

ICMI

ICMI Newsletter

*A Newsletter from the ICMI-International Commission
on Mathematical Instruction*

Editors:

Abraham Arcavi (ICMI Secretary General)

Jill Adler (ICMI President)

Lena Koch (IMU Secretariat, ICMI Administrator)

Email addresses:

abraham.arcavi@weizmann.ac.il

icmi.president@mathunion.org

icmi.cdc.administrator@mathunion.org

Graphic Design:

Lena Koch

Contents

1. From the desk of Jill Adler, ICMI President
2. From the desk of Ferdinando Arzarello, ICMI Past President
3. The 2017 Felix Klein and Hans Freudenthal Awards: Second Call for nominations
4. UNESCO Publication "Challenges in Basic Mathematics Education"
5. ICMI Representatives
6. ICME14 in 2020 in Shanghai, China
7. ICMI Study 23 and 24
8. CANP Publication "Teacher preparation in Central America and the Caribbean"
9. Searching for a copy of the ICME 1 Proceedings
10. Upcoming Conferences

1. FROM THE DESK OF JILL ADLER, ICMI PRESIDENT



Four years ago, immediate past president Ferdinando Arzarello wrote from the desk of the ICMI President about the multiple needs mathematics education must service, where all should have opportunity not only for mathematical literacy but also the adventures of mathematics itself. He drew on the 2012 UNESCO booklet on basic mathematics education written a few years ago mainly by ICMI Past President Michèle Artigue, assisted by other colleagues in ICMI. We are pleased to announce this has recently been translated into Portuguese, thanks to the work of ICMI Executive Committee (EC) member at large Yuriko Baldin and colleagues (see below, in section UNESCO Publication).

The description of basic mathematics in the booklet highlights the multiple demands on

mathematics in the booklet highlights the multiple demands on mathematics education and so the need for reform in in school mathematics, across levels. In a globalising world we understand our cultural diversity and the dangers of domination and alienation up ahead for any considerations of common curricula or what is quality teaching and learning of mathematics. ICMI launched two studies in response to these challenges. Study 23 on primary mathematics co-chaired by Maria Bartolini Bussi (Italy) and Xuhua Sun (China) is the first study devoted to early learning, and its Study volume is almost ready for printing and dissemination. ICMI Study 24 entitled: "School Mathematics Curriculum Reforms: Challenges and Changes" has just been launched, with Renuka Vithal (South Africa) and Yoshi Shimizu (Japan) as the two co-chairs. The appointment of the International Programme Committee has been finalised and will meet later this year to develop the discussion document that will frame its study conference in 2018.

This is a strategic moment for ICMI to collect, analyse, synthesise and then communicate our collective research and practical wisdom in school mathematics curriculum reform (see below, ICMI Studies 23 and 24). As the new ICMI EC prepares for its first meeting in June this year, a key agenda item is the ongoing support for Study 24, followed by initial discussion of what might be our next study, and so some considered directions in which to further grow the organisation and its influence.

With these introductory comments I hope I have illustrated the continuity and growth that now defines our organisation as one Executive Committee and its new President takes over from another. Thus, following this introductory message from the new president is a farewell letter from Ferdinando Arzarello. In this, he describes the developments and progress in ICMI during his Presidency, and I take this opportunity, on our collective behalf, to thank Ferdinando and his EC for all their work. I will not refer again here to the ongoing continuous work of ICMI. I will only say that being elected as the President of ICMI is an immense honour, especially at a time when the organisation is so strong and where a critical component of our strength is our collaborative and increasingly productive relationship with the IMU and the global community of mathematicians.

I will use this opportunity for my first communication with our ICMI community to convey my greetings to you all, each and every participant in all ICMI activities, and to invite you all to participate with me and the new EC in ongoing communication about our work, past, present and future.

In particular, I thus wish to welcome all ICMI country representatives into your role if you are new in this this year, and to thank those who continue in this role for their ongoing work. We have 93 member countries, and 82 active representatives through whom there is a formal line of communication to and from the EC.

If you were at ICME-13 in Hamburg in July, 2016, you will know from Ferdinando's presentation in the opening ceremony, that we have numerous member countries and so ICMI country representatives across some continents, but not others. We hope in our term of office over the next few years, to enable greater representation and participation from countries in Africa, South and Central America, Eastern Europe and parts of Asia. We are, of course, only too aware of the challenges facing us all with this, as our world seems to become increasingly unequal and fragmented. You have been introduced to the nine members of the executive (ICMI Newsletter, November 2016) and see that we are spread across continents and so hopefully in a good position for this task.

The ICMI EC is currently preparing the agenda for our first meeting in June 2017, and so right here, right now, we invite you to communicate with us. Please send us ideas that you would like us to take forward and of course any concerns you might have this with the organisation and its work. Formally, such communication will happen through the country representative in your country, and if you are not aware who this is, the list is available at <http://www.mathunion.org/icmi/icmi/members/icmi-representatives/>

We hope over the next four years to strengthen these lines of communication. You could write directly to me (mailto:icmi_president@mathunion.com), to Abraham Arcavi, our Secretary General (<mailto:abraham.arcavi@weizmann.ac.il>), to our administrator Lena Koch (<mailto:icmi.cdc.administrator@mathunion.org>) or to any of the EC members (<http://www.mathunion.org/icmi/icmi/icmi/executive-committee/ec-2017-2020/>).

Of course we have been thinking about our growth. You will all know, and Ferdinando's letter provides detail on this, that a key direction for growth for some time now has been what can be described as a *development agenda*. Expanding ICMI's reach into new communities has been a key concern. The Capacity and Networking Project (CANP), and substantial solidarity grants to support participation at ICME demonstrate our growing success. In my recent work in South Africa, I have been challenged by how reform ideas in mathematics education are taken up (or not), particularly in developing country contexts, and thus contexts of educational disadvantage. The 2015 millennium goals for universal primary education are becoming a reality. Coupled with this, however, is a concern that while most now might have access to school, in many areas this has not come with quality education. In 2012, the Conference of Commonwealth Education Ministers described this situation as "*education for all, learning for some*" (<http://www.cedol.org>). Just as we confront diversity as we study curriculum reform, so are there different orientations to what is quality mathematics teaching and quality mathematics learning.

I have been stimulated by recent literature and research related to educational development and comparative studies. There has been provocative debate leading journals (International Journal of Education Development; and COMPARE) on pedagogy promoted in development projects and interventions particularly in contexts where socio-economic conditions deny quality education to the majority of students in school. The current UNESCO goal is for sustainable development and while this is not specific to mathematics education, it is a program we in ICMI can think about, stimulate interest in and contribute to.

The goal of sustainable development is shared in the IMU and the CDC (Commission for Developing Countries) and through its work with ICSU, the International Council for Science. At this moment we are collaborating with the project *Mathematics for Planet Earth* (MPE), with a new project inviting modules for MPE that specifically speak to the African context.

We in the EC have also been inspired by the talk entitled *Mathematics for Human Flourishing* given to the Mathematics Association of America (MAA) by its outgoing President Francis Su in January this year. He framed his eloquent and passionate talk with the question: *How can the deeply human themes that drive us to do mathematics be channeled to build a more beautiful and just world in which all can truly flourish?* He suggests these themes are fun, beauty, truth, justice and love. These are sustainable development goals crafted in a different form for mathematics and so too mathematics education. <https://mathyawp.wordpress.com/2017/01/08/mathematics-for-human-flourishing/>

Being elected as the President of ICMI is thus not only an honour. It is also a huge responsibility to ensure the continuing strength of the institution. This is a turbulent period in the world, and there are increasing threats to collaboration and social justice, and thus flourishing for all. However, as a South African, I have learned over and over again how turbulence brings opportunities. During my mandate, and with the wonderful executive committee elected to support ICMI's work over the next four years, we will work to maximize these opportunities.

Jill Adler, President of ICMI

2. FAREWELL LETTER FROM FERDINANDO ARZARELLO TO THE ICMI EC, ICMI PAST PRESIDENT



Dear friends,

At the end of my term as ICMI President I wish to thank you so much for the strongly collaborative spirit with which we have been able to work together in order to pursue the aims of our joint endeavour. For me it has been an exciting period: ICMI programs have allowed me to engage in wonderful challenges, whose results I do hope have been useful for supporting and improving mathematics education in many parts of the world.

In this mission I was strongly sustained by the whole EC, which I thank so much; I am particularly grateful to the Secretary General and to the two Vice-presidents for their precious advice in many circumstances. In the case of Abraham, the continual interactions have produced also a deep friendship: many times I realized that we were sharing a common interpretation of circumstances even before discussing them. I think that these peculiar interactions have also been useful for ICMI policy.

A special thank must also go to Lena Koch, whose help, collaboration, and suggestions incessantly supported and encouraged me in my day-to-day work as President. I think that the whole ICMI family, not only our EC, owes her a lot: thank you Lena!

Usually custom dictates that at the end of their term people should do an analysis of their activity: I do not wish to break the tradition but I also do not like to bore people with long inventories, so I will limit myself to list some of ICMI courses of actions that, as far as I can see, are worthwhile underlining.

I consider first the issues that pertain to ICMI “by default”. I will only sketch some of them since the Secretary General has given detailed reports on all such activities in different occasions where all of us were present (e.g. in his report at the last General Assembly or in his speech at the ICME closing ceremony: <https://lecture2go.uni-hamburg.de/l2go/-/get/v/19779>). Because of this, I limit myself to recall the huge efforts that many of us have made in ICME events, through our participation in the scientific work of their IPC, the important decisions about the support to participants from developing countries, and through the careful choice of the country that will host next ICME. The competition among three top level contenders like Australia, China, and USA (Hawaii) for hosting ICME-14 shows the increasing relevance that our Organization has for people working in mathematics education.

Another significant activity has concerned the organization of the ICMI General Assembly, where the main items of ICMI policy and institutional life are presented, discussed, and approved: the minutes of its Hamburg meeting show the relevant contributions of the ICMI Affiliated Organisations (<http://www.mathunion.org/icmi/icmi/icmi-as-an-organisation/general-assembly/>) and the high participation of the country representatives. We have taken care as far as possible of the links with them and this systematic task has given its fruits. Also the wide participation of members of the EC in the activities of the ICMI Regional Conferences and to other relevant regional events all over the world shows the vitality of our Institution.

Another important issue I am happy to mention here concerns the relationships between ICMI and IMU: they have improved greatly in recent years, mainly thanks to the intelligent policy of former presidents in that direction, which has continued in these last years.

I wish to thank the current and past Presidents and Secretaries of IMU, Ingrid Daubechies and Martin Grötschel, Shigefumi Mori and Helge Holden, for their support and help: the collaboration with them in everyday activities as well as in specific programs has been wonderful and productive. Moreover the support of the IMU Secretariat, with its distinguished Head, Alexander Mielke, and excellent team (Sylwia Markwardt, Lena Koch, Anita Orłowsky, Birgit Seeliger, Gerhard Telschow, Ramona Keuchel) has always been a precious concrete help for all our activities.

I will finish my farewell with some more “political” thoughts that I have progressively elaborated during my work in ICMI thanks to the crucial interactions with the members of the EC and with many people of the ICMI wider family.

I think that while designing our programs we have reflected extensively about the meaning of mathematics teaching/learning in the era of globalisation: curricula; teachers; classroom practices; cultural, political, social issues. The world frame in this matter (and not only in this) is full of contradictions, which have constituted a challenge for us and I think should be a challenge for all: mathematicians, math educators, policy makers, Mathematical Education Societies. As pointed out in an important UNESCO document, from the one side the universality of technological development and related needs for manpower skills are playing the role of strong historical motivations for a reform that should lead to unified standards for mathematics in school. But from the other side, for real success in mathematics education it is crucial to avoid both the cultural distance of some proposed curricular reforms from the mathematical culture of the different countries, as well as students' alienation from their cultural environment, which can inhibit them from engaging in learning in a productive way.

Based on the inspiring experiences of previous ICMI ECs we have devoted many resources and energies to some projects, which we think are crucial for featuring our own policy; among them I recall the four I like most:

- CANP activities, and how these have improved through the publication of their volumes at an international level, and a scientific survey of CANPs conducted by Lena Koch (her detailed and informative review will be uploaded to the ICMI website in the near future; in the meanwhile a long summary is available at http://www.mathunion.org/fileadmin/ICMI/files/CANP/PP_CANP_ICMI_ICME_CANP_WORKSHOP.pdf);
- the ICMI study 24 on School Mathematics Curriculum Reforms: Challenges and Changes, whose launching document, because of its complexity, required a lot of discussion within the EC;
- the new Emma Castelnuovo Award, which underlines the relevance of practices in addition to research in Mathematics Education, according to the ICMI spirit;
- the Klein project, which aims at bridging the gap between the mathematics traditionally taught in secondary school and its most recent results through vignettes that can inspire teachers in their daily activity. See <http://blog.kleinproject.org/>

From these experiences some particularly significant aspects have emerged as major challenges for mathematics education at the beginning of the new millennium and, as it is sometimes the custom of people who finish their term, I dare to leave them as a small legacy. I think that the main fresh challenges concern:

- younger pupils education;
- teachers' training;
- the gender gap in mathematics learning
- the use of internet technologies n.0 ($n > 1$) for mathematics teaching and learning.

For some of these ICMI has already done interesting things and I think that ICMI could do even more. For example, with Study 23, ICMI has started to extend its concerns to primary education. This study focuses on a segment of students that traditionally were not a core concern. I think this most worthwhile new trend will continue in some way. Moreover the publication of the Study 22 volume on Task Design certainly constitutes an important tool for researchers and practitioners.

Other challenges at the moment are at the stage of promising beta-projects: e.g. the organisation of a MOOC for researchers and teachers as a resource of high-level lectures given by the ICME awardees.

Others concern the work of specific IMU Commissions, where ICMI has its representing member, and which are producing projects where ICMI can provide a relevant contribution.

A last word on what, rephrasing the title of a well-known F. Goya etching (Capricho 43: “*El sueño de la razón produce monstruos*”), I call the “sleep of reason”: the ongoing tremendous events in many parts of the world seem produced in fact by monsters that such a sleep generates.

Thank you again!

Ferdinando Arzarello,
ICMI Past-President and current ex-officio
member of the EC.
Torino, Dec. 30, 2016



Borrowed from
https://es.wikipedia.org/wiki/El_sue%C3%B1o_de_la_raz%C3%B3n_produce_monstruos

3. THE 2017 FELIX KLEIN AND HANS FREUDENTHAL AWARDS: SECOND CALL FOR NOMINATIONS

Since 2003, the International Commission on Mathematical Instruction (ICMI) awards biannually two awards to recognize outstanding accomplishments in mathematics education research: the Felix Klein Medal and the Hans Freudenthal Medal.



The **Felix Klein Medal** is awarded for lifetime achievement in mathematics education research. This award is aimed at acknowledging excellent senior scholars who have made a field-defining contribution over their professional life. Past candidates have been influential and have had an impact both at the national level within their own countries and at the international level. We have valued in the past those candidates who not only have made substantial research contributions, but also have introduced new issues, ideas, perspectives, and critical reflections. Additional considerations have included leadership roles, mentoring, and peer recognition, as well as the actual or potential relationship between the research done and improvement of mathematics education at large, through connections between research and practice.

The **Hans Freudenthal Medal** is aimed at acknowledging the outstanding contributions of an individual's theoretically robust and highly coherent research programme. It honours a scholar who has initiated a new research programme and has brought it to maturation over the past 10 years. The research programme is one that has had an impact on our community. Freudenthal awardees should also be researchers whose work is ongoing and who can be expected to continue contributing to the field. In brief, the criteria for this award are depth, novelty, sustainability, and impact of the research programme.

The Klein and Freudenthal Awards Committee consists of a chair (Professor Anna Sfard) nominated by the President of ICMI, and five other members who remain anonymous until their terms have come to an end. The Committee is at this time entering the 2017 cycle of selecting awardees and welcomes nominations for the two awards from individuals or groups of individuals in the mathematics education community.

Nominations for the Felix Klein Award should include the following:

1. A document (max. 8 pages) describing the achievements of the nominee (e.g., his or her theoretical contribution and/or empirical research, leadership roles, graduate supervision and mentoring, and peer recognition) and reasons for the nomination (including a description of the nominee's impact on the field);
2. A one-page summarizing statement;
3. A curriculum vitae of the nominee (max 20 pages);
4. Electronic copies of three of the nominee's key publications;
5. Three (3) letters of support (preferably from different countries);
6. Additional names and e-mail addresses of two persons other than the nominee herself or himself who could provide further information, if needed.

5. ICMI REPRESENTATIVES

The members of the International Commission on Mathematical Instruction (ICMI) are countries and not individuals. There are currently 93 member countries, 73 of which are also [members of the International Mathematical Union](#) (IMU) and 8 are associate members of IMU.

Each member country of ICMI appoints a representative to ICMI. The role of the country representative (CR) is “bi-directional”, namely, to represent ICMI within the country as well as to represent the country within ICMI. In other words, the country representative acts as the liaison person between the mathematics education community of a country and the ICMI.

The role of the ICMI representative consists of several functions and regular activities, including:

- To attempt to bring together all the parties involved in mathematics education in the country (teachers, teacher educators, curriculum developers, mathematicians, researchers in mathematics education and policy makers), and become a nexus between them. This implies promoting joint activities of several kinds in order to consolidate a community in which communication and collaborations are frequent and productive.
- To disseminate and promote the international and regional activities of ICMI and to encourage professionals to take part on them.
- To serve as an active channel of communication with ICMI, requesting support for activities, travel funds for selected members of the community to professional events, suggesting national or regional activities (conferences, workshops, seminars).
- To inform ICMI of relevant activities and developments in their country, e.g. with texts/event information for ICMI news or the ICMI website or the ICMI Facebook page.
- To propose, in consultation with all relevant constituencies of the national community of mathematics education, nominations for members of the ICMI Executive Committee (EC) and nominations for ICMI awards (see Call for Nomination in this issue of the News).
- To actively participate in the quadrennial General Assembly, which takes place one day before the beginning of an ICME conference. In the General Assembly the country representatives are the only people with the right to elect the EC members from a slate presented by an ad-hoc nomination committee. During the General Assembly, the country representatives meet, discuss ICMI activities and make proposals to the EC.

ICMI Country representatives are appointed by the country’s IMU Adhering Organization. Given the responsibilities of the CR, it is advisable that the IMU Adhering Organizations consult with prominent members of the local mathematics education communities. A representative should not serve for more than two consecutive four-year terms. Representatives for countries with no IMU adhering organisations are appointed by the mathematics education community of the country.

In the last year many new CRs were and still are being appointed. The full list, updated on an ongoing basis as needed, can be found at <http://www.mathunion.org/icmi/icmi/members/icmi-representatives/>

ICMI Officers and the community at large are looking forward to fruitful collaborations with the CRs, and invite them to contact us for any initiatives or queries.

6. ICME-14 in 2020

Although the next ICME conference, to be held in Shanghai, July 12th-19th, 2020, seems still far away, initial preparations have already started. The first International Program Committee will meet for the first time on September of 2017 in order to start the design of the program. The following colleagues are the members of the IPC:

Chair:

1. **Jianpan Wang** (ICME-14 Congress Chair), East China Normal University, China

Members:

2. **Jill Adler** (ex officio member, ICMI President elect), University of the Witwatersrand, South Africa

3. **Abraham Arcavi** (ex officio member, ICMI Secretary General), Weizmann Institute of Science, Israel

4. **Jiansheng Bao** (ICME-14 LOC Co chair), East China Normal University, China

5. **Daniel Chazan**, University of Maryland, USA

6. **Faiza Chellougui**, University of Carthage, Tunisia

7. **Marta Civil**, University of Arizona, USA

8. **Alicia Dickenstein**, (IMU Vice President), Universidad de Buenos Aires, Argentina

9. **Yufeng Guo**, Beijing Normal University, China

10. **Anjum Halai**, Aga Khan University, Tanzania

11. **Gabriele Kaiser** (ICME-13 IPC Chair), University of Hamburg, Germany

12. **Caroline Lajoie**, Université du Québec à Montréal, Canada

13. **Celi Espasandin Lopes**, Universidade Cruzeiro do Sul, Brazil

14. **Tomas Lowrie**, University of Canberra, Australia

15. **Maria Alessandra Mariotti**, Università di Siena, Italy

16. **Takeshi Miyakawa, Joetsu**, University of Education, Japan

17. **Luis Moreno Armella**, Departamento de Matemática Educativa, Mexico

18. **Frode Rønning**, Norwegian University of Science and Technology, Norway

19. **Ewa Swoboda**, Rzeszów University, Poland

20. **Luc Trouche**, École Normale Supérieure de Lyon, France

21. **Catherine Vistro Yu**, Ateneo de Manila University, Philippines

22. **Binyan Xu** (ICME-14 LOC Co chair), East China Normal University, China

23. **Ivan Yashchenko**, Moscow Center for Continuous Mathematical Education, Russia

7. ICMI STUDIES 23 AND 24

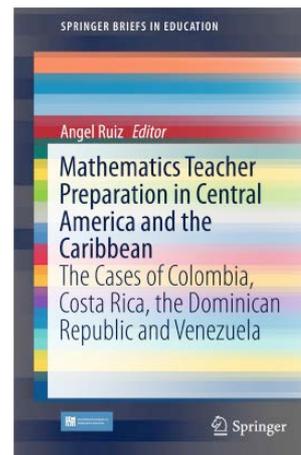
The ICMI Study 23 "*Primary Mathematics Study on Whole Numbers*" is in advanced stages of preparation. Currently the co-chairs and editors Mariolina Bartolini Bussi (Italy) and Sun Xuhua (China) work together with the authors to publish the book in 2017.

The ICMI EC launched in the end of 2016 the 24th ICMI Study with the topic: "*School Mathematics Curriculum Reforms: Challenges and Changes*". The study was launched in February 2017 by the co-chairs Renuka Vithal (South Africa) and Yoshinori Shimizu (Japan).

8. CANP PUBLICATION "TEACHER PREPARATION IN CENTRAL AMERICA AND THE CARIBBEAN"

The CANP 2 book "*Teacher preparation in Central America and the Caribbean*" (editor Angel Ruiz) is now available as e-book and a soft cover publication. The book is a synthesis of the initial and continuing preparation for Mathematics Teaching in Colombia, Costa Rica, Dominican Republic and Venezuela, from which comparative analyses can be made showing similarities and differences, and highlighting various perspectives.

The book is the second in the series of CANP reports. It is based on the results of the second Capacity and Networking Project (CANP) which started in 2012 in Costa Rica. (see <http://www.mathunion.org/icmi/activities/outreach-to-developing-countries/canp-project-2012-central-america-and-the-caribbean/>) This CANP brought together a group of 66 Mathematics educators, mathematicians, university administrators, and elementary and secondary teachers from Colombia, Venezuela, the Dominican Republic, Panamá and Costa Rica for two weeks. The goal was to promote progress in Mathematics Education and as such it was a unique experience in the region. One of the most important results of this event was the creation of the Mathematics Education Network of Central America and the Caribbean (REDUMATE). It was organized by persons associated with the Mathematics Education Reform Project in Costa Rica (responsible for the most outstanding and innovative curriculum reform in Latin America) and the Inter-American Committee on Mathematics Education (IACME), which is an official regional multinational organization affiliated to ICMI. This book brings to the international Educational Community an important collection of experiences and ideas in Mathematics Education in four countries of a region within the heart of the American continent. The dissemination of these results can promote the search for international collaborative actions in a wider scale.



The product page of the volume can be found at the Springer website <http://www.springer.com/gp/book/9783319441764>

9. SEARCHING FOR A COPY OF THE ICME-1 PROCEEDINGS

The ICMI Archive is searching for a (hard) copy of the proceedings of ICME-1: "Proceedings of the First International Congress on Mathematical Education. D. Reidel Publishing Company, 1969".

The holder of a copy who would like to donate it to the ICMI archives, will be rewarded by an ICMI book of his/her choice (available on stock).

Please contact Bernard Hodgson, ICMI Archive Curator:
<mailto:Bernard.Hodgson@mat.ulaval.ca>

10. UPCOMING CONFERENCES

ICMI Regional Conference: COLLOQUIUM OF THE ESPACE MATHÉMATIQUE FRANCOPHONE (EMF)

Launched by the French [Sub-Commission of ICMI](#) on the occasion of the World Mathematical Year 2000, the series of *Espace Mathématique Francophone conferences* is built on a notion of "region" defined in linguistic rather than geographical terms, French being a common language among participants. EMF promotes reflections on contemporary questions about the teaching and learning of mathematics at the primary, secondary and higher levels, and teacher education. EMF contributes to the development of an international francophone community interested in the teaching and learning of mathematics – a community that is rich in its cultural diversity and located at the crossroads of continents, cultures and generations. The working language of EMF is French.

The next EMF colloquium (EMF2018) will take place in Paris, from October 22 to 26, 2018. The theme of the colloquium is "*Mathematics on the stage, bridges between disciplines.*" The colloquium includes 12 working groups, 5 special projects, and actions and events.

For more information, see <https://emf2018.sciencesconf.org>

Other conferences coming up:

- 10th MCG International Conference, to be held in Nicosia, Cyprus, April, 24-26, 2017
- MERGA 40: will be held at Monash University, Melbourne, Australia, 2-6 July 2017
- PME Annual Conference, 41, 2017 will be held from July, 17-22, 2017 in Singapore
- ICTMA 18: Mathematical Modelling and Sense Making, Cape Town, South Africa, 23-28, July 2017

SUBSCRIBING TO ICMI NEWS

There are two ways of subscribing to ICMI News:

1. Click on www.mathunion.org/index.php with a Web browser and go to the "Subscribe" button to subscribe to ICMI News online.
2. Send an e-mail to icmi-news-request@mathunion.org with the Subject-line: Subject: subscribe

In both cases you will get an e-mail to confirm your subscription so that misuse will be minimized.

ICMI will not use the list of ICMI News addresses for any purpose other than sending ICMI News, and will not make it available to others.

All previous issues can be seen at:

<http://www.mathunion.org/pipermail/icmi-news>

The Newsletter in Pdf starting from July 2014 can be found here:

<http://www.mathunion.org/icmi/publications/icmi-news/icmi-news-archive-starting-july-2014-pdf-version/>