

ICMI News 13: December 2009

A Bimonthly Email Newsletter from the ICMI-International Commission on
Mathematical Instruction

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1. Editorial: Some views of ICMI at the crossing of two ECs

As this is the last editorial to appear in ICMI News under the current ICMI Executive Committee, whose term of office ends with this year 2009, we felt appropriate for the two of us to prepare a joint note reflecting our common vision of some recent developments in the life of ICMI -- developments which point to what we consider to be a promising future.

We wish to stress at the outset that during the last three years, this EC, pursuing the work of the previous ICMI EC and in faithfulness to the values of ICMI, has tried to contribute to the improvement of mathematics education worldwide by fostering collaboration and exchange between all those with professional interest in mathematics education -- mathematicians, mathematics educators, teachers, teacher educators... -- and promoting values of international solidarity.

These last three years have been marked by a series of important events for ICMI, in particular the celebration in March 2008 of the ICMI centennial in Roma, as well as in July 2008 the first ICME congress to be organised in Latin-America. The ICMI Study programme was also a very vigorous component of ICMI actions, with the holding of the conferences for two ICMI Studies (# 18 on Statistics Education and # 19 on Proof and Proving in Mathematics Education), the publication in the New ICMI Study Series (NISS) of the volumes resulting from four Studies (## 14, 15, 16 and 17), and the launching of two new Studies: the EIMI Study (# 20) on Educational Interfaces between Mathematics and Industry, in collaboration with ICIAM, whose conference will be held in Lisboa next April, and the Study on Mathematics Education and Language Diversity (# 21) whose Discussion Document is very soon to be issued. The preparation of ICME-12, to be held in July 2012 and for the second time in Asia, is now intensively on its way and the ICME-12 IPC had its first meeting last June in Seoul. To this must be added the specific conferences and activities organized by

the five ICMI Affiliated Study Groups, which have substantially contributed to help ICMI achieve its mission.

In order to improve ICMI communication, the bimonthly e-newsletter ICMI News has been launched two years ago and the ICMI website revamped earlier this year. Moreover an ICMI historical website has been realized by a group of Italian colleagues. A revised contract has been concluded with Springer, that now allows making the outcome of the ICMI Studies published in the NISS Series freely accessible to everyone after three years only, and a Digital Library has been established, accessible through the ICMI website.

Recent ECs have put a lot of energy in strengthening ICMI regional networks and we are pleased to see these efforts now be rewarded, especially in Africa. The links between ICMI and UNESCO, which once were quite intense but had weakened over recent decades, are now effective and productive again. In particular, UNESCO is currently publishing a document on the challenges of mathematics and sciences education in basic education, whose redaction one of us (M.A.) has been asked to pilot for the mathematical part, and to which the ICMI community has substantially contributed. Links and collaboration with our mother institution IMU have also strengthened and we have launched jointly the ambitious Felix Klein project, whose enthusiastic reception by the community is extremely stimulating.

Finally, the ICMI Terms of Reference have very recently been substantially revised in order to take into account changes that had occurred in the governance of ICMI as well as the new status of Associate IMU Member recently created by IMU. These new Terms introduce a notion of Affiliate Organization, extending that of Affiliated Study Group and opening the way to new forms of international collaboration.

All these achievements are the result of collective work, within the ICMI EC of course, but more globally within the international ICMI community. Without this community, its expertise and its commitment, ICMI would have neither strength nor power. ICMI country representations, and sub-commissions where they exist, ICMI regional networks, ICMI Affiliate Organizations, are all essential for structuring this community and making it powerful.

On behalf of the 2007-2009 ICMI EC, and in particular on our behalf, we would like to express our deepest gratitude to all those who have brought their invaluable contribution to the mission of ICMI. We are sure that, as they have supported our work, they will also support the work of the new ICMI EC, of its President, Bill Barton, and its Secretary-General, Jaime Carvalho e Silva.

Together, we, all the members of the community that ICMI serves as a commission of IMU, must collaborate and do our best in order to make ICMI improve as an organization, so that it may more and more efficiently address the challenges that mathematics education faces today, as these challenges, despite our collective efforts and achievements, are far from being overcome.

Michèle Artigue, President of ICMI, artigue@math.jussieu.fr

2. New Terms of Reference for ICMI

Following a series of discussions between the Executive Committees of ICMI and of the International Mathematical Union (IMU), its mother organisation, revised Terms of Reference for ICMI were formally adopted by the EC of IMU on December 31, 2009, while the ICMI EC had adopted on the same day Guidelines pertaining to these Terms.

The new Terms of Reference of ICMI and the Guidelines are the result of a thorough revision of the previous version. They aim at reflecting the evolution in the governance of ICMI so to ensure that all those having interest in ICMI and its activities clearly understand the distribution of duties and rights among the many actors involved in the life of ICMI. With this revision, the ICMI Terms are now split into two parts: the first part is (as previously) under the jurisdiction of the IMU EC, while the new second part (Guidelines for the ICMI Terms of Reference) is under the jurisdiction of the ICMI EC.

Other changes include the following:

- A statement related to participation to the ICMI General Assembly has been added to Clause 2 to stress the importance of the Assembly, now responsible for the election of the ICMI EC.
- Clause 3, about the ICMI General Assembly, specifies in particular that the only members of the ICMI GA having voting rights are the representatives of Full Member countries of IMU. Consequently, the representatives of IMU Associate Members or non-IMU Members of ICMI, the representatives of ICMI Affiliate organizations, and the ICMI EC members, have no voting rights at the GA.
- Clause 4c stresses that co-optation on the ICMI EC should be exceptional.
- Clause 9 introduces an important new notion, that of "Affiliate Organization", of which the current notion of "Affiliated Study Group" is becoming one "cas de figure". Affiliation is now possible not only for groups devoted to a specific field of interest in mathematics education, like the current five ICMI Affiliated Study Groups, but also to multi-national organizations with interest in mathematics education. We trust that this new element will be helpful in facilitating and supporting ICMI efforts about international collaboration and exchanges in mathematics education.

It is the hope of the IMU and ICMI ECs that these new Terms of Reference for ICMI will be a useful tool for ICMI and the community it serves.

The new Terms and Guidelines are accessible on the webpage
<http://www.mathunion.org/icmi/about-icmi/icmi-as-an-organisation/terms-of->

3. CIAEM becomes an Affiliate Organization of ICMI

The 'Comité Interamericano de Educación Matemática' (Inter-American Committee on Mathematical Education) is now officially affiliated to ICMI, thus being the first multi-national mathematical education society to become linked to ICMI under the new scheme of "Affiliate Organisation" introduced through the revision of the ICMI Terms of Reference adopted by the IMU Executive Committee on December 31, 2009. This affiliation was approved by the Executive Committees of both ICMI and CIAEM.

CIAEM thus joins the five other organizations that were already affiliated to ICMI (under the umbrella of "Study Groups"):

HPM The International Study Group on the Relations between the History and Pedagogy of Mathematics (1976)

PME The International Group for the Psychology of Mathematics Education (1976)

IOWME The International Organization of Women and Mathematics Education (1987)

WFNMC The World Federation of National Mathematics Competitions (1994)

ICTMA The International Community of Teachers of Mathematical Modelling and Applications (2003)

It is probably most appropriate that CIAEM becomes the first multi-national mathematical education society affiliated to ICMI under the new scheme introduced through the recent revision of the ICMI Terms of Reference. CIAEM was indeed founded in 1961 at the initiative of Marshall Stone, who at that time was the President of ICMI, thus becoming the first "regional entity" of ICMI. Hence ICMI was in no way indifferent to the birth of CIAEM, to say the least. It may be of interest to note that a "Memorandum on affiliation of CIAEM to ICMI" was formally adopted by the ICMI EC when it met during the 1974 International Congress of Mathematicians in Vancouver (as reported in the ICMI Bulletin no. 5, 1975, p. 5). However this memorandum does not seem to have been reflected in the ICMI Terms, and it is not easy to see its actual impact in the life of ICMI and CIAEM. While the intensity of the contacts between ICMI and CIAEM may have varied over the years, depending possibly on the personality of those in charge of these bodies, it is clearly the common vision of both the current ICMI and CIAEM ECs that, following some efforts for a closer and more regular collaboration in recent years between the two organisations, these links are now in excellent health. To use the words of Angel Ruiz, CIAEM President and incoming ICMI Vice-President, right now is a special moment to tighten still further the connections between ICMI and CIAEM and work together, so to foster the development of mathematics and mathematics education in the Americas, and especially Latin America. It is the hope of the ICMI and CIAEM ECs that the status of ICMI Affiliated Organization, with the moral obligations for regular contact that it

brings, will be useful in helping these links to remain vivid and productive over the years.

It should be noted that the 50th anniversary of CIAEM will be celebrated in 2011 on the occasion of the XIII Conferencia Interamericana de Educación Matemática (XIII Inter-American Conference on Mathematics Education) to be held in Recife, Brasil (see <http://xiii.ciaem-iacme.org>).

More information about CIAEM can be accessed on the its website
<http://www.ciaem-iacme.org/>

or on the CIAEM page within the ICMI website
<http://www.mathunion.org/icmi/about-icmi/affiliate-organizations/math-education-societies/ciaem/>

The ICMI EC is currently pursuing discussions with two other multi-national organizations as regards a possible affiliation to ICMI and positive developments should be announced in a near future by the next ICMI EC.

Bernard R. Hodgson, Secretary-General of ICMI, bhodgson@mat.ulaval.ca

4. CIAEM-IACME

The 'Comité Interamericano de Educación Matemática' CIAEM (Interamerican Committee on Math Education IACME) is a regional organization that has been associated with the International Commission on Mathematical Instruction (ICMI) since its inception. It shares ICMI's purpose in promoting research in Math Education. See <http://www.ciaem-iacme.org>. From 2010, due to new terms of ICMI, CIAEM is formally an affiliated organization of ICMI.

CIAEM was founded in 1961 by a group of mathematicians and math educators from the three Americas, led by the famous mathematician, Marshall Stone, from the United States, who was at the time the President of ICMI. The principal objective of CIAEM was to bring together educators from throughout the Americas to evaluate and reformulate mathematics curricula in general, but, especially, to promote the development of the countries of Latin America. The first Interamerican Conference on Math Education was held in Bogotá, Colombia, in December of 1961. There, the first Executive Committee of CIAEM was created. The second Interamerican Conference on Math Education was held in Lima, Peru, in 1966.

These first Conferences prompted a productive movement for Math Education in the Americas, despite the challenges of geography, communication, and, principally, the economy. From the beginning the Conferences have been held regularly: Bahía Blanca, Argentina, November, 1972, 209 participants from 22 countries; Caracas, Venezuela, December, 1975, 281 participants from 22 countries; Campinas-SP, Brazil, February, 1979, 569 participants from 28 countries; Guadalajara, Mexico, November, 1985, 180 participants from 24 countries; Santo Domingo, Dominican Republic, July, 1987, 316 participants from 22 countries; Miami, USA, August, 1991, 141 participants from 21 countries; Santiago, Chile, August, 1995, 1080 participants

from 17 countries; Maldonado, Uruguay, August, 1999, 600 participants from 20 countries; Blumenau, Brazil, August, 2003, 600 participants from 20 countries, and, finally, in Querétaro, Mexico, in July, 2007, with more than 800 participants from 25 countries.

The XIIIth Conference is going to be held in Recife, Brazil, in June 2011, where CIAEM will celebrate 50 years of life. See <http://xiii.ciaem-iacme.org>

CIAEM puts an emphasis on the academic and scientific quality of the event, and on the presentation of research results and serious proposals for improving Math Education.

Since its creation, the following persons have occupied the Presidency of CIAEM: Marshall Stone (1961-1972), Luis Santaló (1972-1979), Ubiratan D`Ambrosio (1979-1987), Eduardo Luna (1987-1995), Fidel Oteiza (1995-1999), Carlos Vasco (1999-2003), Salett Biembengut (2003-2007) and Ángel Ruiz (2007-2011).

In the 11th International Congress on Math Education (ICME 11) Ubiratan D'Ambrosio received the 2005 Felix Klein Medal from ICMI for his meritorious achievements and the results of his life-long dedication to Math Education.

Executive Committee

President: Ángel Ruiz (Costa Rica), angelruizz@racsa.co.cr

First Vice President: [Eduardo Mancera](mailto:eduardo_mancera@prodigy.net.mx) (Mexico), eduardo_mancera@prodigy.net.mx

Second Vice President: [Patrick Scott](mailto:Patrick.Scott@state.nm.us) (USA), Patrick.Scott@state.nm.us

Secretary: [Hernán Miranda](mailto:hmiranda@nmsu.edu) (Chile), hmiranda@nmsu.edu

Past President: [Salett Biembengut](mailto:salett@furb.br) (Brazil), salett@furb.br

Member-at-Large: [Hugo Barrantes](mailto:habarran@gmail.com) (Costa Rica), habarran@gmail.com

Ángel Ruiz, President of CIAEM, angelruizz@racsa.co.cr

5. Some update on ICME-12

As announced in ICMI News 8 (February 2009), the International Programme Committee (IPC) for ICME-12 had its first meeting on June 14-17, 2009, in Seoul under the presidency of its Chair, Sung Je Cho (sungjcho@snu.ac.kr). Many decisions were then made about the programme, in particular as regards the plenary sessions and the 37 Topic Study Groups to be offered at ICME-12 (see the list below).

General information about the main programme components is available via the First Announcement, to be found on the congress website <http://www.icme12.org/>.

The ICME-12 congress will be held on July 8-15, 2012, in Seoul, Korea.

LIST OF TOPIC STUDY GROUPS AT ICME-12

- TSG 1 Mathematics education at preschool level
- TSG 2 Mathematics education at tertiary level and access to tertiary level
- TSG 3 Activities and programs for gifted students
- TSG 4 Activities and programs for students with special needs
- TSG 5 Mathematics education in and for work
- TSG 6 Mathematics literacy
- TSG 7 Teaching and learning of number systems and arithmetic --- focusing especially on primary education
- TSG 8 Measurement --- focusing especially on primary education
- TSG 9 Teaching and learning of algebra
- TSG 10 Teaching and learning of geometry
- TSG 11 Teaching and learning of probability
- TSG 12 Teaching and learning of statistics
- TSG 13 Teaching and learning of calculus
- TSG 14 Reasoning, proof and proving in mathematics education
- TSG 15 Problem solving in mathematics education
- TSG 16 Visualization in the teaching and learning of mathematics
- TSG 17 Mathematical applications and modelling in the teaching and learning of mathematics
- TSG 18 Analysis of uses of technology in the teaching of mathematics
- TSG 19 Analysis of uses of technology in the learning of mathematics
- TSG 20 The role of history of mathematics in mathematics education
- TSG 21 Research on classroom practice
- TSG 22 Learning and cognition in mathematics
- TSG 23 Mathematical knowledge for teaching at primary level
- TSG 24 Mathematical knowledge for teaching at secondary level
- TSG 25 In-services education, professional development of mathematics teachers
- TSG 26 Preservice mathematical education of teachers
- TSG 27 Motivation, beliefs and attitudes towards mathematics and its teaching
- TSG 28 Language and communication in mathematics education
- TSG 29 Gender and mathematics education
- TSG 30 Mathematics education in a multilingual and multicultural environment
- TSG 31 Task design and analysis
- TSG 32 Mathematics curriculum development
- TSG 33 Assessment and testing in mathematics education
- TSG 34 The role of mathematical competitions and other challenging contexts in the teaching and learning of mathematics
- TSG 35 The history of the teaching and learning of mathematics
- TSG 36 The role of ethnomathematics in mathematics education
- TSG 37 Theoretical issues in mathematics education

Bernard R. Hodgson, Secretary-General of ICMI, bhodgson@mat.ulaval.ca

6. A new ICMI EC is taking charge

As of January 1st, 2010, a new Executive Committee of ICMI will take charge for the period 2010-2012. The elected members of this EC, following the election which took place during the 2008 ICMI General Assembly held in Monterrey, are:

PRESIDENT:

William (Bill) Barton (New Zealand)

SECRETARY-GENERAL:

Jaime Carvalho e Silva (Portugal)

VICE-PRESIDENTS:

Mina Teicher (Israel)

Angel Ruiz (Costa Rica)

MEMBERS AT LARGE:

Mariolina Bartolini Bussi (Italy)

Sung Je Cho (Korea)

Roger Howe (USA)

Renuka Vithal (South Africa)

Zhang Yingbo (China)

According to the ICMI Terms of Reference, the past President of ICMI as well as the President and the Secretary of IMU are also members of this EC.

For any matter pertaining to ICMI, contact can be made with the incoming President or Secretary-General of ICMI, who can be reached at the following email addresses:

b.barton@auckland.ac.nz (Bill BARTON)

jaimecs@mat.uc.pt (Jaime CARVALHO E SILVA)

Bernard R. Hodgson, Secretary-General of ICMI, bhodgson@mat.ulaval.ca

7. Request from the European Mathematical Society

Dear colleagues

As you may know, the European Mathematical Society (EMS) (<http://www.euro-math-soc.eu/>), consisting of about 50 mathematical societies in Europe, 20 academic institutional members, and many individual members has a number of standing committees under which the 'Education' committee is working to bridge the gap between mathematics as a field and its teaching and learning in society.

A new committee (<http://www.euro-math-soc.eu/comm-education.html>) was established this autumn; Günter Törner (guenter.toerner@uni-due.de) is the chair and Despina Potari (dpotari@math.uoa.gr) is vice-chair. The committee will become active from January 1, 2010 after Konrad Krainer (konrad.krainer@uni-klu.ac.at) has opened the new term temporarily on behalf of the Executive Committee of EMS.

The Committee is interested in becoming a platform for exchange of information, experience and views, and to explore issues and problems of significance to European mathematics education and promote its development everywhere. The committee also decided to start with an inventory: Solid findings in mathematics education. We regard it helpful to identify two or three findings in mathematics education which seem to be established and thus spread the information to other interested groups in Europe. Based on the answers, possibly a small volume or booklet might be produced. Your comments and hints are welcome.

Guenter Toerner, Universitaet Duisburg-Essen, Duisburg, Germany,
guenter.toerner@uni-due.de

8. Calendar of Events of Interest to the ICMI Community

International Consortium for Research in Science and Mathematics Education - 2010 Consultation

BlueBay Los Angeles Locos Hotel, La Manzanilla, Mexico, March 9-12, 2010
<http://ehe.osu.edu/groups/icrsme/>

International Symposium in the History of Science:
Mathematics meets physics - General and local aspects
Leipzig, Germany, March 22-25, 2010
<http://www.saw-leipzig.de/mathsmeeetsphysics>

Educational Interfaces between Mathematics and Industry (EIMI)
Lisboa, Portugal, April 19-23, 2010
<http://eimi.mathdir.org/>

Tenth Maghrebian Colloquium on the History of Arab Mathematics
Tunis, Tunisia, May 29-31, 2010
information: mahdi.abdeljaouad@gmail.com

ICOTS8: 8th International Conference on Teaching Statistics
Data and context in statistics education: towards an evidence-based society
Ljubljana, Slovenia, July 11-16, 2010
<http://icots8.org>

5th International Conference on Origami in Science, Mathematics and Education
Singapore Management University, Singapore, July 13-17, 2010
information: Eileen Tan (origamiwolf@gmail.com), Patsy Wang-Iverson (pwangiverson@gmail.com)

PME 34 - CONFERENCE OF THE INTERNATIONAL GROUP FOR THE
PSYCHOLOGY OF MATHEMATICS EDUCATION
Belo Horizonte, Brazil, July 18-23, 2010

<http://pme34.lcc.ufmg.br/>

ESU-6 - 6th EUROPEAN SUMMER UNIVERSITY ON THE HISTORY AND
EPISTEMOLOGY IN MATHEMATICS EDUCATION

Vienna, Austria, July 19-23, 2010

<http://www.algebra.tuwien.ac.at/kronfellner/esu6/>

Fourth International Conference on Ethnomathematics

Towson University, Baltimore, Maryland, July 25-30, 2010

<http://icem-4.org/>

EARCOME5 - The Fifth East Asia Regional Conference on Mathematics Education

Tokyo, Japan, August 18-22, 2010

<http://www.earcome5.jp/>

YESS-5 - FIFTH YERME SUMMER SCHOOL

Palermo, Italy, August 18-25, 2010

http://math.unipa.it/~grim/YESS-5/Home_YESS-5.html

ICM - International Congress of Mathematicians

Hyderabad, India, August 19-27, 2010

<http://www.icm2010.org.in/>

epiSTEME - 4: Fourth international conference to review research on Science,
TEchnology and Mathematics Education

Homi Bhabha Centre for Science Education (TIFR), Mumbai, India, January 5-9,
2011

<http://www.hbcse.tifr.res.in/episteme4>

CERME 2011 - Conference of the European Society for Research in Mathematics

Rzeszow, Poland, February 9-13, 2011

ICTMT10 - 10th International Conference on Technology in Mathematics Teaching

University of Portsmouth, July 5-8, 2011

<http://www.ictmt10.org/>

PME 35 - CONFERENCE OF THE INTERNATIONAL GROUP FOR THE
PSYCHOLOGY OF MATHEMATICS EDUCATION

Ankara, Turkey, July 10-15, 2011

SEMT 11 - SYMPOSIUM ON ELEMENTARY MATHS TEACHING

Prague, Czech Republic, August 21-26, 2011

<http://kmdm.pedf.cuni.cz/Default.aspx?PorZobr=7&PolozkaID=-1&ClanekID=267>

9. SUBSCRIBING TO ICMI News

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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.

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