



# International Commission on Mathematical Instruction

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## Activity and Financial Report 2013 to IMU



## 2013 at a glance

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### Key activities:

#### Administration and Governance

The ICMI Executive Committee (2013-2016) held its first meeting Berlin, Germany from May 22-24, 2013.

#### Members

As of 2013 ICMI has 92 member countries.

#### ICMI Regional Conferences

AFRICME-4 (the Fourth Africa Regional Congress of ICMI on Mathematical Education) was held in Lesotho in 2013. The Congress was hosted by the Lesotho College of Education - Faculty of Science on the 11-14 June 2013.

The Sixth East Asia Regional Conference in Mathematics Education “Innovations and Exemplary Practices in mathematics education” (EARCOME-6) was held in Phuket, Thailand from March 17-22, 2013.

#### ICMI Studies

**ICMI Study 20 "Educational Interfaces between Mathematics and Industry"** has been published in December 2013. The co-chairs of this ICMI Study were Alain Damlamian (France) and Rudolf Sträßer (Germany). The book was edited by Alain Damlamian, Rudolf Sträßer and José Francisco Rodrigues (Portugal).

**ICMI Study 21 “Mathematics Education and Language Diversity”** The volume is jointly edited by members of the IPC, coordinated by IPC member Richard Barwell (Canada) and is progressing well.

**ICMI Study 22 “Task Design”** The Study Conference was held from July 22-26 2013 at the Department of Education, University of Oxford, UK. The Study Chairs are Anne Watson (UK) and Minori Ohtani (Japan).

**ICMI Study 23: The Primary Mathematics Study on Whole Numbers** was launched in 2012. The IPC has been appointed and started working in 2013. The IPC meeting was held in January 2014, co-chaired by Mariolina Bartolini Bussi (Italy) and Sun Xuhua (China).

#### Outreach to Developing Countries

The following activities under the umbrella of the Capacity and Network Project (CANP) were held in 2013:

**CANP 2 Central America and the Caribbean:** The First Central American and Caribbean Congress in Mathematics Education (I CEMACYC) was held November 6-8 in Santo Domingo, Dominican Republic. This Network has been formed during the CANP workshop in Costa Rica in 2012.

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

**CANP 4, East Africa:** The IPC and Local Organizing committee has been formed and started working in 2013. The forth CANP will be held in 1-12 September 2014.

#### **Klein Project**

Antoine Nectoux presented the Klein Project in Phnom Penh, Cambodia in March 2013.

A Klein Workshop, a teacher training day and a meeting for the design team, were held in Berlin, Germany from 17-20 of September 2013.

#### **ICMI Awards**

The ICMI 2013 Awards were announced in November 2013. The recipients for 2013 of the Felix Klein and Hans Freundenthal Awards are:

Michele Artique (France) - The Felix Klein Medal for lifetime achievement

Frederick Leung (China) - The Hans Freundenthal Medal for a major cumulative programme of research.

## 2013 in Detail

### Administration and Governance

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#### Organisation

##### ICMI Members and Representatives

As of 2013 ICMI has 92 member countries, 70 of which are also IMU members and 10 are IMU associate members. Each member country is required to elect an ICMI Representative who represents the ICMI member country at the ICMI General Assembly and has the (sole) voting right for the ICMI Executive Committee (ICMI EC). The ICMI representatives also inform the national communities of developments within ICMI.

##### Executive Commission 2013-2016

The members of the EC 2013-2016 are:

PRESIDENT: Ferdinando Arzarello (Italy)

SECRETARY-GENERAL: Abraham Arcavi (Israel)

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

MEMBERS AT LARGE (5):

Jean-Luc Dorier (Switzerland)

Yuriko Baldin (Brazil)

Roger Howe (USA)

Catherine P. Vistro-Yu (Philippines)

Zahra Gooya (Iran)

Ex officio: Bill Barton (New Zealand) (Past President of ICMI)

Ingrid Daubechies (President of IMU)

Martin Grötschel (Secretary of IMU)

The first meeting of the 2013-2016 Executive Commission took place in Berlin, Germany May 22-24, 2013. The major conclusion reached were the continued expansion of ICMI development activities in the form of the Capacity and Network Project (CANP), the expansion of the Klein Project; ICMI's involvement in the IMU symposium "Mathematics in Emerging nations, Achievements and Opportunities (MENA0)" in August 2014 and to strengthen the cooperation with Springer (ICMI Studies Publishing House). Furthermore the guidelines of ICMI Studies were finalized. Additionally the ICMI channels of communication were reorganized.



ICMI EC 2013-2016, EC Meeting May 2013, IMU Secretariat, Berlin, Germany

Roger Howe, Cheryl E. Praeger, Jean-Luc Dorier, Yuriko Yamamoto Baldin, Angel Ruiz, Ferdinando Arzarello, Abraham Arcavi, Zahra Gooya, Bill Barton (from left to right)

### **IMU Secretariat**

The IMU Secretariat in Berlin, Germany supports all ICMI activities. Lena Koch is the ICMI administrator and responsible for all administrative and organisational issues regarding ICMI. Other staff members in Berlin also assist ICMI, including the IMU Secretariat manager, the accountant, the IT and technical support staff as well as the IMU Archivist.

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

### **ICMI General Assembly**

The next ICMI General Assembly will take place in Hamburg, Germany Saturday, 23<sup>rd</sup> July 2016.

### **ICMI Affiliate Organizations**

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

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

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

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

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

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

## The International Congress on Mathematical Education (ICME)

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### ICME-13

Hamburg, Germany will host the next ICME-13 from 24-31 July 2016. More than 3000 participants from 80 countries are expected to participate. Professor Gabriele Kaiser, of the University of Hamburg, is chairing the International Programme Committee (IPC).

The first IPC meeting was held from June 15-21, 2013 in Schlossgut Gross Schwansee, on the Baltic Sea near Hamburg. Ferdinando Arzarello and Abraham Arcavi were present at the meeting.

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

Each ICME devotes at least 10 per cent of the registration fees to the **ICME Solidarity Fund** that allows organizers to give support to some participants from developing countries. The composition of the ICME-13 Solidarity Fund Committee will consist of three ex-officio members: the Chairperson of the IPC, the Chairperson of the LOC and the ICMI Secretary-General and three other members representing the IPC (chosen by the IPC Chairperson), the LOC (chosen by the LOC Chairperson) and the ICMI EC (chosen by the EC). In 2013 the ICMI EC decided that ICMI Vice President Angel Ruiz and Abraham Arcavi, ICMI Secretary-General will represent the ICMI EC in this important committee. Other members of the grant committee are Gabrielle Kaiser (Chair of IPC), Marianne Nolte (Chair of LOC), one person representing the IPC (chosen by the chair of IPC), and one person representing the LOC (chosen by the chair of the LOC). The grants committee will meet in February 2016 to make decisions.

### ICME-14

The call for intention to bid for ICME-14 in 2020 was distributed globally and resulted in three “declarations of intent to host ICME-14 2020”.

## ICMI Studies

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A major ICMI programme is the series of ICMI Studies. Each Study addresses an issue or topic of particular significance in contemporary mathematical education, and is conducted by an international team of leading scholars and practitioners. Built around an international conference, it is directed towards the preparation of a published volume to promote discussion and action at the international, regional or institutional level. More than 21 volumes have been published between 1986 and 2012.

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

Current Studies are:

**ICMI Study 20: Educational Interfaces between Mathematics and Industry** has been organised jointly with the International Council for Industrial and Applied Mathematics (ICIAM). The IPC was co-chaired by Alain Damlamian (Université Paris-Est) and Rudolf Sträßer (Justus-Liebig-Universität Gießen). The Study was presented during the 7th International Congress on Industrial and Applied Mathematics (ICIAM 2011). The Study volume has been published under the editorship of Alain Damlamian, Rudolf Sträßer and José Francisco Rodrigues in December 2013 by Springer (NISS 16).

**ICMI Study 21: Mathematics Education and Language Diversity**, was presented at the Study Conference place in Águas de Lindóia, São Paulo, Brazil, on 16-20, September 2011. The Study Volume has entered the editing process and will be published in 2014 or 2015 (NISS 17).

**ICMI Study 22:** The study on Task Design was launched 2010. The co-chairs are Anne Watson (Oxford University) and Minoru Ohtani (University of Kanazawa, Japan). The Study conference was held 2013 in Oxford, UK and Ferdinando Arzarello and Abraham Arcavi represented the ICMI EC.

**ICMI Study 23 Primary Mathematics Study on Whole Numbers** was launched in 2012, Co-Chairs are Mariolina Bartolini Bussi, University Modena e Reggio Emilia, Italy, and Sun Xuhua of the University of Macau, China. The IPC has been appointed and started working in 2013.

## ICMI Regional Conferences

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

**ICMI-EARCOME-6** was held in Phuket, Thailand in March 2013. Bill Barton (New Zealand) and Bernard Hodgson (Canada) participated in the conference on behalf of the ICMI EC. During the conference the upcoming CANP workshop in Cambodia (October 2013) was discussed with members of the IPC and LOC.

**AFRICME** the Africa Regional Congress of ICMI on Mathematical Education was launched in 2005 and aims at offering a forum for mathematics educators throughout Africa. AFRICME-4 was held June 2013 in Lesotho.

**EMF** (Espace Mathématique Francophone) - The sixth EMF conference, (EMF-2015) will be held 2015 in Algeria. Jean-Luc Dorier and Ferdinando Arzarello represented the ICMI-EC on the International Programme Committee (IPC) of EMF 2015, which met in Alger in April 2013.

**CIAEM (Conferencia interamericana de educacion mathematica)** CIAEM-14 will be held in Mexico in May 2015.

## The Klein Project

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The Klein Project, inspired by Felix Klein's Elementary Mathematics from an Advanced Standpoint, provides contemporary mathematics for mathematics teachers.

**A workshop “Elementary Mathematics from an Advanced Standpoint - Felix Klein and Mathematics for Teachers”** was held in Berlin, Germany from September 17-20, 2013. The Klein workshop had 27 participants from 10 countries. Additionally a public day with secondary school teachers from Berlin and the region was held on Thursday, September 19, 2013 at the Humboldt Universität zu Berlin and more than 80 school teachers participated.

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

The Vignettes are being distributed via a Blog (<http://blog.kleinproject.org/> under the coordination of Bill Barton. The workshop was supported by the IMU Secretariat and the German Research Foundation (DFG).

### **Presentation of the Klein Project in Cambodia**

Antoine Nectoux presented the Klein Project in Phnom Penh, Cambodia in March 2013.

### **Further Klein Workshops and Activities worldwide**

Several Klein Workshops have been held in Brazil and Sweden in 2013.

## **Outreach to Developing Countries**

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

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

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

**The second CANP Programme, CANP Central America and the Caribbean**, held its two-week workshop in 2012 with 67 researchers and educators from Colombia, Panama, Venezuela, Dominican Republic, Spain, Mexico, Cuba and host country Costa Rica. The most important result of CANP Costa Rica 2012 was the founding of the *Mathematics Education Network of Central America and the Caribbean*, which seeks to enhance capacities in Mathematics and Mathematics Education in the region. The website is: <http://redumatematicacyc.net>. In 2013 the Network met (as a follow up) in November 6th-8th in Santo Domingo, Dominican Republic.

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

**CANP 4, East Africa:** The forth CANP will be held in September 2014. The IPC and Local Organizing committee has been formed and started working in 2013.

### **IMU - Commission for Developing Countries (CDC)**

The ICMI EC also appoints one member of the IMU Commission for Developing Countries (CDC). The ICMI 2010-2012 EC nominated Angel Ruiz as member of this Commission (2010-2014).



In 2013 ICMI received a project grant from CDC for the Capacity and Network Project in Cambodia. Ferdinando Arzarello participated in the CDC meeting in Berlin in March 2013, where the MENAO (Mathematics in Emerging Nations: Achievements and Opportunities) symposium was discussed.

## ICMI Awards

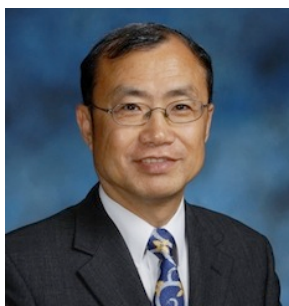
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In 2003 ICMI created two awards in mathematics education research: the Felix Klein Award, for lifelong achievement in mathematics education research, and the Hans Freudenthal Award, for a major programme of research on mathematics education. These awards are announced every two years and conferred at the opening ceremonies of ICMEs. The ICMI 2013 Awards were announced in November 2013.

The recipients for 2013 of the Felix Klein and Hans Freudenthal Awards are:

Michele Artigue (France) - The Felix Klein Medal for lifetime achievement

Frederick Leung (China) - The Hans Freudenthal Medal for a major cumulative programme of research.



They will be presented at the ICME opening ceremony in Hamburg in July 2016.

## Communication and Outreach

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

- Issue a Newsletter (ICMI News) three times a year (July 1, November 1, March 1) in order to post news, announce activities, and present reports. The newsletter will include a short editorial and will serve to disseminate ICMI information.
- Re-negotiate with [L'Enseignement Mathématique](#), traditionally linked with ICMI, to become the scientific outlet.
- Actively maintain the existing website.
- Annual report to IMU

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

The ICMI website, now hosted on the IMU server in Berlin is updated regularly. The ICMI Facebook page was established in 2011 and has more than 2450 'friends' and 780 'likes'. All communications are under the Editorship of the ICMI Secretary-General.

## **Further Activities**

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### **ICMI Digitization Program**

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

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

### **Database Project**

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

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

Ferdinando Azarello met with Juste Jean-Paul Ngome Abiaga, UNESCO contact person, in Paris in March 2013 where he also attended the opening of the [Mathematics of Planet Earth](#) exhibition.

Ferdinando Azarello attended the conference "[21<sup>st</sup> Century Mathematics](#)" in Stockholm, in April 2013. This meeting is considered as very important (funded by Bill Gates, attended by prominent scholars), but resulted without a definite agenda for action.

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

### **IMU – Commission for Developing Countries and Friends of Mathematics Education Initiative**

Ferdinando Azarello participated at the IMU- CDC meeting, which was held 9-10 March 2013 in Berlin. Afterwards he also participated in the Friends of Mathematics Education (an initiative by EMS Committee for Education Symposium and supported by the Telekom Foundation) that was held March 14-15, 2013 also in Berlin, Germany.

### **IMU- Committee for electronic information communication (CEIC)**

Bill Barton participated on behalf of ICMI in the 2013 CEIC meeting in June 2013 in the UK.

## Financial Summary

	<b>ICMI Budget 2013</b>		<b>Sum of Category/ spending</b>	<b>Balances ICMI bank account</b>
	<b>ICMI INCOME</b>			
	IMU Support to ICMI in 2013	€ 54,105.30		
	ICMI Balances (ICMI bank account in Berlin as o 01.01.2013	€ 141,208.12		
	Springer Royalties for 2013	€ 328.93		
	Bank Interest 2013	€ 315.31		
	Grant from IMU - CDC 2013 CANP SEA 2013 ICMI	€ 8,000.00		
	Transfer ICMI finances from B. Hodgson	€ 7,398.94		
	ICMI additional funds for CANP 2014 Tanzania from IMU	€ 50,000.00		
	<b>TOTAL BUDGET available for 2013:</b>	<b>€ 261,356.60</b>		<b>€ 261,356.60</b>
	Total budget available without CANP TANZANIA	<b>€ 211,356.60</b>		
	<b>ICMI EXPENSES 2013</b>	<b>Expenses</b>		<b>€ 261,356.60</b>
<b>ICMI President</b>	Ferdinando Arzarello	<b>€ 3,202.88</b>	€ 3,202.88	€ 258,153.72
<b>ICMI Secretary General</b>	Abraham Arcavi	<b>€ 1,159.50</b>	€ 1,159.50	€ 256,994.22
<b>ICME 12</b>	ICME-12 Final payments	<b>€ 1,193.76</b>	€ 1,193.76	€ 255,800.46
<b>ICMI Grants</b>	MPE exhibition at UNESCO (1000 USD)	€ 764.36		
	Science Festival US	€ 407.81		
	ICMI 2013 Distribution Accromath magazine Africa (1000 USD)	€ 764.45		
		<b>€ 1,936.62</b>	€ 1,936.62	€ 253,863.84
<b>Adminis- trative Cost</b>	Annual fee credit card Service Fee	<b>€ 47.75</b>	€ 47.75	€ 253,816.09
<b>ICMI Studies 19 and 22</b>	ICMI 2013, Study 19 launch	€ 747.04		
	Transfer fees ICMI 2013, Study 19 launch	€ 36.55		
	ICMI Study 22, Grant (USD 5000) for Oxford meeting	€ 3,905.91		
		<b>€ 4,689.50</b>	4,689.50 €	€ 249,126.59
<b>ICMI Study 23 IPC</b>	Travel cost IPC member	<b>€ 291.60</b>	€ 291.60	€ 248,834.99

<b>Meeting Berlin</b>				
<b>CANP Central America</b>	CANP Central America, follow up Year 2, Meeting Dominican Republic GRANT	€ 5,000.00		
	Transfer fees CANP Central America, GRANT	€ 36.55		
		<b>€ 5,036.55</b>	5,036.55 €	€ 243,798.44
<b>ICMI Meeting Berlin 2012, September (hand over)</b>	Travel costs	<b>€ 1,540.16</b>	€ 242,258.28	
<b>ICMI EC meeting</b>	Travel cost EC members to Berlin	<b>€ 5,849.77</b>	€ 5,849.77	€ 236,408.51
<b>Klein Project</b>	ICMI 2012 Klein Project 2013 Cambodia	€ 1,261.56		
	Klein meeting Berlin	€ 699.20		
		<b>€ 1,960.76</b>	€ 1,960.76	€ 234,447.75
<b>ICMI EC Meeting RIO 2014</b>	Travel cost, EC member	<b>€ 1,569.02</b>	€ 1,569.02	€ 232,878.73
<b>CANP 3 Cambodia Workshop</b>	CANP SEA workshop in PP, Cambodia 2013	<b>€ 40,362.84</b>	40,362.84 €	€ 192,515.89
<b>CANP 3 &amp; ERCOME</b>	Preparation CANP 3 and ERCOME ICMI EC participation	<b>€ 4,680.80</b>	4,680.80 €	
<b>Total Spending 2013 and balances on the ICMI bank account</b>			<b>73,521.51 €</b>	<b>€ 192,515.89</b>

ICMI's principal source of 'core' income is an annual grant from the International Mathematical Union (IMU) that receives its financial support from IMU member countries. ICMI is also supported by a staff member from the IMU Secretariat (part time). In 2013 ICMI also received two generous grants from the IMU Secretariat to hold its annual Executive Commission (EC) meeting (in May 2013) and a Klein meeting (in September 2013) in Berlin. The Klein Meeting was also supported by the German Research Foundation (DFG). The IMU Secretariat receives an annual subvention from the IMU Secretariat host country (Germany) to run all its administrative business. The other sources of income for ICMI are grants from various organizations and foundations. The ICMI EC approves the ICMI budget and all its related spending.

ICMI would like to thank IMU, IMU Secretariat, and the IMU Commission for Developing Countries (IMU-CDC) very much for all the support and collaboration.

More information about ICMI can be found on the website: [www.mathunion.org/icmi](http://www.mathunion.org/icmi)

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

April 2013  
Photo credits:  
Lena Koch  
Michele Artique  
Frederick Leung