ICMI

ICMI Newsletter

A Newsletter from the ICMI-International Commission on Mathematical Instruction

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1. From the desk of Jill Adler, President of the International Commission on Mathematical Instruction (ICMI).
Reflections following the IMU GA and the ICM – International Congress of Mathematicians

At the end of July, Abraham Arcavi and I attended the International Mathematical Union General Assembly (IMU-GA) in Sao Paulo, and following that in the first week of August I went on to Rio de Janeiro for the International Congress of Mathematicians (ICM). I reported to the GA on the work of ICMI as a Commission within the IMU over the period 2014 – 2017 and thus across the terms of office of the current and past ICMI Executive Committees.

Both the GA and the ICM were interesting and important for ICMI's ongoing interaction and collaboration with IMU. I share here some of my reflections on these experiences.

The IMU-GA took place over two days prior to the ICM. Aside from the ongoing business of the union, a main item for the two days was the election of the new Executive Committee, and I was able to meet Professor Carlos Kenig, the incoming IMU President, as well as many of the new EC members. It was also the opportunity to thank Professor Shigefumi Mori for his support of ICMI work during his term as President (2014 – 2018). Professor Helge Holden was elected for a second term as IMU Secretary General. We take this opportunity to congratulate the new EC and look forward to ongoing strong collaborations in the coming years.

Just as ICMI celebrates its leading researchers while working on gender balance and inclusion across all continents and countries, so too are these on the IMU agenda. One (among many others) important lesson we took away from the organization of and our participation in the IMU-GA is that each nominated person on the slate for the new EC made a short formal presentation of themselves, and how they hoped to contribute to the work of the committee and the IMU. In ICMI we have only had short written biographies available for persons on our slate, but we will adopt this practice at our upcoming GA in Shanghai in 2020. In this way, all delegates (country representatives) at the ICMI GA will have an opportunity to hear first-hand from potential EC members before voting on the executive committee slate.

Professor Christiane Rousseau presented the progress on the proposal from the IMU to UNESCO for an International Day of Mathematics. Professor Anita Rampal, an ICMI EC member, has joined the IMU sub-committee working on taking this proposal forward. It is hoped that the first such day will be on pi day (14 March) 2020, and that ICMI through its networks will collaborate towards to the success of this important initiative.

There is ongoing engagement with gender led by the Committee for Women in Mathematics (CWM) and this was the focus of a day conference prior to the start of the ICM. I had the privilege of meeting and talking with many leading female mathematicians across the world, learning from them the different challenges historically and currently in different contexts. There was a panel discussion during the conference on the "Gender Gap" study in which ICMI EC members Professor Merrilyn Goos and Professor Anita Rampal are participating, with interesting different developments across disciplines e.g. physics.

Perhaps the issue is most visible in that, unlike in the previous ICM (see the November 2017 issue of this Newsletter), none of the Fields medalists (nor the other prize awardees) this year were women. As we know, the pool of female mathematicians is considerably smaller than that of males. However, perhaps there are other reasons, for example, the age limit of 40 imposed by the Prize statutes. Does this present a substantive obstacle for female researchers from whom such outstanding achievements are required precisely during childbearing years? This brings me to the opening ceremony of the ICM where these prestigious medals are presented, and the outstanding

accomplishments of the medalists displayed for all the world to see. I was impressed and moved by the ceremony for a number of reasons. Firstly, it was the way in which each Fields medalist's story was told, interweaving their personal history with the celebration of their mathematical accomplishments. The Fields medalists are the "rock stars" of mathematics – and their lectures in the huge convention hall were packed out! 500 Brazilian middle and high school students, each one a recipient of a gold medal in age-related mathematics Olympiads across the country, were also at the opening ceremony, witnessing the celebration of mathematics' best. What an amazing experience for young mathematicians, and such an inspired move by all the organizers of the ICM!

The ICM is organized into 19 different content strands, one of which is Subpanel 18 on popularization and education (http://www.icm2018.org/portal/en/home).

Within this strand, there were two invited lectures delivered by Luis Radford (on the historical development of theories of mathematics learning and teaching) and Marianna Bosch on the Anthropological Theory of Didactics of Mathematics and three panels. The panel on mathematical communication was chaired by Simon Pampena from Australia – a well-known, popular and engaging communicator. It was an extraordinary performance, enjoyed by the wide audience with each panelist bringing really different perspectives. One of the presentations was on the Imaginary (https://imaginary.org/), a platform for open and interactive mathematics. Imaginary had a large interactive display in the exhibition hall, and what a wonderful space. I observed many of the young mathematicians there in wonder with what mathematics does and can do. The panel on Math museums was chaired by Cindy Lawrence, again inspiring many questions to diverse panelists. It was very interesting to see how different countries are working to invite the public to enter into mathematics. The third panel was the education panel focused on Lesson Study, and chaired by Professor Takahashi. Perspectives on lesson study were presented from China, Japan, Switzerland, Thailand and Malawi illustrating how this form of mathematics professional development works in different stages, situations and contexts. I thoroughly enjoyed my time and interactions in Brazil at the IMU-GA and the ICM and I invite mathematics educators all over the world who may have the opportunity to attend an ICM not to miss it.

2. Call for Nominations for the ICMI Awards

The Felix Klein, Hans Freudenthal, and Emma Castelnuovo Awards

2.1. Call for Nominations for the 2019 Felix Klein and Hans Freudenthal Awards

Dear Members of the International Mathematics Education Community,

It is at this time of the even-numbered years that calls for the ICMI Klein and Freudenthal Awards are being issued. The call for the current round, the 2019 awards, is presented below. Please read it carefully and consider coming up with a nomination. True, preparing submissions requires much thought and not a small amount of work, but such investment is not too much to ask when it comes to honoring a person whose work has had a substantial, valuable impact on us all. Within our flourishing field, there is quite a number of richly deserving candidates. Do remember, however, that without your help, they may not be honored. Indeed, ICMI Awards Committee can only choose recipients from officially submitted nominations for the current round, accompanied by full documentation, as specified in the call.

Thank you for considering this call seriously. We are looking forward to receiving your nominations.
Anna Sfard
on behalf of the ICMI Klein and Freudenthal Awards Committee

Since 2003, the International Commission on Mathematical Instruction (ICMI) awards biannually two medals to recognise outstanding accomplishments in mathematics education research:

- the Felix Klein Award, for lifelong achievement in mathematics education research,
- the Hans Freudenthal Award, for a major programme of research on mathematics education.

The Felix Klein medal is awarded for life-time achievement in mathematics education research. This award is aimed at acknowledging those 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 program.

See http://www.mathunion.org/icmi/activities/awards/the-klein-and-freudenthal-medals/ for further information about the awards and for the names of past awardees (eight Freudenthal Medals and eight Klein Medals, to date).

The ICMI 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 ICMI Klein and Freudenthal Awards Committee is at this time entering the 2019 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 letters of support (preferably from different countries); and

6) the names and e-mail addresses of two persons other than the nominee herself or himself who could provide further information, if needed.

Nominations for the Hans Freudenthal Award should include the following:

1) a document (max. 5 pages) describing the nominee's research program 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. 10 pages);

4) electronic copies of three of the nominee's key publications;

5) three letters of support (from different countries, if possible); and

6) the names and e-mail addresses of two persons other than the nominee herself or himself who could provide further information, if needed.

All nominations must be sent by e-mail to the Chair of the Committee (annasd@edu.haifa.ac.il, sfard@netvision.net.il) **no later than 31 March 2019.**

Prof. Anna Sfard
Department of Mathematics Education, The University of Haifa
Mount Carmel, Haifa 31905, Israel

2.2. The Emma Castelnuovo Award (Second Call – deadline March 31, 2019)

The Emma Castelnuovo Award recognizes outstanding achievements in the practice of mathematics education in order to reflect a main aspect of the ICMI 'essence' not previously recognized in the form of an award. The award was named after Emma Castelnuovo, an Italian mathematics educator born in 1913, in celebration of her 100th birthday and honoring her pioneer work. The first Emma Castelnuovo medal was awarded to Hugh Burkhardt and Malcolm Swan in 2016 during the 13th International Congress on Mathematical Education (ICME-13) in Hamburg, Germany.

The Emma Castelnuovo Award for outstanding achievements in the practice of mathematics education honors persons, groups, projects, institutions or organizations engaged in the development and implementation of exceptionally excellent and influential work in the practice of mathematics education, such as: classroom teaching, curriculum development, instructional design (of materials or pedagogical models), teacher education programs and/or field projects with a demonstrated influence on schools, districts, regions or countries.

The Emma Castelnuovo Award seeks to recognize and to encourage efforts, ideas and their successful implementation in the field, as well as to showcase models and exemplars of inspirational practices from which to learn. The recipient of the award will be announced late in 2019 or early in 2020, and the award will be conferred at ICME-14 in July 2020 in Shanghai, China. The awardee (or its representative in the case of a group, institution, project, or organization) will be invited to present a special lecture at the Congress. The Emma Castelnuovo Award Committee consists of a Chair (Professor Konrad Krainer) nominated by the President of ICMI, and five other members who remain anonymous until their terms have come to an end. The six members come from six different countries, representing different continents (Africa, Asia, Australia, Europe, North America and South America). The Committee is completely autonomous, its work and records will be kept internal and confidential, except for the obvious process of soliciting advice and information from the professional community, which is done by the Committee Chair. The Committee is at this time entering the 2020 cycle of selecting awardees and welcomes nominations for the award from persons, groups, projects, institutions or organizations in the mathematics education community. For information about the other ICMI awards and the names of past awardees, see https://www.mathunion.org/icmi/awards/icmi-awards

Nominees for the award will be evaluated in light of the following criteria:
• the educational rationale for the candidate's work and what served as a catalyst for that work;
• the problems addressed by the candidate;
• the candidate's role in addressing the problems, whether they involve curriculum development, teacher education, professional development, design of instruction, or other areas of mathematics education practice;
• the conditions under which the work has taken place (the cultural and political context, infrastructure, funding, and people involved);
• the originality and creativity involved in how the candidate has addressed problems and overcome obstacles;
• the quality of networking with other key stakeholders (e.g., bridging theory and practice);
• external or internal evaluations of the work, if available;
• the extent of the influence of the work on educational practice, including quantitative or qualitative evidence of that influence; and
• the potential of the work to serve as a model (either for inspiring others addressing similar problems or because of taking an approach that could be applied elsewhere with appropriate modifications).
Nominations for the Emma Castelnuovo Award should include the following documents in the English language (exceptions for 4. – see below):
1. a document (max. 5 pages) describing the nominee's programme and reasons for the nomination (including the nominee's impact on the field);
2. a one-page summary statement;
3. an account of the genesis and dissemination of the nominee's work and the roles of the people involved, with brief curricula vitae of the key persons (max. 10 pages);
4. electronic copies of three publications that reflect the nominee's work related to the practice of mathematics education (e.g., journal articles, textbooks, other instructional materials, or CD-ROMs); (if a publication is not written in English, an English translation of a key part – e.g. an abstract – and an independent statement on the publication's quality written in English – e.g. a review – should be provided)
5. three letters of support (from different stakeholders and, if possible, from different countries); and
6. the names and e-mail addresses of two persons who could provide further information, if needed.

All nominations must be sent by e-mail to the Chair of the Committee (konrad.krainer@aau.at) no later than **March 31, 2019.**

Konrad Krainer, Chair of the ICMI Emma Castelnuovo Award Committee
University of Klagenfurt, Department of Instructional and School Development
Sterneckstraße 15
9010 Klagenfurt, Austria

3. ICMI Study 25 on Mathematics teachers working and learning in collaborative groups

ICMI is happy to announce the launching of a new ICMI Study on Mathematics teachers working and learning in collaborative groups. The following briefing was issued to inform the community and to guide the work of the recently appointed International Program Committee, which will lead the Study through all its stages.

The idea of mathematics teachers working and learning through collaboration is gaining increasing attention in educational research and practice, particularly since the report on Lesson Study in Japan from the TIMSS classroom video study. Across education systems and at all educational levels, mathematics teachers work and learn through various forms of collaboration, which might contribute to their learning and development in different ways. Efforts to understand what teachers do as they work in collaborative groups, and how this leads to improvement in their practice and expertise, has led to increasing interest in examining the different activities, processes, and contexts for teacher collaboration around the world. The work completed by the ICME-13 Survey Team on this theme is evidence of the considerable international interest in research on teachers working and learning through collaboration. However, the ICME-13 Survey also identified several gaps and limitations, not only in the existing research base but also in the Survey's coverage of relevant topics within the theme, which highlights the need for the proposed ICMI Study.

The Study's theme implies a focus on teachers as they work within teams, communities, schools and other educational institutions, teacher education classes, professional development courses, local or national networks – that is, in any formal or informal groupings. Teachers' collaborative work might also include those who support their learning and development, such as trainers or coaches, mentors, or university academics. Collaboration can extend over different periods of time, and take place in face-to-face settings or at a distance. The role of online platforms and technology-enabled social networks is an additional focus in supporting "virtual" collaboration.

Because there are different ways of understanding teacher collaboration and its characteristics, enablers, and consequences, the Study would include multiple theoretical, methodological, and contextual perspectives. It will be particularly important to solicit contributions from teachers as well as researchers, so that teachers' voices are given equal prominence in accounts of their learning. Likewise, the Study will acknowledge that learning is mutual, that is, that those who work collaboratively with teachers to develop their practice are also learning from these interactions.

Some of the areas and questions that the Study would investigate are:
- Conceptualising and enacting collaboration
- Supporting and researching teachers' work and learning through collaboration
- Goals of collaboration
- Resources for teacher collaboration
- Cultural and political contexts for teacher collaboration
- Cross cutting issues in studying and supporting teacher collaboration

The International Program Committee appointed by the ICMI Executive Committee is constituted by the following researchers and mathematics educators with experience in this theme:
Hilda Borko (Co-Chair, Stanford University, USA)
Despina Potari (Co-Chair, Athens State University, Greece)
Joao Pedro da Ponte (University of Lisboa, Portugal)
Shelley Dole (University of the Sunshine Coast, Australia)
Cristina Esteley (National University of Cordoba, Argentina)
Rongjin Huang (Middle Tennessee State University, USA)
Ronnie Karsenty (Weizmann Institute of Science, Israel)
Takeshi Miyakawa (Joetsu University, Japan)
Ornella Robutti (University of Turin, Italy)
Luc Trouche (Ecole Normale Supérieure de Lyon, France)
Ex Officio members: Jill Adler (ICMI President), Abraham Arcavi (ICMI Secretary General).

The first meeting of the International Program Committee will take place in Berlin on February 11-14, 2019, and the Discussion Document with a call for papers for the Study Conference will be distributed soon thereafter. The Study Conference is planned for January 2020.

4. ICMI Study 24

The Study Conference for ICMI Study 24 (by invitation only) will take place in Tsukuba, Japan on November 26-30, 2018. For details, see http://www.human.tsukuba.ac.jp/~icmi24/

5. ICME 14 – Update reported by ICMI EC member Binyan Xu

The first International Program Committee meeting of ICME 14 was held in Shanghai from 11-17th September, 2017. Twenty-one IPC members participated in the meeting.

As a result of collegial but extensive discussions and negotiations during the meeting, the overall scientific structure of ICME 14 has been determined. In addition, presenters of Plenary Lectures and Invited Lectures have been nominated, and the themes and members of Plenary Panels, survey teams, and Topic Study Groups (TSGs) have been proposed. In a departure from the practice at past ICMEs, it was decided that TSGs in ICME 14 will be grouped into two classes, Class A and Class B, to be scheduled in two different time slots in order to accommodate more TSGs and to give participants more flexibility in attending TSG activities. Details of the main academic activities of ICME 14 are available at http://icme14.org, the official website of ICME 14.

The first announcement of ICME 14 has been published on the official website of ICME 14, and it can be downloaded at http://icme14.org/images/icme/announcemen/FirstAnnouncement.pdf. Important information, such as details concerning submissions of proposals and papers, registration, and access to the ICME 14 solidarity fund, is provided in the announcement. In addition, a call for National Presentations at ICME 14 is announced at the official ICME 14 website http://icme14.org/ and the ICMI website https://www.mathunion.org/icmi/news-and-events/2018-08-01/call-national-presentations-icme-14-2020. Any intention to organize National Presentations at ICME-14 is warmly welcomed.

The IPC members will meet for the second time in March 2019, in order to finalize the program and to discuss issues related to the conference website system (including registration, submissions and reviews), the conference proceedings, and venues.

6. Supporting teachers in the USA and Finland: Report on a Workshop by the US National Academies of Sciences

By Ana M. Ferreras, ICMI contact person of the US National Academies of Sciences.

The U.S. National Commission on Mathematics Instruction in collaboration with the University of Helsinki held a Workshop on Supporting Mathematics Teachers in the United States and Finland in 2016. The bilateral meeting of U.S. and Finnish mathematics educators was held on August 1-2 at the University of Helsinki, Finland and was attended by 30 experts from both nations. The workshop was sponsored by Åbo Akademi University, Högskolestiftelsen i Österbotten, the National Science Foundation, and Svensk-Österbottniska samfundet.

The National Academies' Workshop Summary report is available (in PDF format for download) at https://www.nap.edu/catalog/24904/supporting-mathematics-teachers-in-the-united-states-and-finland-proceedings

Videos of the workshop sessions, presentations (in PDF format for download), and background readings are also available at http://sites.nationalacademies.org/PGA/biso/ICMI/PGA_173314

7. ADiMA meeting in Dangbo (Bénin) - Reported by ICMI EC member Jean-Luc Dorier.

ADiMa means Association des Didacticiens des Mathématiques d'Afrique (African association for researchers in mathematics education) http://colloque.adima.org/

ADiMA was created as a regional network for mathematics education within French speaking Africa. It emerged from the meeting of the first CANP – "Capacity and Networking Program in the Mathematical Sciences", a joint program of the International Commission on Mathematical Instruction (ICMI) and the International Mathematical Union (IMU). CANP1 was held in September 2011 in Bamako, Mali, and brought together people involved in the training of teachers of mathematics from five French-speaking countries in sub-Saharan Africa (see https://www.mathunion.org/icmi/activities/developing-countries-support/canp/canp-sub-saharan-africa-2011-2012). These African countries already had prior contact through Espace Mathématique Francophone (EMF) and participation in the international Francophone community through EMF's three-yearly conferences. CANP1 and subsequent meetings in the region led to the formation of ADiMA and its first symposium in Yaoundé (Cameroun), in August 2016, where an executive bureau was elected with a president Adolphe Adihou, from Bénin working in Québec, a secretary general, Judith Sadja Njomgang from Cameroun, and Alexandre Mopondi Bendeko Mbumbu, from Democratic Republic of Congo, in charge of finance.

The second ADiMA symposium was held in Dangbo (Bénin) on 16-18 August 2018, with the assistance of several local institutions and the University of Bénin's Institut de Mathématiques et de Sciences Physiques (IMSP). The general theme of the conference was "The place of research in didactics of mathematics in teacher training in Africa: State of art, challenges and perspectives (Place de la didactique des mathématiques dans la formation des enseignants en Afrique: états des lieux, enjeux et perspectives).

The symposium attracted nearly 80 participants from 14 different countries: Bénin, Burkina Faso, Cameroun, Canada, Ivory Coast, France, Mali, Niger, Democratic Republic of Congo, Central Africa Republic, Sénégal, Switzerland, Togo, and Tunisia. This broad representation is a credit to the organizers and executive bureau, who collaborated to create a rich program with more than 60 presentations.

The opening ceremony provided the occasion to listen to official talks from Professor Léonard Todjihound, director of IMST, the rector of the university of Abomey-Calavi, the president of ADiMA, and Professor Joël Tossa, director of the African Centre of Excellence in Mathematical Sciences and Applications (CEA-SMA) attached to IMSP in Dangbo and financed by the Mundial Bank.

The opening conference address was given by Professor Tossa, who recalled the genesis of the creation of the IMSP in the training in research in didactics of mathematics and sciences in Bénin.

Over the 3 days, the program included:

- 10 plenary presentations, 3 given by Europeans, 7 by Africans, giving a larger perspective on the state of research and teacher training in mathematics education at all school levels in various countries;

- a round table between regional speakers on various issues in mathematics education;

- 4 seminars that provided opportunities to present research work and share methodological and theoretical aspects with the participants;

- 16 short communications in parallel sessions.

The last afternoon was devoted to comments from 4 reactors on the whole conference and a debate amongst participants. This was followed by the general assembly of ADiMA during which the executive bureau was re-elected and the date and venue for the next symposium decided (August 2020 in Tunisia). Further plans were made to strengthen links between ICMI (through CANP), ADiMA, and EMF.

The meeting in Dangbo was also a good opportunity for informal exchanges between key actors of the 12 African countries represented. As a European observer I have been particularly impressed by the dynamics and the quality of such exchanges. This region of the world is going through a difficult phase with economical,

geo-political and demographical challenges. Nevertheless, these countries have a rich resource in academics from various generations who are ready to defend a model of teacher training involving university study of didactics of mathematics. Local initiatives to create doctoral programs, research activities and regional networks need to be supported by the international community both financially and in human resources. This is the goal of ICMI through the CANP project.

8. AFRICME 5 - Reported by ICMI EC member Jean-Luc Dorier.

AFRICME stands for Africa Regional Congress of ICMI on Mathematical Education.

The first AFRICME was hosted by the University of the Witwatersrand in Johannesburg, South Africa, in June 2005. AFRICME 2 took place at the Catholic University of Eastern Africa, Nairobi, Kenya, on May 23–26, 2007. AFRICME 3 was hosted by the University of Botswana in Gaborone, on May 18–21, 2010. AFRICME 4 was hosted by the Lesotho College of Education - Faculty of Science in Maseru, Lesotho, on June 11–14, 2013.

Parallel to these meetings, ICMI organized the fourth Capacity and Network Project (CANP4 – East Africa) that held its first workshop from September 1–12, 2014 at the Aga Khan University Institute for Educational Development East Africa in Dar es Salaam, Tanzania. (See https://www.mathunion.org/icmi/activities/developing-countries-support/canp/canp-east-africa-2014).

The success of this workshop provided the impetus for AFRICME 5 to be held in the same venue, on 29–31 August, 2018. http://www.amesa.org.za/AFRICME52.pdf

The International Advisory Committee was chaired by Prof. Anjum Halai – Aga Khan University, Pakistan and the local organizing committee was led by Dr. Fredrick Mtenzi – Aga Khan University, Tanzania.

AFRICME 5 aimed to offer a forum for mathematics educators throughout Africa, by:

* promoting exchange of ideas on approaches to achieve quality mathematics education within Africa and beyond;

* encouraging collaborative research in quality mathematics education at all levels;

* disseminating findings of relevant research on mathematics education;

* providing a forum for mathematics educators and mathematicians to connect and network with each other.

The main theme of AFRICME 5 was "Quality Mathematics Education for All", elaborated through 7 Sub-themes:

* Effective initial and continuing mathematics teacher education

* Inclusion and equity in mathematics education (gender, multilingualism, special needs)

* Mathematics knowledge in and for teaching

* Integrating information and communication technology (ICT) in mathematical education

* Mathematical thinking for nurturing quality education

* Assessment and evaluation issues in mathematics education

* The role of contextually relevant research in quality mathematics education

The conference was attended by around 110 participants from 18 different countries: 1 from Ethiopia, 1 from Ireland, 2 from Germany, 1 from Ghana, 7 from Kenya, 1 from Lesotho, 8 from Malawi, 1 from New-Zealand, 2 from Pakistan, 6 from Rwanda, 15 from South-Africa, 1 from Switzerland, 2 from Swaziland, 35 plus 18 students from Tanzania, 3 from Uganda, 2 from the UK, 1 from the USA and 4 from Zambia.

In terms of representation of this wide region of Africa, this is quite a success. Colleagues from Tanzania deserve congratulations for their huge organizational effort to make this conference so successful.

The opening ceremony provided an occasion to listen to very engaged and enthusiastic speeches from different officials:

* Prof. Joe Lugalla, Director, Aga Khan University, Institute for Educational Development, East Africa;

* Honorable Prof. Joyce Ndalichako, Minister, Ministry of Education, Science and Technology, Tanzania;

* Prof. Jill Adler, SARChI Chair Mathematics Education, School of Education, University of the Witwatersrand, South Africa and President of the International Commission on Mathematical Instruction (ICMI);

* Prof. Anjum Halai, Associate Vice Provost, Research & Graduate Studies Aga Khan University and Chair AFRICME 2018;

* Dr. Fredrick Mtenzi, Aga Khan University, Institute for Educational Development, East Africa and Co-Chair AFRICME 2018.

The keynote address was given by Barbara Jaworski, Professor of Mathematics Education, Loughborough University, Leicestershire UK, about "Teaching mathematics with sensitivity and challenge".

The rest of the 3-day long program was devoted to:

* 45 paper presentations;   * two parallel symposia;

* 6 workshops;   * a poster session;

* a session with 4 national presentations from   * a round table about the future of AFRICME.
Kenya, Rwanda, Tanzania and Uganda;

The whole conference was very rich and stimulating and showed the variety of work done in this large region of Africa. The discussion on the future of AFRICME brought out some interesting issues about how to consolidate a research community in South-West Africa that is visible to politicians, helpful to teachers, scientifically strong and internationally engaged. Discussion also took place on how to strengthen AFRICME through more sustainable governance structures.

The next AFRICME meeting will be held within three years in the College of Education at the University of Rwanda.

9. CANP 5 Publication
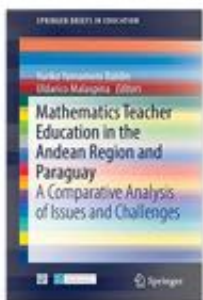
ICMI announces the publication of the CANP5 book, "Mathematics Teacher Education in the Andean region and Paraguay, A Comparative Analysis of Issues and Challenges", edited by ICMI EC member Yuriko Yamamoto Baldin and Uldarico Malaspina with the Foreword by ICMI president Jill Adler. This book is based on the CANP5 workshop see https://www.mathunion.org/icmi/activities/developing-countries-support/canp/canp-andean-region-and-paraguay-2016)

and its follow up held in 2016 and 2017 respectively and on the translation into English of the National Reports on Teacher Education from four countries (Peru, Ecuador, Bolivia and Paraguay.

For details on the book see https://www.springer.com/gp/book/9783319975436

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10. Communication from Cristina Sabena – Secretary of CIEAEM

The International Commission for the Study and Improvement of Mathematics Teaching (CIEAEM) is an ICMI affiliated organization. CIEAEM investigates the actual conditions and the possibilities for the development of mathematics education in order to improve the quality of teaching mathematics. The annual CIEAEM conferences are essential to realize this goal. The conferences are characterized by exchange and discussion of the research work and its realization in practice and by the dialogue between researchers and educators in all domains of practice.

CIEAEM 71 will be held in Braga (Portugal) on July 22-26, 2019. For details, http://www.cieaem.org/

CIEAEM 70 was held in Mostagamen, Algeria, with the theme "Mathematics and living together: social process and didactic principle". The conference gathered nearly 700 participants from 26 countries on 5 continents. The conference enabled the encounters of researchers and practitioners with different perspectives and from different cultures.

The 8th CIEAEM Newsletter contains a brief and lively report of this event – see

http://www.cieaem.org/?q=system/files/newsletterSeptember2018-compressed.pdf

11. ICTMA

The International Study Group for the Teaching of Mathematical Modelling and Applications (ICTMA) has been an Affiliated Study Group of the International Commission on Mathematical Instruction (ICMI) since 2003. The aim of the group is to foster the teaching and learning of mathematical modelling and the ability to apply mathematics to genuine real world problems in primary, secondary, and tertiary educational environments, including teacher education, together with professional and workplace environments. (For further details on ICTMA, please see https://www.mathunion.org/icmi/ictma)

ICTMA announces the upcoming conference ICTMA-19 which will be held from July 21-26, 2019 at The University of Hong Kong. The theme of the conference is "Mathematical Modelling Education in West and East". Over 200 researchers and educators with expertise in mathematical modelling from across the globe are expected to meet and discuss all aspects of teaching applications and modelling in all areas and at all levels of education. The co-organizers of ICTMA-19 are the International Mathematical Modelling Challenge Committee (IMMC) Zhonghua (Greater China) and the Division of Mathematics and Science Education of the Faculty of Education. The Chair of the International Program Committee is Professor Frederick Leung (the University of Hong Kong) and the Chair of the Local Organizing Committee is Mr. Alfred Cheung.

The official website of ICTMA-19 can be found at http://www.ictma19.org/

12. Upcoming Conferences

- ICMI Study 24 Conference Tsukuba, Japan on November 26-30, 2018. For details, see http://www.human.tsukuba.ac.jp/~icmi24/
- CERME 11 (in 2019) will take place in Utrecht in the Netherlands in February 5-10, 2019. For more information please visit: http://www.mathematik.uni-dortmund.de/~erme/index.php
- The Conference Technology and Psychology for Mathematics Education, will take place on March 18-21, 2019 in Moscow. The submission process has started. https://education.yandex.ru/pme/en/
- CIAEM-15 (XV Inter-American Conference on Mathematics Education) will be held in in Medellín, Colombia, May 5-9, 2019. For more information, visit: http://ciaem-redumate.org/conferencia/index.php/xvciaem/xv
- Mathematics and its Connections with the Arts and Sciences (MACAS) symposium will take place at McGill University in Montréal from June 18 - 21, 2019. https://mcgill.ca/macas2019/
- MERGA 2019 will be held at the Curtin University Perth, Western Australia from June 30th, 2019 – July 4, 2019 and also feature a Teachers Day on 29th of June, 2019. http://www.promaco.com.au/events/MERGA/
- The next PME Annual Conference will take place in Pretoria, South Africa, from July 7 to 12, 2019. http://www.igpme.org/index.php/annual-conference
- Fifteenth bi-annual conference on Elementary Mathematics Teaching, SEMT '19, to be held from August 18-22, 2019, in Prague. https://www.semt.cz/
- Sixth International Conference on the History of Mathematics Education (ICHME-6) CIRM, Marseille (France), September 16-20, 2019

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