <https://www.mathunion.org/icmi/awards/amor>

### **Financial Summary**

ICMI's principal source of income is the annual grant from the International Mathematical Union (IMU). Another key source of financial support for ICMI activities comes from academic institutions all over the world that support their faculty members to attend ICMI meetings and organize ICMI activities (EC meetings, ICME and all related costs, ICMI Studies IPC meetings and conferences, ICMI Regional Conferences, CANPs etc.).

ICMI Administrative Manager and ICMI Secretary General prepare the budget annually and submit it to the ICMI EC for comments and approval. The funds are transferred from the IMU Secretariat in Berlin.

As mentioned above, 2020 was an ICME year. ICME years are the most expensive ones since it includes funding for all the extra costs involved with the congress: travel and accommodation for invited guests, hosting a VIP dinner and else. In addition, an ICME year includes other travel expenses (e.g. the handover meeting). The unused funds to cover these expenses in 2020, due the postponement of ICME, resulted in an accumulation of the savings rubric on the one hand, but on the other hand it allowed to reallocate funds to other underfunded ICMI activities or new ones for the future (Klein Project, eternal reviewer for ICMI Studies, Review of ICMI Studies, Open Access of past ICMI Studies and more).

The detailed financial report can be found in the Appendix to this report.

### **In conclusion**

The ICMI EC would like to thank IMU, the IMU Secretariat and its host institution WIAS in Berlin and all institutions who financially and administratively supported ICMI activities in 2020.

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.

Jill Adler, ICMI President

Abraham Arcavi, ICMI Secretary-General



<b>ICMI 2020 Income and Expenditure</b>	
<b>INCOME</b>	
IMU Grant	62.634,00 €
Royalties ICMI Studies	155,29 €
<b>Total Income:</b>	<b>62.789,29 €</b>
<b>EXPENDITURE</b>	
<b>1. ICMI Administrative Costs</b>	
1.1. EC meeting 2020	0,00 €
1.2. EC meeting 2021	0,00 €
1.3. President and Secretary Admin Cost	0,00 €
1.4. Travel and other cost ICMI EC Members/ICMI Officers to ICMI related activities (excluding EC meetings)	1.902,90 €
1.5. Other Administrative Cost	468,00 €
<b>Total Expenditure ICMI Admin:</b>	<b>2.370,90 €</b>
<b>2. Research and Publication</b>	
2.1. ICMI Studies general Budget	0,00 €
2.1.2. ICMI Study 24 (Open Access)	13.527,00 €
2.1.3. ICMI Study Review	3.466,61 €
2.1.4. ICMI Study 25 (Open Access)	13.527,00 €
2.1.5. ICMI Studies (Open Access Studies 19; 21; 22)	10.444,00 €
2.2. Klein Project	450,00 €
<b>Total Expenditure Research and Publication</b>	<b>41.414,61 €</b>
<b>3. ICME and GA</b>	
3.1. ICMI GA	1.856,34 €
3.2. Travel cost EC members (IPC meeting, Solidarity Grant Meeting etc.)	0,00 €
3.3. Awardees and Chairs of Award Committees (travel/accommodation)	0,00 €
3.4. Congress Subvention	0,00 €
3.5. Travel Grants for representatives and other ICMI officer	0,00 €
3.6. ICME related admin and additional cost (IT etc.)	0,00 €
3.7. ICMI Dinner	0,00 €
3.8. Awards and Prizes (Medal/Certificate)	0,00 €
<b>Total Expenditure ICME and GA:</b>	<b>1.856,34 €</b>
<b>4. Developing Countries</b>	
4.1. CANP Cambodia	0,00 €
4.2. CANP Tanzania	0,00 €
4.3. CANP Costa Rica	1.200,00 €

4.4. CANP Peru	0,00 €
4.5. CANP Mali	0,00 €
4.6. Translation CANP MALI for publication	0,00 €
4.7. CANP Publications (Springer) and Open Access	10.440,00 €
<b>Total Expenditure Developing Countries:</b>	<b>11.640,00 €</b>
<b>5.Outreach</b>	
5.1. Public Relations including flyer and poster	0,00 €
5.2. Website, Media, Newsletter	0,00 €
5.3. ICMI publications	0,00 €
5.4. Archive	0,00 €
5.5. Shipment cost ICMI Studies/ICME Proceedings	0,00 €
5.6. Amor	0,00 €
<b>Total Expenditure Outreach:</b>	<b>0,00 €</b>
<b>6. Regional Conferences</b>	
AFRICME ICMI Conference Support Grant	0,00 €
EMF ICMI Conference Support Grant	0,00 €
EARCOME ICMI Conference Support Grant	0,00 €
CIAEM ICMI Conference Support Grant	0,00 €
CIBEM ICMI Conference Support Grant	0,00 €
EMeLP ICMI Conference Support Grant	0,00 €
<b>Total Regional Conference</b>	<b>0,00 €</b>
<b>7. Further Costs</b>	
7.1. Bank Charges	<b>638,45 €</b>
7.2. Other unforeseen cost	0,00 €
<b>Further Costs:</b>	<b>638,45 €</b>
<b>Total Expenses ICMI 2020</b>	<b>57.920,30 €</b>
<b>Income less expenses</b>	<b>4.868,99 €</b>
<b>Overview Balances ICMI 2020</b>	
<b>Overview Savings, Accruals and Reimbursements</b>	
Savings ICMI bank account from previous year (accruals mainly for ICME, GA and CANP)	<b>186.178,11 €</b>
Reimbursements for items pre-paid in previous year(s) (e.g. flights)	<b>1.745,35 €</b>
<b>Savings and Reimbursements</b>	<b>187.923,46 €</b>
<b>Income 2020</b>	<b>62.789,29 €</b>
<b>Savings and Reimbursements</b>	<b>187.923,46 €</b>
<b>ICMI expenses/spending 2020</b>	<b>57.920,30 €</b>

<b>Remaining Savings and Accruals (Closing Balance Sheet)/ Status of ICMI Bank account as of 31.12.</b>	<b>192.792,45 €</b>
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As discussed in the report, the accumulating funds are far greater than expected due to the pandemic, ICMI had budgeted **102.500 Euros** for ICME14 and the ICMI General Assembly but only expensed **1.856,34 Euros**; the EC meeting was done online and therefore with no costs and the CANP projects did not spend most of the 15.000 Euros allocated for 2020.

We are hoping that some of the funds can be spend during ICME14 in 2021. Further use will be discussed by the new IMU EC.

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

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

#### **Report on the Activities of the IMU Commission for Developing Countries (CDC) January 1, 2020 –December 31, 2020**

The CDC members in 2019-2022 are:

- Dipendra Prasad (India) - CDC President
- Olga Gil Medrano (Spain) - CDC Secretary for Policy
- Alf Onshuus (Colombia) - CDC Secretary for Grant Selection
- Mama Foupouagnigni (Cameroon) - African Member
- Jose Maria P. Balmaceda (Philippines) - Asian Member
- Andrea Solotar (Argentina)- Latin American Member
- Galina Ruso (Moldova) - CDC member appointed by the IMU Executive Committee
- Michel Waldschmidt (France)- CDC member appointed by the IMU Executive Committee
- Jean-Luc Dorier (Switzerland)- CDC member appointed by the ICMI Executive Committee
- Carlos Kenig (USA) - IMU President (2019-2022) and Ex-officio CDC Member

Luigi Ambrosio (Italy) is the CDC liaison Executive Committee (EC) member.

The applications to the various CDC grant programs are evaluated and selected by CDC and additional committees including members external to CDC.

The CDC and all CDC related activities are supported by staff members from the IMU Secretariat in Berlin, Germany who manage most of the administration of the CDC in addition to the many volunteers who support CDC activities worldwide. The programs IMU Breakout Graduate Fellowships (BGF) and Graduate Research Assistantships in Developing Countries (GRAID) are mainly administrated outside the IMU Secretariat, but receive support by staff members of the IMU Secretariat.

#### **The effects of the Covid-19 Pandemic on CDC activity**

We can't avoid starting the year report by a mention to the deep impact suffered by the CDC programs due to this worldwide disgrace. All the CDC programs have been disturbed since they are mostly addressed to support research mobility and participation in Conferences and Schools. Fortunately, the two programs aimed to support postgraduate research in developing countries escaped from the effect of mobility restriction and lockdown and have been developed completely.

For the rest of CDC programs the policy has been to continue the evaluation of the applications and the communication of the decisions, even if visits and conferences have been postponed. IMU will secure granted funds for the future, up to June 2022, to give the grantees the opportunity of rescheduling as soon as the situation permits. More details are given below, for each program and for the end of year financial statement.

#### **CDC Programs**

During 2020 the Commission for Developing Countries (CDC) has continued to use the funds it receives from the International Mathematical Union (IMU) and various 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 2020 for the following purposes:

### **Conferences and Projects**

#### **A) Conference Support Program (CSP)**

The Conference Support Program gives partial support to conferences organized in developing and economically disadvantaged countries. The maximum amount that is awarded is EUR 4,000. In case the funds are granted they are usually in the range of EUR 1,500 - EUR 3,500. The Program also supports a few major international conferences occurring in developed countries. The 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. 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 (GSC) selects the grant recipients; it is an eight- member committee, chosen and supervised by the CDC and chaired by the CDC Secretary for Grants Selection. Five of its eight members are not CDC members.

#### **B) Project Support Program (PSP)**

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.

### **Lecturing and Mentoring**

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

The goal of this program is to offer universities in the developing world lecturers for intensive 3-4 week courses in mathematics at the advanced undergraduate or master's level. The maximum amount that is awarded for each visit is EUR 4,400. The program is partially supported by the American Mathematical Society (AMS) and the Niels Henrik Abel Board (Norway). A five-member CDC-subcommittee, chaired by the CDC Secretary for Policy, evaluates the applications.

#### **D) African Diaspora Mathematicians Program (ADMP)**

In 2016 the CDC initiated and launched the African Diaspora Mathematician Program. ADMP ran as a pilot program in Africa for two years (May 2017 - June 2019) and offered three partnerships to be established between a mathematician originally from Africa and now living and working outside of Africa and a mathematics department based in Africa. Besides the travel and living cost for the volunteers to spend 3 to 6 weeks in Africa, the amount of EUR 1,000 per year could be spent by the Diaspora Mathematician to cover the cost of educational material such as books, software, journals and other learning material.

### **Individual Research Visits**

#### **E) Abel Visiting Scholar Program (AVSP)**

The Niels Henrik Abel Board gives an annual grant of USD 15,000 to support mathematicians professionally based in developing countries to visit an international research collaborator for a period of one month. The maximum amount that is awarded for each visit is USD 5,000 and 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. The committee consists of three members: one member chosen by the Abel board (since July 2016 chosen by IMU EC), one member chosen by CDC and one member chosen by the IMU EC.

#### **F) IMU-Simons African Fellowship Program (SAFP)**

The program supports research sabbaticals for mathematicians from African developing countries employed in Africa to travel to an internationally known mathematical center of excellence (worldwide) for collaborative research. The program will run for five years until September 2021 and receives 50.000 USD per year from the Simons Foundation, NY (USA). All travel and living expenses of the grantees are covered by the fellowship up to USD 5.000. The CDC Grant Selection Committee (GSC) described in A) selects the grant recipients.

#### **G) Individual Travel Support Program (ITSP)**

The program supports travel costs for research visits (minimum stay is of four weeks) by mathematicians based in developing countries to an international center of excellence. The CDC Grant Selection Committee (GSC) selects the grant recipients.

### **Graduate Support Programs**

#### **H) IMU Breakout Graduate Fellowship Program (BGFP)**

In 2016 IMU has launched a new Program funded by the generous donations of all the winners of the Breakthrough Prizes in Mathematics. This fellowship program aims to support postgraduate studies, in a developing country, leading to a PhD degree in the mathematical sciences. The IMU Breakout Graduate Fellowships offer a limited number of grants for excellent students from developing countries. The program was developed with the assistance of the Friends of IMU (FIMU). The Breakout Selection Committee, that consists of five members and that is chaired by the CDC Secretary for Policy, evaluates the applications. The program is administered by the London Mathematical Society (LMS), supported by the IMU Secretariat.

#### **I) Graduate Research Assistantships in Developing Countries (GRAID) Program**

The Program was launched in 2017 and provides research assistantships to graduate – PhD and Master – students of emerging research groups working in a developing country listed in Priority 1 or 2 of the IMU CDC Definition of Developing Countries. It provides modest support for emerging research groups, making it possible for them to fund their most talented students as graduate research assistants (PhD or Master Students), thereby fostering the growth of a mathematics community. The GRAID Program is funded by voluntary donations from mathematicians or mathematical institutions worldwide. Applications are evaluated and recipients selected by the GRAID Selection Committee that consists of six members, three of them are not CDC members. The Committee is chaired by a CDC member and its Secretary

is proposed by the American Mathematical Society (AMS). The program is administrated by the GRAID Selection Committee, supported by the AMS.

## **Other activities**

### **J) 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. 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. The shipments are organized by the donors of the mathematical materials.

### **K) CDC Website**

The CDC website is hosted by WIAS Berlin and maintained by IMU Staff. All updates, programs and information about all CDC programs can be found on the CDC website: [www.mathunion.org/cdc](http://www.mathunion.org/cdc)

## **Definition of Developing Countries**

The CDC has been commissioned by the EC to make a proposal for the revision of the definition of Developing Countries to be used by IMU during the next 4-year period. The CDC proposal has been endorsed by the IMU Executive Committee in October 2019. The list consists of all the countries classified by the World Bank (WB) in the categories: *Low income* (<USD 1,025), *Lower middle income* (USD 1,026 – 3,995), and *Upper middle income* (USD 3,996 – 12,375) in accordance with the WB Database by July 2019. These are all countries with Gross National Income (GNI) per capita in USD, not exceeding USD 12,375, with the WB data of 2018.

See <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>

As in the previous term, the following subdivision in priority groups has been established:

Priority 1 (WB *Low income*) - GNI per capita in USD below 1,025

Priority 2 (WB *Lower middle income*) - GNI per capita in USD 1,026 – 3,995

Priority 3 (WB *Upper middle income*, A) - GNI per capita in USD 3,996 – 6,785

Priority 4 (WB *Upper middle income*, B) - GNI per capita in USD 6,786 – 9,575

Priority 5 (WB *Upper middle income*, C) - GNI per capita in USD 9,576 – 1,237

At any moment, IMU member countries can ask the IMU to consider inclusion/exclusion as a Developing Country. The application should be motivated and, on the basis of the evidences presented by the country, CDC would make a recommendation to EC for a case-by-case decision. If a country's World Bank status as a Developing Country has changed between the data used to decide on developing countries and the time of the request, this information should be included as part of the evidence.

The list of Developing Countries, in alphabetical order can be found in: <https://www.mathunion.org/cdc/about-cdc/definition-developing-countries>

## **CDC Activities 2020 in Detail**

During the period March-July 2020, CDC has been cooperating with Saint Petersburg ICM2022 Local Organizing Committee to decide the regional distribution of the 1.000 Chebyshev Grants

and to settle the six Selection Panels that will be in charge of evaluating the applications. More information can be found in <https://www.mathunion.org/cdc/icm/icm-travel-support>

## Conferences and Projects

### A) Conference Support Program

During 2020, 27 conferences taking place in the following developing countries received a conference grant award. All the conferences planned for 2020 have been postponed till further notices due to the Covid-19 pandemic.

Country	Name/Duration	Amount (Euro)
Algeria	Various aspects of dynamical systems, 07.03.2021 - 18.03.2021	2,000.00
Algeria	African conference on ordinary differential equations and dynamical systems ACDSOD 2021, 20.03.2021-23.03.2021	960.00
Argentina	Random Graph Dynamics, 20.07.2020 - 24.07.2020	1,500.00
Armenia	CIMPA: Finite Point Configurations and Discrete Integrable Systems, 13.07.2020 - 24.07.2020	2,000.00
Cameroon	African Mathematical School and CRAG-10 International Conference on Algebra, Arithmetic and Combinatorial Geometry, Algebraic Number Theory with Applications to Cryptology, 20.07.2020 - 31.07.2020	2,500.00
Columbia	7th Encuentro Colombiano de Combinatoria 2020: Geometric Tools in Combinatorics, 16.06.2020 - 27.06.2020	1,500.00
Congo Republic	10 <sup>th</sup> PAN African Congress of Mathematicians (PACOM 2021), 01.08.2021-08.08.2021	2,500.00
Cuba	EMALCA Cuba 2020, 19.10.2020 - 30.10.2020	3,000.00
Georgia	Tbilisi WAMS on Algebra and Cryptography for Students, 22.06.2020 - 30.06.2020	2,500.00



Kenya	Strathmore International Mathematics Conference, 28.06.2021-02.07.2021	1,500.00
Madagascar	CIMPA Research school 2020-Non-associative Algebras and their Applications, 31.08.2020 - 12.09.2020	2,500.00
Madagascar	CIMPA 2021-Fianarantsoa research school (Madagascar), 10.05.2021-19.05.2021	3,000.00
Mexico	VIII Iberoamerica Congress on Geometry, 22.06.2020 - 26.06.2020	1,500.00
Mexico	Resolution of Singularities, Valuation Theory and Related Topics, 29.06.2020 - 03.07.2020	1,500.00
Mexico	EMALCA Mexico, 22.06.2020 - 03.07.2020	2,500.00
Morocco	CIMPA Research School on Nonlinear Partial Differential Equations, Spectral Theory and Applications, 01.06.2020 - 10.06.2020	2,500.00
Morocco	Optimal Control and its Applications in Economics, Engineering and the Environment, 06.07.2020 - 17.07.2020	2,500.00
Philippines	SEAMS School 2020 on Modern Trends in Signal and Data Processing, 07.07.2020 - 15.07.2020	1,500.00
Russia	CIMPA School: Packing, Tiling and Optimizing, 15.09.2020 - 24.09.2020	2,000.00
Rwanda	Research School-Mathematics of Climate Science, 29.06.2020 - 10.07.2020	1,500.00
Senegal	Some Real and Effective Aspects of Real Algebraic Geometry, 29.06.2020 - 10.07.2020	1,500.00
Tunisia	Conference in Complex Analysis and Geometry, 25.05.2020 - 29.05.2020	2,000.00

Tunisia	Structure and Geometry in Matrix Analysis and Computations, 26.05.2020 - 04.06.2020	2,000.00
Tunisia	CIMPA School on Ordered Structures and their Applications in Finance, 26.05.2020 - 06.06.2020	2,000.00
Uzbekistan	WAMS School on Lattices, Diophantine Approximation and Heights, 17.08.2020 - 21.08.2020	2,000.00
Uzbekistan	Complex Analysis, Geometry and Dynamics" & workshop "Trends in Complex Geometry", 16.04.2021-01.05.2021	3,500.00
West Bank and Gaza	Analytic, Algorithmic and Probabilistic Tools for Discrete Random Structures, 16.08.2021 - 25.08.2021	1,500.00
Total	<b>27</b>	<b>55,460.00</b>

### **B) Project Support Program**

No new call has been opened during 2020.

### **Lecturing and Mentoring Program**

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

During 2020 a total of **4** courses in **3** countries were supported.

<b>Year</b>	<b>Volunteer</b>	<b>University Visited</b>
2020	Georg Bader (Germany)	AIMS (Cameroon)
2020	Diletta Martinelli (The Netherlands)	AIMS (Cameroon)
2020	Christopher Thron (USA)	Alzaiem Alazhari University (Sudan)
2020	Olabole Bamigbola (Nigeria)	Kampala International University (Uganda)

### **D) African Diaspora Mathematicians Program (ADMP)**

The program is pending of evaluation.

### **Programs to support Individual Research Visits**

### **E) Abel Visiting Scholar Program**

The funds for the Abel Visiting Scholar Program (USD 15,000 per year) are not included in the general CDC budget, but kept as a separate budget. Three (3) fellowships were granted in 2020; the visits have been postponed.

<b>Name, Institution, Country</b>	<b>Host, Host Institution, Country</b>
Nguyen Thac Dung, Vietnam National University, Vietnam	Guofang Wei, University of California at Santa Barbara, USA.
Khadijeh Nedaiasl, Advanced Studies in Basic Sciences at Zanzan, Iran	Martin Costabel of Institut Mathématique Université de Rennes 1, France
Muhammad Nazam, Allama Iqbal Open University, Pakistan	Özlem Acar, Selçuk University, Turkey

#### **F) IMU-Simons African Fellowship Program (duration 2017-2021, extended to 2022)**

The funds for the IMU-Simons African Grants (USD 50,000 per year) are not included in the general CDC budget, but kept as a separate budget. Seven (7) fellowships were granted in 2020; the visits have been postponed. Simons Foundation has awarded an extension of its support to CDC until August 2022.

<b>Name, Institution, Country</b>	<b>Host, Host Institution, Country</b>
Alexis Nangue, Higher Teacher's Training College of the University of Maroua, Cameroon	Alan Rendall, Johannes Gutenberg University Mainz, Germany
Layla Sorkatti, El-Neelain University, Khartoum, Sudan	Ban Dubravka, Southern Illinois University at Carbondale, USA
Deborah Olayide Ajayi, University of Ibadan, Nigeria	Ulrike Tillmann, University of Oxford, UK
Adewale Lukman, Landmark University, Nigeria	Golam Kibria, Florida International University, USA
Egberanmwun Iyare, Samuel Adegboyega University, Nigeria	Jianhong Wu, York University, Canada
Chinwendu E. Madubueze, Federal University of Agriculture, Nigeria	Jane Heffernan, York University, Canada
Imen Manoubi, ISSATGb, Tunisia	Olivier Goubet, Lille University, France

#### **G) Individual Travel Support Program**

In 2020 five (5) mathematicians received support through this program. Four of them have been postponed.

<b>Name, Institution, Country</b>	<b>Host, Host Institution, Country</b>
Le Anh Xuan, Can Tho University of Technology, Vietnam	Ponnusamy Saminathan, Indian Institute of Technology Madras, India
Maliheh Hosseini, K. N. Toosi University of Technology, Iran	Juan J. Font, Jaume I University, Spain
Alireza Hosseini, University of Tehran, Iran	Kristian Bredies, University of Graz, Austria
Ibrar Hussain, National University of Sciences and Technology, Pakistan	Graham Hall, University of Aberdeen, Scotland, UK

## Graduate Support Programs

### H) IMU Breakout Graduate Fellowship Program

The funds for the IMU Breakout Fellowship Program are not included in the general CDC budget, but kept as a separate budget.

The nomination process opened on February 1, 2020. Due to the exceptional circumstances caused by the Covid-19 pandemic the deadline had been extended to July 3, 2020. A total of 18 applications were received. The three awardees are:

- Christelle Judith Agonkoui is a Beninese PhD student at the Institute of Mathematics and Physics (IMSP) of the University Abomey-Calavi in Benin nominated by her advisor Professor Sophie Dabo from University of Lille, France. She plans to work on *Bio-Statistical Modeling and Applications to Oncology*.
- Annisa Nur Falah is an Indonesian PhD student at Padjadjaran University in Indonesia nominated by her advisor Professor Budi Nurani Ruchjana, from the same institution. She is working on *Clustering Spatial Autoregressive Exogenous Kriging (SAR-X Kriging) Model Development and its Application in Social Media Data*.
- Caroline Namanya is an Ugandan PhD student at Makerere University in Uganda nominated by one of her advisors Professor Michael Wemyss University from Glasgow, UK. The subject of the research project, co-supervised by Professor David Ssevviiri from Makerere University, is *Chamber Structures of 3-Fold Flops*.

### Updates from Awardees selected in 2016 and 2019:

- All the awardees selected in 2016 and 2019 have provided satisfactory reports during the year and their fellowship has been renewed.

### Donation

Martin Hairer (UK) has been awarded the 2019 Breakthrough Prize and as previous winners he has donated the amount of USD 100,000 for the program.

### I) Graduate Research Assistantships in Developing Countries (GRAID) Program

The GRAID funds are not included in the general CDC budget, but kept in the FIMU account and are transferred by the American Mathematical Society to the grantees.

The GRAID Committee has evaluated Round 4 of GRAID with deadline March 31, 2020 and selected four projects for funding:

- Principal Investigator Romain Glèlè Kakai (Benin) and International Partner Calistus Ngonghala (USA) supporting the PhD student Beaugard Taboe
- Principal Investigator Kedar Uprety (Nepal) and International Partner Naveen Vaidya (USA) supporting one PhD Student, Anjana Pokharel
- Principal Investigator Modeste Nzi (Ivory Coast) and International Partner Etienne Pardoux (France) supporting one PhD Student, Fulbert Vonopou

- Principal Investigator Gideon Ngwa (Cameroon) and International Partner Miranda Teboh-Ewungkem (USA) supporting three students (Markdonal Ghakanyuy Bime (PhD), Eric Jumbam Wirnkar (MS) and Girma Mesfin Selleke (MS))

The Committee has also considered the renewal of grants awarded in previous calls.

## Other activities

### J) Library Assistance Scheme

In 2020 CDC covered the shipment cost of books shipped by Prof. Diletta Martinelli (Universiteit van Amsterdam) to AIMS-Cameroon, Limbe, Cameroon.

## Administrative Costs

Administrative costs are kept to less than 10% of the CDC operating budget. The administrative costs for CDC consisted primarily of bank transfer costs.

Most of the administrative work is managed by staff members from the IMU Secretariat. The salaries of the IMU Secretariat staff are covered from the grant the Secretariat receives annually from the City of Berlin and the German Ministry of Education and Research. The IMU Secretariat is hosted by the *Weierstrass Institute for Applied Analysis and Stochastics* (WIAS) in Berlin, Germany. The IMU staff members are employed at WIAS. The costs of the website and technical costs are mainly covered by the IMU Secretariat funds.

The IMU Secretariat has also received from the Simons Foundation USD 5,000 in 2020 to cover basic administrative costs of the IMU-Simons African Fellowship program. The GRAID program is administrated by the GRAID Selection Committee, supported by AMS and FIMU. The Breakout Fellowship Program is administered by LMS (London Mathematical Society), supported by IMU Secretariat. LMS has received in 2020 USD 5,510 from FIMU's support.

## CDC Income 2020

Many of the CDC programs are funded by the generous donations of individual mathematicians and organizations, as it has been described above. Apart from these donations, CDC's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU). IMU in turn receives its financial support from IMU member countries. The Income part of the Financial Statement attached includes besides the IMU year grants to CDC, the support (additional to the grant for the Abel Visiting Scholar Program) received during 2020 from Niels Henrik Abel Board, the donations from the American Mathematical Society (AMS), the Japanese Mathematical Society and the Italian Mathematical Union. The overview below excludes the payments of the following CDC Programs: IMU Simons African Fellowship Program, GRAID, Abel Visiting Scholar Program and Breakout Graduate Fellowships Program.

The Commission for Developing Countries would like to express its profound thanks to all institutions and individuals supporting CDC and its activities. Furthermore CDC would like to extend its gratitude to all volunteers. We are truly appreciative of those individuals who dedicate their time to support all CDC activities: as members of evaluation committees, as Volunteer Lecturers, as donors of mathematical materials and as organizers of CDC activities and who help current and future generations both at home and within the mathematical community abroad.

CDC is looking forward to future collaboration with all its supporters, cooperation partners and volunteers.

More information about CDC and its activities can be found on the website:

<https://www.mathunion.org/CDC>

Olga Gil Medrano, CDC Secretary for Policy

### Balances CDC 2020

<b>INCOME</b>		<b>2020</b>	
Return of Funds to GSC (unspent funds)		811,23 €	
IMU Budget		83.512,00 €	
Abel Grant (excluding Abel Travel Fund)		17.084,46 €	
GBP Cash to EUR conversion		45,73 €	
Japanese Mathematical Society Donation		1.257,91 €	
Italian Mathematical Society Donation		5.612,00 €	
<b>Total Income</b>		<b>108.323,33 €</b>	
<b>Expenditure by Category</b>	<b>Details</b>	<b>Payments in 2020</b>	<b>Accruals: grants approved to be paid</b>
Administration including Bank Transfer Costs		600,39 €	1.400 €
Conference Support	Grants approved in 2019 to conferences postponed	- €	13.500,00 €
	Grants approved in 2020	- €	55.460,00 €
Individual Travel Support		1.464,18 €	
	Grants approved in 2020 for visits postponed	- €	10.862,00 €
Library Assistance Scheme		489,73 €	
ADMP		3.733,13 €	
	ADMP Evaluation	- €	2.559,00 €
Volunteer Lectures		5.825,05 €	
<b>Expenditure</b>		<b>12.112,48 €</b>	
<b>Funds on CDC Bank Account as of 1.1. 2020</b>		<b>157.923,89 €</b>	
<b>Funds on CDC Bank Account as of 31.12.2020</b>		<b>254.135,74 €</b>	
<b>Accruals</b>			<b>83.721,00 €</b>
<b>Remaining Funds</b>		<b>170.414,74 €</b>	

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

<https://www.mathunion.org/ichm>

## Report of the ICHM to the IMU 2020

June Barrow-Green (Chair)

### 1. Commission organisation

#### a. List of officers and members of governing body, and governance procedures

The Executive Committee of the ICHM consists of the following members:

##### **Chair**

June Barrow-Green (School of Mathematics & Statistics, Faculty of STEM, Open University, Milton Keynes, UK) [June.Barrow-Green@open.ac.uk](mailto:June.Barrow-Green@open.ac.uk)

##### **Vice-chair**

Niccolò Guicciardini (University of Milan, Italy) [niccolo.guicciardini@unimi.it](mailto:niccolo.guicciardini@unimi.it)

##### **Secretary**

Sloan Despeaux (Western Carolina University, USA) [despeaux@email.wcu.edu](mailto:despeaux@email.wcu.edu)

##### **Treasurer**

Martina Schneider (University of Mainz, Germany) [mnschneider@mathematik.uni-mainz.de](mailto:mnschneider@mathematik.uni-mainz.de)

##### **Members-at-Large**

Thomas Archibald (Canada) [tarchi@sfu.ca](mailto:tarchi@sfu.ca)

Abdelmalek Bouzari (Algeria) [bouzari@ens-kouba.dz](mailto:bouzari@ens-kouba.dz), [malek\\_bouzari@yahoo.fr](mailto:malek_bouzari@yahoo.fr)

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Galina Sinkevich (Russia) [galina.sinkevich@gmail.com](mailto:galina.sinkevich@gmail.com)

GUO Shirong (China) [guoshirong1959@163.com](mailto:guoshirong1959@163.com), [gsr@imnu.edu.cn](mailto:gsr@imnu.edu.cn)

##### **IMU Representatives:**

Isobel Falconer (School of Mathematics and Statistics, University of St Andrews, Scotland) [ijf3@st-andrews.ac.uk](mailto:ijf3@st-andrews.ac.uk)

Catherine Goldstein (Institut de mathématiques de Jussieu-Paris Rive gauche, Paris, France) [catherine.goldstein@imj-prg.fr](mailto:catherine.goldstein@imj-prg.fr)

##### **Ex-Officio**

Craig Fraser (University of Toronto, Canada) [craig.fraser@utoronto.ca](mailto:craig.fraser@utoronto.ca) (immediate past chair)

Reinhard Siegmund-Schultze (University of Agder, Norway) [reinhard.siegmund-schultze@uia.no](mailto:reinhard.siegmund-schultze@uia.no) (editor *Historia Mathematica*)

Nathan Sidoli (Waseda University, Japan) [sidoli@waseda.jp](mailto:sidoli@waseda.jp) (editor *Historia Mathematica*)

The Executive Committee of the ICHM has one ‘listening member’, Snezana Lawrence (UK), who represents the International Study Group on the Relations between the History and Pedagogy of Mathematics (HPM) which is an affiliate of the ICMI.

The Executive Committee of the ICHM had three business e-meetings together with email discussion in 2020.

## **b. Sub-committees and their functions, with brief details of activities**

### Kenneth O. May Prize Committee (2021)

June Barrow-Green (Chair) (UK)

Tom Archibald (Canada)

Niccolò Guicciardini (Italy)

Clemency Montelle (New Zealand)

The Kenneth O. May Prize is awarded every four years to a historian or historians of mathematics in recognition of distinguished contributions to the history of mathematics. A call for nominations was made in 2020. The Committee is in the process of drawing up a short-list to present to the ICHM Executive Committee for its consideration and vote.

### Montucla Prize Committee (2021)

Sloan Despeaux (Chair) (USA)

Antoni Malet (Spain)

Nathan Sidoli (Japan)

Reinhard-Siegmund-Schultze (Norway)

The Montucla Prize is awarded every four years to the author of the best article published in *Historia Mathematica* by an early-career researcher in the four years preceding the International Congress of History of Science and Technology. The Committee will propose a candidate to the ICHM Executive Committee for its consideration and vote.

## **c. Details of membership of the Commission**

There are 43 National Members of the ICHM: Algeria, Australia, Austria, Belgium, Brazil, Canada, China, Costa Rica, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Guatemala, Iceland, Iran, Israel, Italy, Japan, Kazakhstan, Korea, Luxemburg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Tunisia, Turkey, United Kingdom, USA.

Individuals are listed at <https://www.mathunion.org/ichm/about-us/members>

## **d. URL of Commission website**

<https://www.mathunion.org/ichm>. It is updated whenever necessary, e.g. to include changes in membership, reports of meetings, etc.

## **2. Activities**

### **a. Activities undertaken or sponsored by the Commission in the last year**

ICHM Co-Sponsored AMS-MAA *Special Sessions on History of Mathematics*

([https://www.mathunion.org/fileadmin/ICHM/Reports/2018-01-](https://www.mathunion.org/fileadmin/ICHM/Reports/2018-01-10/Report%20for%20ICHM%20January%202018.pdf)

[10/Report%20for%20ICHM%20January%202018.pdf](https://www.mathunion.org/fileadmin/ICHM/Reports/2018-01-10/Report%20for%20ICHM%20January%202018.pdf)) (Denver, Colorado, USA, 17-18 January 2020).



## **b. Publications arising from the work of the Commission in the last year.**

*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 Nathan Sidoli (Waseda University, Tokyo) and Reinhard Siegmund-Schultze (University of Adger, Norway). It is published by Elsevier Science and is available electronically to subscribers of ScienceDirect (<https://www.sciencedirect.com/>).

## **c. Activities supported in the last year**

The ICHM maintains an international e-mail list. This list serves to send out information from the ICHM to historians of mathematics internationally. Any historian of mathematics may become part of this e-list simply by contacting the Secretary of the ICHM.

## **d. Changes to the governance or organisation structure of the Commission**

The ICHM completed the process of moving its bank account (from Denmark) permanently to Berlin to the same bank as the one used by the IMU. The ICHM is very grateful to the IMU Secretariat for their work in facilitating this move.

# **3. Future plans**

## **a. Activities planned for 2021**

ICHM Co-Sponsored *AMS-MAA Special Sessions on History of Mathematics* (Washington, DC, January 6-9, 2021). This meeting was moved to online. No financial aid was requested.

Funds allocated to early career scholars organizing symposia and speaking at the joint BSHM/CSHPM conference (<http://www.mcs.st-andrews.ac.uk/bshm-cshpm/index.shtml>) St Andrews, Scotland, 12–16 July 2021. This conference is postponed from 2020 and will now take place online.

Funds will be available to support early career scholars contributing to ICHM symposia at the 26th International Congress of History of Science and Technology, 25-31 July 2021. This meeting, which was due to be held in Prague, is now online.

Funds will be available to support the 2021 Novembertagung, the meeting for early career scholars in history of mathematics. This meeting will be online.

Note: In response to the pandemic, in October 2020, the ICHM put out the following call to early career scholars inviting them to apply for funding to assist with their research.

The ICHM recognises that COVID-19 has imposed unforeseen financial strains on early career scholars and would like to do what it can to help alleviate some of these strains. We therefore invite early career scholars to apply for grants to fund individual research-related activities which

have an international dimension. Such activities could include registration fees for an online conference, cost of scanning archive material due to the inaccessibility of archives, cost of an online course. This is not an exclusive list and we welcome other suggestions. Grants will be restricted to one award, up to a maximum of 300 EUROS, per applicant.

## 4. Financial report

Expenditure for 2020: Conference Travel Grant *The mathematical book trade in the early modern world* (All Souls College, Oxford, UK, December 19-20, 2019): US\$672. (This grant was paid in 2020.)

Income for 2020: *Elsevier Honoraria* US\$5000. *Royalties Springer* US\$24

Conference organizers submit reports on their conferences that are published on the ICHM website. The financial assistance is offered to the conference organizer in the form of a grant.

The ICHM has reserves built up from previous years and the EC has agreed, in line with the ICHM's priority for supporting early career scholars, that additional funds should be made available to support early career scholars (see above). In addition, depending on the travel situation due to COVID-19, there may be other conferences in 2021 that the ICHM will consider for co-sponsorship.

The financial position of the ICHM is currently good.

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

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

## CEIC Annual Report 2020

This past year, CEIC got off to a rocky start due to the COVID-19 pandemic,<sup>1</sup> and much of February through September was not particularly productive. In the fall we resumed more focused work, and we began holding monthly meetings by Zoom, since meeting in person this year was neither feasible nor desirable. Because of the geographic spread of the committee, it's impossible to schedule meetings that fit everyone's sleep schedule, and we're grateful to the members who agreed to attend at inconvenient times. We expect that online meetings will continue for the foreseeable future, because they provide a focal point for continued activity. Meeting in person is unlikely during 2021, but seems plausible for 2022.

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<sup>1</sup> Of course the obstacles were not specific to CEIC, but rather the usual issues that confronted everyone this year: increased family responsibilities, unexpectedly transitioning to online education, trying to protect elderly or medically vulnerable relatives, etc.

At the end of the year, we welcomed Kevin Buzzard (from Imperial College London) and Ingrid Rewitzky (from the University of Stellenbosch) to the committee, to replace Tim Cole and Alf Onshuus, whom we thank for their service on CEIC.

## 1 Revising CEIC documents

One big task with which we started this cycle of CEIC was revising the existing CEIC recommendations. We prioritized this over writing new recommendations, since some of the existing documents were very much out of date. We moved some documents to a historical section, on the grounds that revisions are not needed (for example, *Call to All Mathematicians to Make Publications Electronically Available* was an important message in 2001, but that battle has been won). The two documents we identified as being most in need of revisions were *Best Current Practices for Journals* (from 2010) and *Copyright Recommendations* (from 2001).

*Best Current Practices for Journals* was already in relatively good shape, and we have converged on a revised version. We are still completing some copyediting and formatting, but we expect to update it shortly.

*Copyright Recommendations* needed quite a bit more work. It's an excellent document for 2001, with considerable information about both how copyright works and why, and it was written by Wilfrid Hodges in an appealingly personal style. However, it does not address many issues that are important today. For example, it never mentions the arXiv, Creative Commons licenses, or open access; instead, it is focused on print publishing, while acknowledging electronic distribution or publishing as an emerging area. Much of the discussion, while not technically wrong, is of limited importance in 2021.

One question we had to deal with was whether we could in fact revise this document, given that Hodges is identified as the author and (as far as we know) holds the copyright. We have no reason to think he would be resistant to updating it, but revising a document with a strong authorial voice is tricky. Instead, we considered two options: the lightweight option of keeping the current document while adding an appendix on modern issues, and the more time-consuming option of replacing it completely (while of course preserving the original in the historical documents section of the CEIC website). We decided on the latter, because it seemed more useful for the community.

Instead of trying to write a single, comprehensive document, we decided to write several shorter documents aimed at specific audiences (such as authors or journal editors). So far, we have been brainstorming and gathering ideas in shared documents, but we have not yet mapped out the new documents.

Going forwards, we need to deal carefully with authorship for CEIC documents. It seems reasonable to draw a distinction based on intended use. An account or proposal that is rooted in a specific time can have whatever authorship seems appropriate, while a recommendation document that is intended to be revised over time should either list CEIC as its author or explicitly grant permission for updates.

## 2 The Global Digital Mathematical Library

The biggest CEIC-related challenge facing the mathematical community is creating a Global Digital Mathematical Library (GDML). This idea has been endorsed by the IMU since 2006, but there has

been unsatisfying concrete progress. The GDML WG has set up a legal entity, the International Mathematical Knowledge Trust, based in Waterloo, Canada, toward this end, has continued outreach to gather community support for the the goal, and has seen some related initiatives make progress. They have not yet been successful in obtaining funding for the bigger development steps needed towards a GDML.

## 2.1 *The Sophize Project*

One noteworthy development we have become aware of is the Sophize Foundation, founded by Abhishek Chugh in India. This is a software development effort aimed at creating something like a GDML. Specifically, Chugh proposes the following as the goals of the Sophize Project:

“Develop an open state-of-the-art academic platform with the following capability to:

- Aggregate knowledge from Mathematics resources including encyclopedias, research papers, mathematical reference books, mathematical databases, and formal systems to make it easier to search and explore Mathematical content.
- Formalize the largely unexplored network of information that connects mathematical objects to create rich research experiences. These deep connections will also be used to connect other significant efforts such as FABstracts, DLMF, Lean, MMT, Flexiformal Mathematics etc.
- Allow researchers to easily run Mathematics-related computations online in languages like Python (Sage), Java, R, Mathematica.
- Facilitate knowledge-based group discussions and academic collaborations.”

This is of course an ambitious plan, and it’s unclear where it will end up. However, it’s a serious and well-informed software development effort, which may make valuable contributions to a future GDML.

The IMU had \$3,689.45 left over from a Sloan Foundation grant aimed at GDML-related activities. We propose giving this money to the Sophize Foundation to fund the creation of a prototype Online Structured Content Extraction Tool, as described in the attached file. This specific tool is a modest but important step towards a GDML, as well as a good test case for collaboration with the Sophize Foundation. We hope this effort will help in their attempts to get larger grants from other sources.

## 2.2 *GDML<sub>0</sub> and a proposed Permissions Committee*

Informal subcommittees of CEIC produced two documents addressing nearerterm GDML plans:

- *Making near-term progress on the Global Digital Mathematics Library via an ad hoc IMU Permissions Committee*, by Henry Cohn and Patrick D. F. Ion.
- *zbMATH as GDML<sub>0</sub>*, by Patrick D. F. Ion and Mila Runnwerth.

The first document proposes that the Executive Committee create an ad hoc Permissions Committee to work on negotiating access to back issues of mathematics journals, while the second discusses using zbMATH (which has transitioned to open access) as the basis for an initial version of the GDML.

In discussions among the CEIC membership, the only substantive disagreements were about how ambitiously a Permissions Committee should negotiate. Is it better to push for the shortest possible window before open access (perhaps a year, or even six months, as has been proposed by some funding agencies), or to focus on building consensus with a four- or five-year window? This is not an easy issue to resolve. All other things being equal, a shorter window is of course better for readers, and one can make a good case that the current system is tilted in favor of publishers. On the other hand, a short window could put financial pressure on learned societies and make it difficult to reach a broad agreement. Ultimately, it makes sense to leave the details of the negotiating strategy up to the Permissions Committee, based on their sense of how flexible and agreeable publishers seem.

### **3 Planning for ICM 2022**

We have also been considering potential CEIC panels for the upcoming ICM. Here are several possibilities under discussion:

- The Global Digital Mathematical Library. How should mathematical information be organized? What does or should publishing mean in the future? What has been achieved so far?
- The mathematical community's response to COVID-19. How have people adapted to using electronic communication for education and meetings? What are some new ideas or best practices?
- Machine-assisted proofs and formalization. How can mathematicians get involved with computer verification of proofs? Is this part of the future of mathematical communication, and what is needed to make it more accessible as everyday mathematics?

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

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

## **Report of the International Mathematical Union Committee for Women in Mathematics in 2020**

### **Committee Members**

The composition of CWM 2019-2022 is as follows

- Marie-Françoise Roy (MFR), Université de Rennes 1, France, Chair
- Carolina Araujo (CA), IMPA, Rio de Janeiro, Brazil, Vice Chair
- Alejandro Adem (AA), University of British Columbia, Canada

- Petra Bonfert-Taylor, (PBT) Dartmouth College, USA (web management)
- Tony Ezome (TE), USTM, Franceville, Gabon
- Josephine Kagunda (JK), University of Nairobi, Kenya
- Neela Nataraj (NN), IIT Bombay, India (grant management)
- Motoko Kotani (MK), Tohoku University, Japan
- Ekin Ozman (EO), Bogazici University, Turkey (CWM Newsletter management)
- Cheryl Praeger (CP), University of Western Australia, Australia (reports management)

The liaison person between CWM and IMU EC is IMU president Carlos Kenig (CK), University of Chicago, USA

CWM has moreover four special contacts:

- Betul Tanbay (BT), Bogazici University, Turkey (link to International Day of Mathematics (IDM)).
- Julia Pevtsova (JP), University of Washington (link with ICM 2022 local organizing committee)
- Natalia García-Colín (NGC), Université Libre de Bruxelles (contributing to CWM website)
- Sandra Kingan (SK), Brooklyn College (CWM twitter account)

### **Activities supported by CWM 2020 call**

The 2020 CWM call (<https://www.mathunion.org/fileadmin/CWM/Initiatives/CWMCall2020.pdf>) received 35 applications, of which 8 were selected to receive financial support. Six of them were projects of meetings taking place in Chile, Colombia, India, Senegal, Turkey and Vietnam. The May 12 initiative website and an exhibition project, МАТЕМАТИКА, through a land of mathematics, for (WM)<sup>2</sup> in Saint Petersburg were also supported.

Due to the COVID crisis, only three projects took place in 2020, and had to be partially redesigned. The May 12 initiative website was updated as planned, which turned out to be very useful when most of the activities became virtual. The preparation of the exhibition project, МАТЕМАТИКА, through a land of mathematics, for (WM)<sup>2</sup> in Saint Petersburg started actively but the travel through Russia by train was postponed. The activities of Indian Women and Mathematics had to be adapted, in particular the Winter School for Young Women took place Via Zoom.

Of the five remaining projects, two have become virtual, two are taking place in 2021 and the last one will be postponed or canceled.

### **CWM virtual meeting**

The virtual meeting of CWM took place on Monday 5 and Tuesday 6 October 2020 CEST from 14 H to 17 H.

The 10 members, as well as CK, EC liaison for CWM attended, sometimes with some difficulties (particularly in Kenya). JP was invited in connection to (WM)<sup>2</sup> and ICM2020 and BT to inform CWM about IDM.

The program was as follows

- International Day of Mathematics (IDM)
- How can CWM help in the current situation?
- CWM tools for communication
- Follow up of suggestions by ambassadors
- Information about (WM)<sup>2</sup> 2022, (WM)<sup>2</sup> 2018 website, new website
- News: SCGES (Standing Committee for Gender Equality in Science), Continental networks in Latin America and Asia, Situation of activities funded in 2020
- CWM Call 2021
- Decisions and action list

## **CWM Newsletter**

The CWM Newsletter has been issued every six months since May 2019. The Newsletter is sent electronically to CWM ambassadors, who distribute it through their mailing lists. It is also posted on CWM website and advertised in IMU-Net. Moreover, it is sent to various mathematical centers (MSRI, MFO, CIRM, etc) which are encouraged to make it available. A new page on CWM website makes it possible to subscribe to CWM Newsletter.

Two CWM Newsletters were issued in 2020 with the following content

- Third issue on May 2020 : Editorial, Interview with a CWM member (CP), News from CWM, The Gender Gap in Science Book, News and Announcements, Conference, Meeting announcements, COVID-19 Testimonies from CWM Ambassadors, and an Article written by Christiane Rousseau on the International Day of Mathematics (IDM).
- Fourth issue on November 2020 : Editorial, Interview with a CWM member (NN), News from CWM, other news and announcements Conference and Meeting announcements, and an Article about The Standing Committee for Gender Equality in Science (SCGES), written by Catherine Jami Chair of SCGES.

## **Women in math and the COVID-19 crisis**

CWM has received testimonies from CWM members, CWM ambassadors or other women in mathematics from different countries all over the world on what the COVID-19 crisis has meant for their lives. These brief contributions are available at the CWM website, together with a list of resources, including links to various texts related to the COVID-19 crisis and its impact on women in mathematics, and, more generally, in science, particularly the text of the Standing Committee for Gender Equality in Science entitled “Standing for Gender Equality in Science in times of Covid-19”.

See <https://www.mathunion.org/cwm/cwm-initiatives/women-math-and-covid-19-crisis>

## **(WM)<sup>2</sup> World Meeting for Women in Mathematics**

The second (WM)<sup>2</sup> will take place in St Petersburg on July 5, 2022, the day between the IMU General Assembly and the opening of the ICM.

(WM)<sup>2</sup> 2022 has been approved as an official satellite conference of the ICM. It has been granted significant funding (lodging, food, local expenses) by the ICM Local Organizing Committee, together with meeting rooms (at the Expoforum), and technical and logistical assistance. Funding will also be available for the exhibition space, printing, and setting up of the MATEMATIKA exhibition which will remain during the whole of ICM 2022.

The Scientific Committee of (WM)<sup>2</sup> 2022 is composed of:

- Igor Krichiver (Columbia University, USA and Skoltech Center for Advanced Studies, Russia)
- Ari Laptev (Imperial College London, UK)
- Ragni Piene (University of Oslo, Norway)
- Cheryl Praeger - chair (University of Western Australia, Australia)
- Senjo Shimizu (Kyoto University, Japan)

The Organizing Committee of the (WM)<sup>2</sup> 2022 is composed of:

- Carolina Araujo (IMPA, Brazil, vice-chair of CWM)
- Alisa Knizel (Columbia University, USA)
- Neela Nataraj (IIT Bombay, India, member of CWM)
- Marie Françoise Ouedraogo (University of Ouagadougou, Burkina Faso)
- Ekin Ozman (Bogazici University, Turkey, member of CWM)
- Olga Paris-Romaskevich (Lyon, France, CNRS)
- Julia Pevtsova - contact person (University of Washington, USA)
- Marie-Françoise Roy (Université de Rennes, France, chair of CWM)
- Natalya Smorodina (St. Petersburg Department of Steklov Mathematical Institute and St. Petersburg State University, Russia)
- Tatiana Suslina (St. Petersburg State University, Russia)
- Andrea Vera-Gajardo (Universidad de Valparaíso, Chile)
- Dongmei Xiao (Shanghai Jiao Tong University, China)

A permanent website is being designed for all (WM)<sup>2</sup> editions, and will include links to the upcoming (WM)<sup>2</sup> 2022, as well as (WM)<sup>2</sup> 2018 in Rio de Janeiro.

## **CWM call in 2021**

The 2021 CWM call invited application aimed at either:

- a) Establishing or supporting networks for women in mathematics, preferably at the continental or regional level, and with priority given to networks in developing or emerging countries.
- b) Organizing research workshops geared towards establishing research networks for women by fostering research collaborations during the event.
- c) Other ideas for researching and/or addressing issues encountered by women in mathematics



The 2021 CWM call (<https://www.mathunion.org/fileadmin/CWM/Initiatives/CWMCall2021.pdf>) received 23 applications, of which 6 were selected to receive financial support. CWM is supporting AWMA's proposal for a special day for women in mathematics at the Pan African Congress of Mathematicians PACOM 2021, a project of several regional women in mathematics associations organizing jointly the May 12 initiative to upgrade the reporting mechanism of the website (<https://may12.womeninmaths.org/>), as well as the second phase of the exhibition project, "МАТЕМАТИКА, through a land of mathematics," to be premiered at (WM)<sup>2</sup> in Saint Petersburg and ICM 2022. The project proposed by Indian Women and Mathematics, and two thematic mathematical activities in Latin America and Pakistan were also approved.

For the text of the CWM 2021 call, see Annex E. More details on the activities approved on CWM website <https://www.mathunion.org/cwm/events/cwm-sponsored-events/2021>

## **Gender Gap in Science**

### **a) Gender Gap in Science Book**

The project "A Global Approach to the Gender Gap in Mathematical, Computing and Natural Sciences: How to Measure It, How to Reduce It?" led by the IMU and the International Union of Pure and Applied Chemistry (IUPAC), was funded by ISC during the period 2017-2019 (with a budget of €100 000 per year in 2017, 2018 and 2019). The budget was completed by contributions of the partners.

During year 2020, the Gender in Science Book, illustrated by original cartoons of Lea Castor, and edited by Colette Guillopé and MFR, was finalized. It was published on line with IMU copyright <https://zenodo.org/record/3882609> and can also be printed on demand.

It presents the methodology, results, activities and recommendations of the project, with the following chapters.

- A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: Results and Recommendations by MFR, Colette Guillopé, Mark Cesa
- Measuring and Analyzing the Gender Gap in Science through the Global Survey of Scientistst by Rachel Ivie and Susan White
- Measuring and Analyzing the Gender Gap in Science through the Joint Data-backed Study on Publication Patterns by Helena Mihaljević, Lucía Santamaría
- Some initiatives for Reducing the Gender Gap in Science: a Database of Good Practices by Merrilyn Goos and Regina Kelly
- Impact of the Gender Gap in Science Project in Africa, Asia and Latin America by Silvina Ponce-Dawson, Ile Gledhill, Mei-Hung Chiu
- Report of the Final Conference of the Gender Gap in Science Project, at ICTP Colette Guillopé, MFR.

The book has been downloaded more than 6500 times.

A presentation booklet and presentation slides of the project in several languages are also available. <https://gender-gap-in-science.org/promotional-materials/>

## b) How to keep the tools of GGSP alive?

All union and organization representatives in the project wish that the project results and its associated tools remain available well beyond the end of the 2017-2019, period during which it received funding from the ISC. Research questions raised by the tasks of the project remain numerous.

GGSP coordination meetings took place in July and in October 2020 and the next one is planned in March 2021.

In 2020 we were able

- to use current technology (“data suppression technique”) in order to provide access to the data collected through the Global Survey of Scientists to all participating unions and partners of the project, as well as to other research groups upon approval by an ad-hoc mechanism, while protecting the privacy of the respondents to the survey; thanks to IMU and ICIAM funding an internship project on the gender gap in math/applied math and the gender gap in science in Africa will take place from March to August 2021.

- to improve the long-term availability and maintenance of the tools of the project for the analysis of Publication Patterns and the Data Base of Good Practices. A Ph D student is maintaining and improving the tools for Publication Patterns <https://gender-publication-gap.f4.htw-berlin.de/>.

The Data Base of Good practices is hosted by IMU, its final presentation is not finalized. <https://www.mathunion.org/cwm/gender-gap-in-science-database>

## c) SCGES

After discussion inside GGSP, a permanent organization the SCGES (Standing Committee for Gender Equality in Science) has been created, with 9 founding members including IMU, who approved a MoU.

Its member organizations wish to act together to further promote gender equality in science by continuing and enlarging the work accomplished by the GGSP and in particular by supporting women and girls’ equal access to science education and fostering equal opportunity and treatment for females in their careers.

The Standing Committee for Gender Equality in Science:

- Helps partners to promote gender equality within their organizations, and in particular
- Follows the progress of the implementation by partners of the recommendations of the Gender Gap in Science Project;
- Approves proposals for new partners to join SCGES;
- Endorses projects and initiatives to promote gender equality in science proposed to it by partners;

- Facilitates communication among partners, among other things by developing and maintaining the website <https://gender-equality-in-science.org/>

IMU representatives in SCGES MFR and CA. SCGES had already 16 member organizations.

SCGES met virtually in September and has a new meeting in February 2021. Catherine Jami from IUHPST is the chair of SCGES, Guy Smagghe from UBS the vice-chair, and MFR the communication officer.

SCGES participates actively to the group initiated by ISC entitled Gender Equality in Science Collaborative. Catherine Jami and MFR attended to its two first virtual meetings, in November 2020 and February 2021.

SCGES issued a text entitled “Standing for Gender Equality in Science in times of Covid-19”.

#### d) Dissemination and implementation of the recommendations of the Gender Gap in Science Project inside IMU.

The recommendations in the report have been kept short and direct on purpose. They have been distributed to the Adhering Organizations of IMU as an information.

The following questions remain: Is there a method for them to be discussed inside IMU and (hopefully) transformed in official recommendations of IMU? And more generally what can be done by IMU to help implement also the first two parts of the recommendations (for parents and educators, for scientific organizations).

### **Remember Maryam Mirzakhani**

As a tribute to Maryam Mirzakhani, CWM created the Remember Maryam Mirzakhani Memorial Exhibition with 18 original A0 posters portraying Maryam Mirzakhani. The exhibition was created by Thaís Jordão (curator) and Rafael Meireles Barroso (designer). It was inaugurated at the (WM)<sup>2</sup> and remained open during the ICM 2018.

Rules for further displays of the exhibition have been agreed <https://www.mathunion.org/fileadmin/CWM/Initiatives/HostingRememberMaryamMirzakhani.pdf>

A poster and flyer describing the exhibition are available in english and other languages (French, Persian and Turkish).

In 2020, CWM has an agreement with the following institutions (in anti-chronological order):

- Virtual Heidelberg Laureate Forum from 21 to 25 September, with a virtual reality approach to the exhibition, a panel discussion Theorems and Initiatives inspired by Maryam Mirzakhani <https://av.tib.eu/media/49561>, and the projection of the film Secrets of the Surface.

- Dipartimento di Matematica 'Levi-Civita' Padova, Italy, 10- 25 May 2020

- Arizona State University, Celebrating Women in Mathematics and Statistics event March 26-27, 2020

- Maison Internationale de Rennes, France, from 10 to 17 march, with a roundtable about women in mathematics on March 11 from 18 H to 19 30 at MIR – 7 quai Châteaubriand – Rennes. The exhibition time was closed after two days due to the COVID lockdown in France.
- Department of Mathematics at the University of Ottawa, Canada. 6-13 March 2020. The posters were introduced by Prof Sara Maloni (Virginia), whose presentation was the first annual Distinguished Women in Mathematics Colloquium at the University of Ottawa.
- Federal Paraná University (Curitiba, Paraná, Brasil), starting February 11th to celebrate the International Women and Girls in Science Day, in the framework of the "Meninas na Matemática: Procuram-se Arletes" project. Originally planned from 11th February to 31 March, it was closed on 15 March because of COVID.
- Universitat Politècnica de Catalunya (UPC) in Barcelona, Spain, 10th February till 24th April 2020. Several activities will be organized around this exhibition, taking advantage of the celebration of the International Day of Women and Girls in Science (11 February), the International Women's Day (8 March) and the International Day of Mathematics (14 March).
- Joint Mathematics Meeting in Denver, USA, January 15-18, 2020, organized by The National Academy of Sciences' U.S. National Committee for Mathematics.

There are currently no future exhibition plans, due to the sanitary situation.

## **May 12, Celebrating Women in Mathematics in 2020**

The idea of celebrating women in mathematics on Maryam Mirzakhani's birthday, May 12, was proposed by the Women's Committee of the Iranian Mathematical Society at the World Meeting for Women in Mathematics (WM)<sup>2</sup> in 2018 which approved it. The "May 12 Initiative", rose to a global and inclusive call to action, uniting several national and continental women-in-mathematics organizations worldwide (European Women in Mathematics, Association for Women in Mathematics, African Women in Mathematics Association, Colectivo de Mujeres Matemáticas en Chile, Women's Committee of the Iranian Mathematics Society, Indian Women in Mathematics).

In 2020, the main activity was individual screenings of Secrets of the surface, the Mathematical Vision of Maryam Mirzakhani, organized through an agreement between Zala Films and the May 12 initiative. The one hour documentary film, produced by Zala Films with the Mathematical Sciences Research Institute was filmed in Canada, Iran and the United States and released in January 2020. With the pandemic crisis, it was soon clear that many collective events would have to be canceled and Zala Films agreed that individual screenings were also offered on the May 12 website. Applicants then received a link to screen the film, and they were asked not to disseminate it.

The success was beyond any hope. More than 20,000 requests were received and the corresponding links were sent. People from 131 countries participated, with the following distribution by geographic zones : Asia: 39 % (Iran: 27 %, other Asian countries: 11 %), Europe: 27 %, Latin America 10%, North America: 20 %, Africa: 2 %, Oceania: 1 %, and 2 % with no country indicated.

Several CWM members were active members in the coordination group of May 12 initiative (MFR, CA, PBT) on an individual basis.

## **International Day of Mathematics**

CWM was active in promoting the project of IDM before its approval. This is reflected in the list of international and regional organizations supporting IDM, which includes the Organization for Women in Science for the Developing World (OWSD), the African Women in Mathematics Association (AWMA) and the European Women in Mathematics (EWM). BT has been nominated by CWM and is a member of the IDM Governing Board (IDMGB).

We noted that the first IDM was gender balanced, with an excellent visibility of girls and women in IDM activities.

## **CWM ambassadors**

CWM has compiled and contacted a list of more than 150 so-called CWM Ambassadors, each of whom has the job of disseminating information such as CWM funding calls in her geographical or mathematical neighbourhood, and equally of keeping CWM informed about relevant activities or initiatives. The list is posted on the CWM website.

Having in mind to make sure that the dissemination of information through the ambassadors is active in both directions, CWM a questionnaire for the ambassadors and got a significant number of answers, see report in Annex H2.

Meetings of CWM ambassadors by region are currently organized before July 2021 and a global gathering should take place at the end of 2021, virtually of course. The aim of these meetings is to organize CWM ambassadors as a network, discuss with them of their initiatives to reduce the gender gap and encourage them to exchanges between them on their good practices. Virtual meetings are going to take place in Europe jointly organized with EWM, in Africa jointly organized by AWMA, in Asia in combination of the creation of the Association of Asian Women in Mathematics, and in Latin America jointly organized by UMALCA. Plans are in progress for North America with AWM.

## **CWM website and publicity**

The CWM website <https://www.mathunion.org/cwm> has been reorganized, mainly by MFR, and updated on a regular basis, by MFR, NGC and PBT, with input from CWM members and ambassadors. In particular details of relevant events are posted.

We note the increasing number of countries which now have some form of organization for female mathematicians, see <https://www.mathunion.org/cwm/organizations/national>

CWM is the only organization gathering such information internationally.

Given the workload on CWM website and the little time available from NGC, MFR and PBT, Birgit Seeliger, IMU archivist started working for CWM for approximately six hours a week starting from January 2021. This is a very important improvement for CWM website and CWM in general.

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

Most of CWM's work has been done by email. Skype and phone calls have also been used. The liaison with EC through CK has been regular and very positive. We would like to thank the members of the IMU office staff who have consistently been very helpful.

*Report by Marie-Françoise Roy and Carolina Araujo, Chair and Vice Chair of CWM*

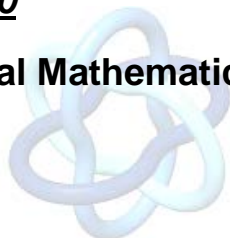
## **CWM Expenditure 2020**

<i>left from 2019</i>	<i>1 349,45 €</i>	
<i>budget from IMU 2020</i>	<i>20 878,00 €</i>	
CWM Graphic style for slides		900,00 €
Poster in several languages for Remember Maryam		
Mirzakhani Exhibition		286,55 €
catering costs ICTP		323,50 €
Call 2020 МАТЕМАТИКА exhibition		2 000,00 €
Call 2020 May 12 website		3 116,23 €
Call 2020 Indian Women in Mathematics		1 636,55 €
<b>Total expenses 2020</b>		<b>8 262,83 €</b>
<i>left from 2020</i>	<i>13 964,62 €</i>	
<i>Call 2020 postponed to 2021</i>		<i>12 690,00 €</i>

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

##### IMU AO Circular Letter 1/2020

### International Mathematical Union



January 6, 2020

#### **IMU AO Circular Letter 1/2020**

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

From: Helge Holden, IMU Secretary General

#### **Save the date: The IMU centennial conference**

Dear colleagues,

As you may know, the IMU was founded in September 1920 in Strasbourg, France. On the occasion of the centennial of the IMU, we are organizing the conference

**Mathematics without Borders  
The Centennial of the International Mathematical Union  
Strasbourg, 28–29 September 2020**

You are cordially invited to participate in this conference. We will get back with further information regarding registration, accommodation, etc., as soon as it is available.

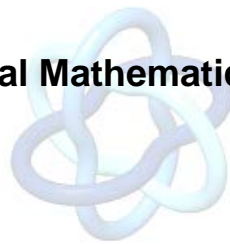
Please help distributing the information about the conference in your community.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

## IMU AO Circular Letter 2/2020

### International Mathematical Union



January 7, 2020  
**IMU AO Circular Letter 2/2020**

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

From: Helge Holden, IMU Secretary General

#### **Heidelberg Laureate Forum 2020**

Dear colleagues,

The 8th Heidelberg Laureate Forum (HLF), see <https://www.heidelberg-laureate-forum.org>, will take place in Heidelberg, Germany during September 20–25, 2020.

At HLF all winners of the Fields Medal, the Abel Prize, the ACM A.M. Turing Award, the Nevanlinna Prize, and the ACM Prize in Computing are invited to attend. In addition, young and talented computer scientists and mathematicians are invited to apply for participation. The 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 8th HLF are open in three categories: Undergraduates, PhD Candidates, and PostDocs. See the webpage <https://application.heidelberg-laureate-forum.org/site/index.php> for the online nomination form. Please note that in compliance with European data protection law all previous login information and nominator accounts were deleted.

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 IMU93258 for the IMU. **The deadline for application is February 14, 2020.**

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 General of the International Mathematical Union

## **IMU AO Circular Letter 3/2020**

### **International Mathematical Union**



January 7, 2020  
**IMU AO Circular Letter 3/2020**

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

From: Helge Holden, IMU Secretary General

#### **Updated Contact Information**

Dear colleagues,

#### **Contact information**

I will shortly send out individual emails to all IMU members regarding your country's contact information for the IMU.

The most recent contact information regarding the IMU members can be found at <https://www.mathunion.org/membership/imu-members>.

We will send you the email addresses that we use when we contact your country. Please take time to check if you want us to update them.

Please reply to me with Cc to [manager@mathunion.org](mailto:manager@mathunion.org)

- Confirming that the information above is correct, or
- Sending corrected/updated information.

#### **Advice re email addresses**

In order to establish and maintain reliable and sustainable connections with the IMU, the following steps are recommended:

1. Create generic addresses like "[president@mathsociety.country](mailto:president@mathsociety.country)", which will remain unchanged. Emails to a generic address can be forwarded to the person(s) holding the office.
2. Emails sent from the IMU should be received by at least two different recipients. I frequently receive automatic replies saying "I am away from my email", often covering long time periods of absence.
3. Give us at least two different email addresses, preferably using different mail servers.

If we have only one email address for a country, and that address ceases to work, we will be unable to discover that you did not receive our email, and, thus, we will lose contact with your country.

4. Please try to maintain the email addresses you give us and send us updates if necessary. We reserve the right to remove addresses that constantly bounce.

5. Please create a stable URL for your Adhering Organization.

### **Fraud alert**

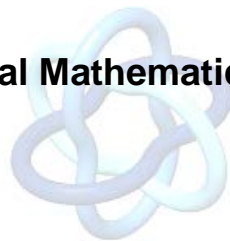
The IMU is regularly exposed to attempted frauds, usually in the form of emails requesting immediate transfer of money due to some emergency. The emails appear to be sent in the name of the IMU President or other IMU representatives, but a closer check of the email reveals that the IMU is *not* the sender. *The IMU is never requesting money on an individual basis.* Please do not respond to these emails and beware of sending money, but report this to me. The perpetrators reveal some knowledge of the IMU, and their emails do appear somewhat authentic.

Sincerely

Helge Holden  
Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 4/2020**

## **International Mathematical Union**



January 11, 2020  
**IMU AO Circular Letter 4/2020**

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

From: Helge Holden, IMU Secretary General

### **The Report of the General Assembly 2018**

Dear colleagues,

The full report of the General Assembly 2018 (GA2018) can be downloaded from

[https://www.mathunion.org/fileadmin/IMU/Organization/GA/GA\\_2018/18%20GA%20Report%20Final%20180729%20Sao%20Paulo.pdf](https://www.mathunion.org/fileadmin/IMU/Organization/GA/GA_2018/18%20GA%20Report%20Final%20180729%20Sao%20Paulo.pdf)

Draft of the report first went to the past and the present IMU President, the 2015–18 IMU Executive Committee, and subsequently for comments to the Delegates of the General Assembly. All suggestions have been included into the final version of the report. Thus, this is the final report of the 18th meeting of the IMU General Assembly.

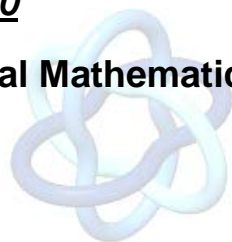
I apologise for the late completion of the report.

Sincerely

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 5/2020**

**International Mathematical Union**



February 5, 2020  
**IMU AO Circular Letter 5/2020**

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

From: Helge Holden, IMU Secretary General

**The new IMU Abacus Medal**

I refer to Circular Letter 9/2019 regarding the IMU Abacus Medal, and Resolution 7 of the 2018 General Assembly that charged the IMU Executive Committee (EC) with the responsibility

“...to determine and set up statutes for a prize continuing and with the same purpose and scope as the Nevanlinna Prize but with a new name and appropriate funding to be secured.”

I am happy to inform you that the EC decided to accept the joint bid from the University of Helsinki and the Simons Foundation for the funding of the IMU Abacus Medal. The newly designed gold medal as well as the statutes for the IMU Abacus Medal can be found on the website

<https://www.mathunion.org/imu-awards/imu-abacus-medal>

We are very grateful to the University of Helsinki and the Simons Foundation for their generous offer.

The first IMU Abacus Medal will be awarded at the ICM 2022 in St Petersburg.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 6/2020**

**International Mathematical Union**



February 11, 2020  
**IMU AO Circular Letter 6/2020**

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

From: Helge Holden, IMU Secretary General

**The IMU centennial conference "Mathematics without Borders"**

Dear colleagues,

I refer to CL 1/2020. As you know, the IMU was founded in September 1920 in Strasbourg, France. On the occasion of the centennial of the IMU, we are organizing the conference

**Mathematics without Borders  
The Centennial of the International Mathematical Union  
Strasbourg, 28–29 September 2020**

You are cordially invited to participate in this conference. Please register at [imucentennial2020.math.unistra.fr](http://imucentennial2020.math.unistra.fr)

Prepayment for refreshments and lunches is necessary to complete the registration. When you complete your registration, you will receive an email with information about accommodation.

Please note that there is a limit to the number of participants, and registration will be available on a first come, first served basis.

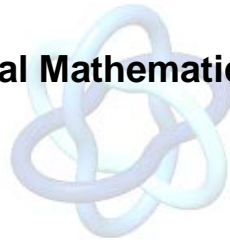
Please help distribute the information about the conference in your community. We hope to see many of you in Strasbourg.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 7/2020**

**International Mathematical Union**



March 6, 2020  
**IMU AO Circular Letter 7/2020**

To: The Adhering Organizations of the International Mathematical Union (IMU)  
From: Helge Holden, IMU Secretary General

**The Gender Gap Project**

Dear colleagues,

The project (<https://gender-gap-in-science.org>)

*A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to Measure It, How to Reduce It?*

initiated and led by the IMU Committee for Women in Mathematics and largely funded by the International Science Council (ISC), has now been finalized.

A summary of the recommendations is attached. The full report can be found at <https://doi.org/10.5281/zenodo.3697222>

Please distribute this information in your country.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 8/2020**

**International Mathematical Union**



March 6, 2020  
**IMU AO Circular Letter 8/2020**

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

From: Helge Holden, IMU Secretary General

**Another fraud alert**

Dear colleagues,

This is a warning about an ongoing fraud attempt. Someone is sending out false emails in the name of IMU President Carlos E. Kenig and ICMI President Jill Adler.

Here is an example:

++++  
From: "Carlos Kenig" [Lifewood101@null.net](mailto:Lifewood101@null.net)  
Subject: International Mathematical Union (IMU)  
Date: 3 March 2020 at 17:56:51 CET  
To: XXX

Dear X

The purpose of the International Mathematical Union (IMU) is to promote international cooperation in mathematics, support and assist the International Congress of Mathematicians and other international scientific meetings or conferences.

We also 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.

As a member of the International Science Council (ISC). IMU endorses ISC's Principle of Freedom, Responsibility and Universality of Science.

I need your help with the IMU- International Mathematical Union concerning IMU support for the International Science Council (ISC) Endorsed Events.

Are you available? I'll be waiting for your reply email.

Best regards,

IMU President

Carlos E. Kenig

++++

A follow-up may look like this:

++++  
Date: Tue, 3 Mar 2020 19:54:54 +0100  
From: Carlos Kenig [lifewood101@null.net](mailto:lifewood101@null.net)  
To: XXX

Subject: Re: International Mathematical Union (IMU)

Dear X,

Thanks for the reply and the willingness to help. I need your help with the International Mathematical Union (IMU). I contacted you about this because I know you can help. The IMU has a payment of 2,963 EUR to be paid, a support payment for the International Science Council (ISC) Endorsed Events.

Our treasurer is unavailable due to a recent family emergency and will return next week. As the IMU president, it is my duty to facilitate this payment as soon as possible but due to bank policy here in United State of America, it's going to take 5 or more days to get Turkey and we must pay on or before Friday 6th of March.

I would like to as you for a favor because you are from same European Union with Turkey, I think you're the best person to ask for this favor to make the payment faster. please, can you help us with the transfer of 2,963 EUR for this payment while we will pay you back next week?

Can I forward to you the IBAN details for the payment if this is convenient for you help make this payment before the due date?

We will refund the amount as soon as the treasurer returns.

I'm really counting on you as I'll be waiting for your email.

Best wishes,

IMU President  
Carlos E. Kenig

+++++

On the ICMI side, it may look like this:

+++++

Date: Mon, 2 Mar 2020 14:16:14 +0100  
From: Jill Adler [presidentceo71646@gmail.com](mailto:presidentceo71646@gmail.com)  
To: XXX  
Subject: Request

X,

How are you today, Please is there any possibility for you to help the board get things done today? Let me know so i can explain more better.Email me.

Regards,  
Jill Adler

Sent from a mobile

+++++

A follow-up may look like this:

+++++

Dear X,

Please can you process a wire transfer or make a bank transfer to a Vendor on behalf of the board today and get reimburse on Wednesday,Let me know so I can send you the instruction (Intel) to complete this request.

Regards,

Jill Adler

+++++

These emails are fraudulent. Do not respond to them. The emails appear to be sent in the name of the IMU or ICMI Presidents but closer scrutiny of the email reveals that the IMU or ICMI is not the sender.

**Neither IMU nor ICMI ever requests money on an individual basis.**

Please do not respond to these emails and beware of sending money. Please also report such communications to us.

The perpetrators reveal some knowledge of the IMU and ICMI, and their emails appear more authentic than earlier attempts.

Please note that all IMU email addresses have the format <name>@mathunion.org, the ICMI email addresses mostly do likewise, and this applies in particular to the Reply-To address.

We apologize for this issue. Please let us know if you have been contacted similarly, as we would like to understand the extent of this attempted fraud.

Regards

Helge Holden  
Secretary General of the  
International Mathematical Union

Abraham Arcavi  
Secretary General of the International  
Commission on Mathematical  
Instruction

**IMU AO Circular Letter 9/2020**

**International Mathematical Union**



March 12, 2020  
**IMU AO Circular Letter 9/2020**

To: The Adhering Organizations of the International Mathematical Union (IMU)  
From: Helge Holden, IMU Secretary General



## **The Inaugural International Day of Mathematics March 14**

Dear colleagues,

As you know, the 40th General Conference of UNESCO approved the proclamation of March 14 as the International Day of Mathematics (IDM), a project initiated and led by IMU.

### *Virtual launch of the IDM*

The UNESCO international official launch planned for Friday, March 13, 2020 has been cancelled because of the COVID-19 epidemic. For the same reason, the Next Einstein Forum 2020 (March 10-13, 2020) in Nairobi, Kenya, that included the African official launch of the IDM, was postponed. As a consequence, a special [Live Global Launch webpage](#) will accompany all events worldwide on March 14, starting 00:00 New Zealand time. It will show the new collaborative video, *Mathematics is Everywhere*, created by the international IDM community. Throughout the day, it will also post special announcements, videos, photos and reports from the celebrations taking place in more than 100 different countries.

You are hereby invited to send these to [info@idm314.org](mailto:info@idm314.org) (preferably no more than 1-3 photos in high resolution).

Press releases produced for the launch in different languages will be accessible via the webpage.

I am happy to report that we expect more than 1000 celebrations around the world in 2020. I wish you very successful celebrations in your country. The IDM is there to grow in the coming years, and we hope to reach out to more people and schools already in 2021.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 10/2020**

**International Mathematical Union**



March 13, 2020  
**IMU AO Circular Letter 10/2020**

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

From: Helge Holden, IMU Secretary General

**An important announcement regarding ICME-14**

Dear colleagues,

For your information:

The International Commission on Mathematical Instruction (ICMI), a commission of the IMU, has just released the following announcement regarding its big congress [ICME-14](#):

### **Announcement**

**Due to the global pandemic caused by the new coronavirus disease (COVID-19), ICMI and ICME-14 have decided, after careful discussion and consultation, to postpone ICME-14 by one year until the Northern Hemisphere summer of 2021.**

**The specific dates of postponed ICME-14 and the details related to the conference organization, including information for those already registered, will be announced as soon as possible. We will publish a “frequently asked questions” fact sheet in the next weeks on the ICME14 and ICMI websites.**

**Whereas the one-year postponement of ICME-14 poses many challenges, we believe this is the solution to ensure the full-fledged and successful realization of this important conference. We sincerely apologize to everyone for the consequences of this unfortunate and dramatic development.**

ICMI plans to hold its General Assembly sometime in September-October 2020 in order to hold its quadrennial meeting and to elect the upcoming ICMI Executive Committee which will take office on 1 January 2021, so as to ensure a smooth transition of authorities as stipulated in the statutes. Details about how the meeting will be conducted (when and where) will follow in the upcoming months, as the global situation will make the planning feasible.

Please distribute this information in your country.

Thanks

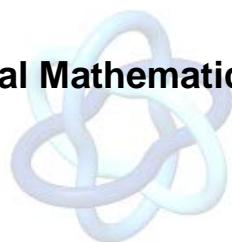
Regards

Helge Holden

Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 11/2020**

**International Mathematical Union**



March 30, 2020  
**IMU AO Circular Letter 11/2020**

To: The Adhering Organizations of the International Mathematical Union (IMU)  
From: Helge Holden, IMU Secretary General

### **The General Assembly for ICMI**

Dear colleagues,

As you will recall, the ICME-14 congress has been rescheduled for 2021 due to the COVID-19 pandemic (see IMU CL 10/2020).

The General Assembly for ICMI, scheduled to take place just prior to ICME-14, will be organized as a web event in July 2020 in order to carry out the elections for the new Executive Committee of ICMI which will take office on 1 January 2021.

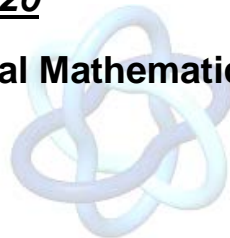
See attached letter from the ICMI Secretary General Abraham Arcavi.  
Please distribute this information in your country.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 12/2020**

### **International Mathematical Union**



April 8, 2020  
**IMU AO Circular Letter 12/2020**

To: The Adhering Organizations of the International Mathematical Union (IMU)  
From: Helge Holden, IMU Secretary General

### **Nomination of invited plenary and sectional speakers for ICM 2022**

Dear colleagues,

The Program Committee (PC) for the [International Congress of Mathematicians 2022](#) in St Petersburg, Russia, 6–14 July 2022, has been established. At this moment in time the Adhering Organizations of IMU and the mathematical societies worldwide are invited to nominate plenary and sectional speakers.

Attached to this Circular Letter please find the list of the ICM 2022 sections, as proposed by the ICM Structure Committee and decided by the Executive Committee of the IMU (see AO CL 14/2019). When you make nominations for speakers please specify whether you suggest them as plenary speakers or sectional speakers. In case of proposals of sectional speakers, please indicate to which sections you would like the persons to be invited. Shared lectures between sections are also possible.

All communication concerning the scientific program of ICM 2022 is handled by the Chair of the Program Committee, Martin Hairer. Please direct all your proposals for invited plenary and sectional speakers to Martin Hairer using the email address

[chair@pc22.mathunion.org](mailto:chair@pc22.mathunion.org).

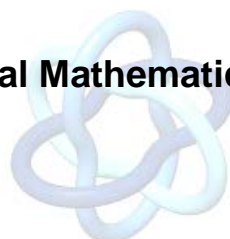
Nominations should be received by the PC Chair no later than **1 November 2020**.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 13/2020**

## **International Mathematical Union**



April 14, 2020  
**IMU AO Circular Letter 13/2020**

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

From: Helge Holden, IMU Secretary General

### **Call for Themes for the International Day of Mathematics 2021**

Dear colleagues,

The first International Day of Mathematics (IDM 2020) aroused worldwide enthusiasm with 1,030 celebrations announced in more than 110 countries. Unfortunately, many celebrations were cancelled due to the COVID-19 pandemic. This led to spontaneous online presentations via videos and recorded talks and domestic celebrations of the IDM in many countries. The [Live IDM Global Launch](#) itself attracted 15,000 unique users on March 14, 2020.

The IDM 2020 theme was *Mathematics is Everywhere*. It is now time to decide the theme

of IDM 2021.

A call for proposals of the theme of IDM 2021 is now open with a deadline of

**May 9, 2020.**

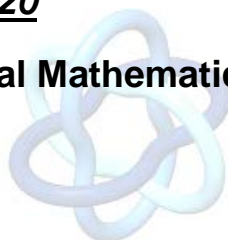
Suggestions for a theme, together with a short justification, can either be proposed by filling in the form on the [IDM website](#) or by sending an email to [idm@mathunion.org](mailto:idm@mathunion.org).

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 14/2020**

**International Mathematical Union**



April 23, 2020  
**IMU AO Circular Letter 14/2020**

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

From: Helge Holden, IMU Secretary General

**The 8th Heidelberg Laureate Forum is postponed until 2021**

Dear colleagues,

I refer to Circular Letter 2/2020 regarding the 8th Heidelberg Laureate Forum, scheduled to take place in Heidelberg, Germany between 20–25 September 2020.

With much regret the organizers have decided to postpone the 8th Heidelberg Laureate Forum to **19–24 September 2021** due to the global COVID-19 pandemic.

Further details can be found at <https://www.heidelberg-laureate-forum.org/forum/8th-hlf.html>

We are sorry for any inconvenience, but the current situation has left us with very few alternatives.

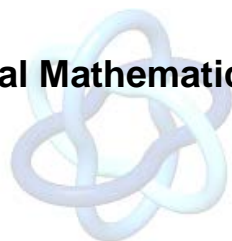
Regards

Helge Holden

Secretary General of the International Mathematical Union

**IMU AO Circular Letter 15/2020**

**International Mathematical Union**



April 23, 2020

**IMU AO Circular Letter 15/2020**

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

From: Helge Holden, IMU Secretary General

**Call for nominations for IMU prizes**

Dear colleagues,

As Secretary General of the IMU I invite you to submit nominations for the IMU distinctions listed below, thus assisting the corresponding committees in their task of selecting the awardees who will receive their distinctions at the ICM 2022 in St Petersburg, Russia.

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

– The Fields Medals – Chair: IMU President Carlos E. Kenig Email: [chair@fields22.mathunion.org](mailto:chair@fields22.mathunion.org)

The Fields Medals are awarded every 4 years on the occasion of the International Congress of Mathematicians to recognize outstanding mathematical achievement for existing work and for the promise of future achievement, see details at <https://www.mathunion.org/imu-awards/fields-medal>.

– The IMU Abacus Medal – Chair: James Demmel.  
Email: [chair@abacus22.mathunion.org](mailto:chair@abacus22.mathunion.org)

The IMU Abacus Medal is awarded once every 4 years at the International Congress of Mathematicians for outstanding contributions in mathematical aspects of information sciences, see details at <https://www.mathunion.org/imu-awards/imu-abacus-medal>.

The IMU Abacus Medal is a continuation of the Nevanlinna Prize and will be awarded for the first time at the ICM 2022.

– The Carl Friedrich Gauss Prize – Chair: Eva Tardos.  
Email: [chair@gauss22.mathunion.org](mailto:chair@gauss22.mathunion.org)

The Gauss Prize is awarded once every 4 years to honor a scientist whose mathematical research has had an impact outside mathematics – either in technology, in business, or simply in people's everyday lives, see details at <https://www.mathunion.org/imu-awards/carl-friedrich-gauss-prize>.

– The Chern Medal Award – Chair: Yakov Eliashberg.  
Email: [chair@chern22.mathunion.org](mailto:chair@chern22.mathunion.org)

The Chern Medal is awarded every 4 years on the occasion of the International Congress of Mathematicians to an individual whose accomplishments warrant the highest level of recognition for outstanding achievements in the field of mathematics, see details at <https://www.mathunion.org/imu-awards/chern-medal-award>.

– The Leelavati Prize – Chair: Pavel Etingof.  
Email: [chair@leelavati22.mathunion.org](mailto:chair@leelavati22.mathunion.org)

The Leelavati Prize is intended to accord high recognition and great appreciation of the IMU and Infosys of outstanding contributions for increasing public awareness of mathematics as an intellectual discipline and the crucial role it plays in diverse human endeavors, see details at <https://www.mathunion.org/imu-awards/leelavati-prize>.

IMU also requests nominations for the

– ICM Emmy Noether Lecture – Chair: Sylvia Serfaty.  
Email: [chair@noether22.mathunion.org](mailto:chair@noether22.mathunion.org)

The ICM Emmy Noether Lecture is a special lecture at an ICM that honors women who have made fundamental and sustained contributions to the mathematical sciences, see more details at <https://www.mathunion.org/imu-awards/icm-emmy-noether-lecture>.

More information about each of these awards and the Noether lecture, as well as lists of past laureates, can be found on the IMU website at: <https://www.mathunion.org/imu-awards/imu-awards-prizes-and-special-lecture>.

To allow the committees sufficient time for this decision process, the IMU has set

### **31 December 2020**

as the deadline for nominations. Nominations received after this date will only be considered at the discretion of the committee. Thus, we would like to urge you to submit any compelling nominations you wish to make before the above deadline.

The full composition of each committee remains confidential and will not be revealed until the opening ceremony of ICM 2022.

Please send your nomination to the special email address of the committee chair as given above. Thereby you will ensure that it automatically reaches the corresponding committee. A copy of your nomination material will be archived in the IMU Secretariat in Berlin with an embargo of 70 years for anyone outside the committee.

We look forward to receiving your nominations!

Regards

Helge Holden  
Secretary General of the International Mathematical Union

### **IMU AO Circular Letter 16/2020**

## **International Mathematical Union**



May 4, 2020  
**IMU AO Circular Letter 16/2020**

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

From: Helge Holden, IMU Secretary General

### **COVID-19 Resource Website**

Dear colleagues,

The ongoing COVID-19 pandemic has affected modern society globally. Tragically, many thousands have died, many more have lost their jobs, and it has changed the working conditions of billions of people.

In response to the situation, we have launched the website <https://www.mathunion.org/corona> containing links to some resources pertaining to the pandemic.

We focus on three aspects:

- general websites with information on the COVID-19 pandemic
- online seminars for a global audience
- websites which concentrate on mathematical research on the pandemic

For this website to be useful, we depend on active feedback from the community. Please send links to be included to

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

Please communicate the information about our website in your community.

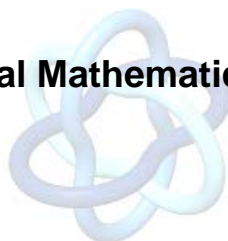


Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 17/2020**

**International Mathematical Union**



May 15, 2020  
**IMU AO Circular Letter 17/2020**

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

From: Helge Holden, IMU Secretary General

**Rescheduled: The IMU centennial conference "Mathematics without Borders"**

Dear colleagues,

I refer to CL 6/2020. Due to the COVID-19 pandemic, I regret to announce that the conference

**Mathematics without Borders  
The Centennial of the International Mathematical Union  
Strasbourg, 28–29 September 2020**

has been rescheduled for

**Strasbourg, 27–28 September 2021**

We will get back to you with further information regarding the program in due time.

We are sorry for any inconvenience.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 18/2020**

**International Mathematical Union**



May 25, 2020  
**IMU AO Circular Letter 18/2020**

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

From: Helge Holden, IMU Secretary General

**Slate for the ICMI election for its Executive Committee**

Dear colleagues,

I refer to CL 11/2020 regarding the General Assembly for ICMI, where it was announced that it will take place as a virtual event.

**The dates have been fixed for 13–14 July 2020.**

The General Assembly will concentrate on the election of the new Executive Committee for ICMI. The webpage for the General Assembly will be made active by 30 June.

The Nominating Committee, chaired by Michèle Artigue, has proposed the attached slate for the upcoming election.<sup>2</sup>

Further information regarding the candidates etc. has been sent to the Country Representatives. For a complete list of all Country Representatives, please see the webpage

<https://www.mathunion.org/icmi/organisation/our-members/icmi-representatives>

Regards

Helge Holden  
Secretary General of the International Mathematical Union

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<sup>2</sup> The slate was provided in confidentiality to AOs in attachment to the original email.

**IMU AO Circular Letter 19/2020**

**International Mathematical Union**



June 9, 2020  
**IMU AO Circular Letter 19/2020**

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

From: Helge Holden, IMU Secretary General

**Application for change of group of adherence of Denmark**

Dear colleagues,

Denmark has requested a change of group of adherence from Group II to Group III. The Executive Committee of the IMU unanimously recommends this change. Enclosed is the application from Denmark.

Postal ballot sheets will be sent to the Adhering Organizations by regular mail.

Please vote on the application by Denmark using the postal ballot, and return the ballot by mail, email or fax by

**30 September 2020**

to the address indicated on the ballot form.

[Ballots are sent by regular mail only, as ballots sent out by email (with possibly multiple recipients) could lead to conflicting votes of one member country.]

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 20/2020**

**International Mathematical Union**



July 16, 2020  
**IMU AO Circular Letter 20/2020**

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

From: Helge Holden, IMU Secretary General

**The new Executive Committee of ICMI**

Dear colleagues,

I refer to Circular Letters 11/2020 and 18/2020. On 13 July, the International Commission on Mathematical Instruction (ICMI), a commission of the IMU, hosted its quadrennial General Assembly as a web event. The event concentrated primarily on the election of the new ICMI Executive Committee.

I am now pleased to inform you that the newly elected Executive Committee of ICMI for the term 1 Jan 2021 – 31 Dec 2024 is as follows:

President: Frederick Leung (Hong Kong SAR China)  
Secretary General: Jean-Luc Dorier (Switzerland)  
Vice President: Merrilyn Goos (Australia/Ireland)  
Vice President: Anjum Halai (Pakistan)

Members-at-large:

Marta Civil (USA)  
Patricio Felmer (Chile)  
Mercy Kazima (Malawi)  
Núria Planas (Spain)  
Susanne Prediger (Germany)

In addition, Jill Adler (South Africa) will serve as Past President on the new EC. The IMU President and Secretary General also serve ex officio on the ICMI EC.

This is for your information.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 21/2020**

**International Mathematical Union**



August 2, 2020  
**IMU AO Circular Letter 21/2020**

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

From: Helge Holden, IMU Secretary General

**The ICM 2022 Newsletter**

Dear colleagues,

As you all know, the next ICM will take place in Saint Petersburg, Russia, 6–14 July 2022, see <https://icm2022.org>.

The local organizers have issued the first ICM Newsletter, which can be retrieved from <https://yastatic.net/s3/contest/icm2022/icm%20newsletter.pdf>

If you have any feedback regarding the ICM Newsletter, this can be sent to [feedback@icm2022.org](mailto:feedback@icm2022.org).

Please do sign up directly for future newsletters via <https://icm2022.org> (scroll to the bottom of the page for the sign-up field).

We hope to see many of you at the ICM in 2022 in Saint Petersburg!

Regards

Helge Holden  
Secretary General of the International Mathematical Union

## **IMU AO Circular Letter 22/2020**

### **International Mathematical Union**



August 19, 2020  
**IMU AO Circular Letter 22/2020**

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

From: Helge Holden, IMU Secretary General

### **Call for nominations to the Nominating Committee of IMU**

Dear colleagues,

This email marks the beginning of the preparations of the next meeting of the IMU General Assembly (GA) to be held in St Petersburg, Russia, on 3–4 July 2022. Adhering Organizations of Associate Members receive this letter for information only.

The IMU Executive Committee (EC) has started forming the Nominating Committee (NC), whose task it is to present slates of nominations to the Adhering Organizations (AOs) prior to the GA meeting in St Petersburg. Every AO is requested to nominate at most one person for this Nominating Committee.

The NC is one of the most important IMU committees since it has a strong influence on the composition of the IMU leadership for the term 2023–2026.

The role of the Nominating Committee is described in detail at: [https://www.mathunion.org/fileadmin/IMU/EC/Procedures\\_for\\_Election\\_2020-08-19.pdf](https://www.mathunion.org/fileadmin/IMU/EC/Procedures_for_Election_2020-08-19.pdf)

The duty of the NC is to present a slate to the GA for candidates for membership of the IMU EC, the CDC, and the ICHM for the term 2023–2026, see below.

The composition of the NC is as follows:

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

This call for nominations concerns the three persons mentioned under item (c).

The IMU Executive Committee asks for the nomination of persons

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

The IMU President Carlos E. Kenig has chosen Wendelin Werner (IMU EC member 2011–2018) as the Chair of the NC. In particular, this implies that no person working in the US or in Switzerland can be nominated.

One person is to be chosen from nominations submitted by Groups I and II, one person chosen from nominations submitted by Groups III and IV and one person chosen from nominations submitted by Group V. Each Adhering Organization may submit one name of a person who is willing to serve. If there are no nominations in one of these three categories, then a person will be chosen at random from the other two categories.

All submissions are to be sent via email to the IMU Secretary General at [secretary@mathunion.org](mailto:secretary@mathunion.org). All email submissions must be sent from the official email address of the Adhering Organization. Email submissions will be acknowledged.

Additional requirements:

- Every nomination of a candidate has to be accompanied by a statement of the candidate that he or she is willing to serve.
- No member of the Nominating Committee will be eligible to hold an office for 2023–2026 on the IMU EC, CDC or ICHM.

The deadline for receipt of nominations from which a random selection will be made is  
**1 December 2020.**

The Nominating Committee is scheduled to be complete by 1 February 2021, and according to the tradition, the AOs will be informed about its composition at that time.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

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#### Duties of the IMU Nominating Committee

(a) Nomination slates will be formed for the IMU Executive Committee (EC), IMU Commission for Developing Countries (CDC), and the International Commission on the History of Mathematics (ICHM).

(b) The slates for the commissions will be formed taking advice from the current officers of these commissions, but this advice is not binding on the IMU Nominating Committee.

(c) The IMU Nominating Committee will nominate one name for the position of President of IMU, Secretary General of IMU, President of CDC, and Secretaries of CDC and one name for each of the two Vice Presidents of IMU.

The IMU Nominating Committee will nominate at least two more names than the number of Members-at-Large of the IMU EC, at least two names for each of the three positions for CDC Members-at-Large in representation of Africa, Asia, and Latin America, and at least two more names than the number of ICHM representatives.

## **IMU AO Circular Letter 23/2020**

### **International Mathematical Union**



August 25, 2020  
**IMU AO Circular Letter 23/2020**

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

From: Helge Holden, IMU Secretary General

#### **A new ad-hoc IMU Committee on Diversity**

Dear colleagues,

Recently, there has been a considerable increase of attention devoted worldwide to the issues of diversity and inclusion. Many institutions and organizations have recognized the need to re-assess their relationship to the issues of diversity and inclusion.

In the past few years, there has been increased attention to diversity in the IMU. This has been combined with an increased consideration of conflicts of interest and implicit biases. These changes have certainly improved the operations of the IMU.

To build on this, the Executive Committee (EC) of the IMU has decided to create an ad hoc committee called the Committee on Diversity (CoD) that can offer us advice regarding diversity and inclusion.

The purpose of CoD is threefold:

1. Assess how the IMU has performed to date
2. Offer advice on how we can improve our performance
3. Offer advice on how our members (the Adhering Organizations) can improve their performance nationally.

CoD's final report will first be discussed by the EC. The EC will then make its recommendations to be discussed at the General Assembly in St Petersburg prior to the ICM 2022.

The work of the committee will be public, and the committee will be free to seek advice and engage in discussions wherever it finds suitable.

The chair of CoD is Robert Bryant (Duke University, US), and his email address for this is [chair@cod.mathunion.org](mailto:chair@cod.mathunion.org). Other members are

Edy Tri Baskoro (Indonesia)  
Sophie Dabo-Niang (France/Senegal)



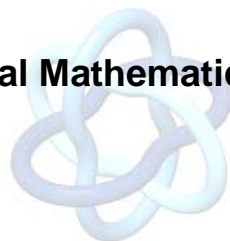
Edray Goins (US)  
Anjum Halai (Pakistan)  
Gugu Moreira (Brazil)  
Philibert Nang (Gabon)  
Ngô Bao Châu (US/Vietnam)  
Tatiana Toro (US/Colombia)  
Elena Vázquez-Abal (Spain)

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 24/2020**

**International Mathematical Union**



October 1, 2020  
**IMU AO Circular Letter 24/2020**

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

From: Helge Holden, IMU Secretary General

**Result on application for change of group of adherence from Denmark**

Dear colleagues,

I am happy to report about the outcome of the postal ballot on the application for change of group of adherence from group II to group III for Denmark, see IMU AO Circular Letter 19/2020.

The vote on Denmark's application to change from group II to group III yielded a positive result. As of November 2020, Denmark is a Member in Group III of the IMU.

Thank you for your contribution.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 25/2020**

**International Mathematical Union**



November 20, 2020  
**IMU AO Circular Letter 25/2020**

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

From: Helge Holden, IMU Secretary General

**Newsletter from the IMU Committee for Women in Mathematics**

Dear colleagues,

This Circular Letter is to inform you about the Newsletter of the IMU Committee for Women in Mathematics ([CWM](#)). The Newsletter which is published twice a year can be found [here](#), where you can also subscribe to future issues. The latest issue just appeared.

Please distribute the information about the Newsletter in your community. Please send any feedback and suggestions about the Newsletter to [cwm.info@mathunion.org](mailto:cwm.info@mathunion.org).

Thanks

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 26/2020**

**International Mathematical Union**



December 21, 2020  
**IMU AO Circular Letter 26/2020**

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

From: Helge Holden, IMU Secretary General

## Membership in the IMU Nominating Committee

Dear colleagues,

This email is just for your information regarding the members of the IMU Nominating Committee (NC). See [Circular Letter 22/2020](#) for additional information.

Recall that the composition of the NC is as follows:

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

On 3 December 2020, at the IMU Secretariat in Berlin, the random selection of members of the NC took place. See [video](#). We thank you for your nominations. The result of the random selection was:

Astrid an Huef (New Zealand)  
Nam-Gyu Kang (Korea/Republic of)  
Caroline Series (UK)

In addition, the chair of the NC, Wendelin Werner, and the IMU President, Carlos E. Kenig, chose

Dusa McDuff (US)  
Vasudevan Srinivas (India)

as members of the NC.

Thus the 2022 Nominating Committee comprises:

Wendelin Werner (Switzerland, chair)  
Astrid an Huef (New Zealand)  
Nam-Gyu Kang (Korea/Republic of)  
Carlos E. Kenig (US, IMU President)  
Dusa McDuff (US)  
Caroline Series (UK)  
Vasudevan Srinivas (India)

Emails to the NC should be addressed to Wendelin Werner at [chair@nc22.mathunion.org](mailto:chair@nc22.mathunion.org).

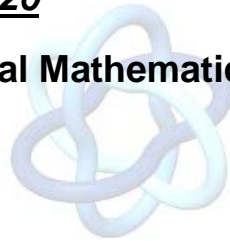
We will send out a Circular Letter regarding nominations for the various open positions in due time.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 27/2020**

**International Mathematical Union**



December 23, 2020  
**IMU AO Circular Letter 27/2020**

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

From: Helge Holden, IMU Secretary General

**IMU Bulletin No. 71 (2019)**

Dear colleagues,

The IMU Bulletin No. 71, reporting about the IMU activities in 2019, is available on the IMU Web server at <https://www.mathunion.org/membership/imu-bulletins>

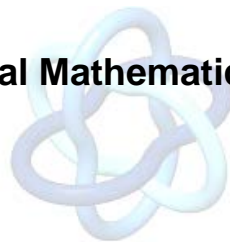
We do not intend to send out printed versions. However, printed versions will be sent out on request.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

**IMU AO Circular Letter 28/2020**

**International Mathematical Union**



December 23, 2020  
**IMU AO Circular Letter 28/2020**

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

From: Helge Holden, IMU Secretary General

**Extended deadline for nominations for IMU awards**

Dear colleagues,

As is well known, the IMU awards some of the most prestigious prizes in mathematics. Specifically

- The Fields Medals
- The IMU Abacus Medal
- The Carl Friedrich Gauss Prize
- The Chern Medal Award
- The Leelavati Prize

In addition, the IMU also selects the

- ICM Emmy Noether Lecturer

In [Circular Letter 15/2020](#) the Adhering Organizations were asked to nominate candidates for the above awards by the deadline of 31 December 2020. In the Circular Letter one can find further information about the nomination procedure.

Given the circumstances and constraints under which everyone in the community has been working this year, the IMU has decided that an extension of the deadline is both appropriate and justified.

**We hereby extend the deadline to 28 February 2021.**

Nominations received after this date will only be considered at the discretion of the committee.

Regards

Helge Holden  
Secretary General of the International Mathematical Union

## 5. The IMU Secretariat

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>) since January 2011. Following a positive evaluation of the work of the IMU Secretariat between 2011-2018, an unlimited Cooperation Agreement with WIAS was signed in 2018 (as approved at the 18<sup>th</sup> IMU General Assembly).

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.



IMU Secretariat staff:

Alexander Mielke (until June 2020)/Dietmar Hömberg (from July 2020): Head of the Secretariat and IMU Treasurer (✉ [treasurer@mathunion.org](mailto:treasurer@mathunion.org))

Sylwia Markwardt (until March 2020)/Scott Jung (from February 2020): Manager of the Secretariat (✉ [manager@mathunion.org](mailto:manager@mathunion.org))

Lena Koch (returned from leave February 2020)/Ramona Fischer (until March 2020): ICMI/CDC Administration (✉ [icmi.cdc.administrator@mathunion.org](mailto:icmi.cdc.administrator@mathunion.org))

Mariusz Szmerlo (from June 2020): IMU Accountant (✉ [accountant@mathunion.org](mailto:accountant@mathunion.org))

Birgit Seeliger: IMU Archivist (✉ [archivist@mathunion.org](mailto:archivist@mathunion.org))

Frank Klöppel: IT and Technical Support (✉ [technician@mathunion.org](mailto:technician@mathunion.org))

Imren Karci: Project Assistant (✉ [assistant@mathunion.org](mailto:assistant@mathunion.org))

IMU Secretary General:

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

The IMU Secretariat experienced significant changes in personnel over the course of 2020, most notably in its leadership. Manager of the IMU Secretariat Sylwia Markwardt retired from the Secretariat in March 2020 and Alexander Mielke ended his tenure as Head of the Secretariat at the end of June 2020.

Alexander Mielke and Sylwia Markwardt had been in their respective leadership roles since the Secretariat's inception at WIAS in 2011. They were integral in shaping its working scope and remit, overseeing its development and ensuring its successful functioning. The gratitude owed to their engagement and hard work cannot be overstated. Both the IMU and WIAS thank Alexander Mielke and Sylwia Markwardt for their outstanding dedication and service.

In terms of their successors, Scott Jung took over as Manager in March 2020 and Dietmar Hömberg assumed his role as Head in July 2020. This change in personnel was successfully enabled by careful planning and support for the transitions, further supplemented by the Secretariat's working excursion to Lutherstadt Wittenberg in March 2020. The excursion provided the opportunity for the Secretariat's members to focus on numerous operational aspects with a fresh perspective, to review, overhaul, and develop working processes, as well as to foster interpersonal and working relationships within the framework of the new team.

With Mariusz Szmerlo joining the Secretariat in June 2020 and filling the vacant position of IMU Accountant, the Secretariat was again at full capacity and able to deliver on its remit.

Address of the IMU Secretariat:

International Mathematical Union  
Secretariat  
Hausvogteiplatz 11a  
10117 Berlin, Germany  
Phone: +49 30 20372-430  
Fax: +49 30 20372-439  
E-mail: [office@mathunion.org](mailto:office@mathunion.org)

## 6. Impressum

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