



# International Commission on Mathematical Instruction

## Report on ICMI activities in 2009<sup>1</sup>

### 1. Organisation

The 2007-2009 **Executive Committee (EC)** of the International Commission on Mathematical Instruction (ICMI) had its fourth and final meeting in Saint-Petersburg on September 7-10, 2009. IMU was represented on this occasion by one of its ICMI liaison persons, Manuel de León. This meeting, whose local arrangements were taken in charge by the Moscow Institute of Open Education, was also the occasion of a colloquium organised by EC member Alexei Semenov and devoted to the theme “Russian School Math and Unified State Examination in an International Perspective”. Besides this meeting, the work and discussions of the ICMI EC during 2009 were mostly conducted by electronic communication under the direction of the President and the Secretary-General of ICMI.

The President and Secretary-General of ICMI were invited for part of the meeting of the **Executive Committee of IMU** held in Fuzhou, China, on April 18-19, 2009. In addition to allowing the IMU EC members to receive a direct report on ICMI and its activities, this meeting was the occasion of discussing specific issues of interest to ICMI, in particular as regards ICMI regional actions and initiative towards developing countries (see item 8 below). It also allowed to examine joint IMU/ICMI projects, such as the Pipeline and the Klein projects (see 9 and 10 below), and to discuss long term issues such as the development of the ICMI Digital Library — for which IMU offers to ICMI a crucial logistic support — or the archival of ICMI documents. Moreover ICMI presented an analysis of its financial situation and made some requests in connection with the IMU 2011-2014 budget, to be adopted by the IMU General Assembly in August 2010.

There was no new member country of ICMI during 2009. However the statute of Thailand, previously a member of ICMI that was not a member of IMU, was changed to that of “Associate member” of IMU as of August 2009. The number of **countries members of ICMI** at the end of 2009 was thus still 85, but with 13 countries not being members of IMU. A major progress in the appointment of **ICMI representatives** should be noted, as 30 of them have been replaced during the years 2008 and 2009, in due respect of the so-called “Kobe rule” — i.e. Resolution 5 adopted at the IMU General Assembly held in Kobe in 1990 and stipulating that ICMI representatives

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should normally not serve for more than two consecutive terms. (This rule has now been integrated in the revised version of the ICMI Terms of Reference adopted in 2009 — see below.) This new vitality looks promising for the functioning of the Commission, since the representatives form the ICMI General Assembly and thus play a crucial role in the life of ICMI. During 2009, a total of fourteen collective e-mail messages were sent by the Secretary-General to the ICMI representatives, most of these asking for collaboration in the dissemination of information about ICMI and its activities.

During the past two years, the ICMI EC has had frequent discussions with the IMU EC concerning the evolution in the governance of ICMI, and the necessity to consequently revise the **ICMI Terms of Reference**. This ICMI EC has set as a goal to finalise these discussions before the end of its term of office and to prepare a new version of the Terms. This work was completed during the last months of 2009, thus allowing for the revised Terms to be formally adopted by the EC of IMU on December 31, 2009, while the ICMI EC has adopted on the same day Guidelines pertaining to these Terms. Besides using this opportunity for making minor corrections to the Terms essentially of a cosmetic nature, this round of revision was the occasion for introducing some substantial changes in the definition of the duties and rights among the many actors involved in the life of ICMI. Under this new version, the ICMI Terms are now split into two parts, the first part being (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 a statement related to importance of the presence of the ICMI representatives at the ICMI General Assembly (under Clause 2), and the fact that the only members of the ICMI GA having voting rights are the representatives of Full Member countries of IMU (under Clause 3). An important new notion of *Affiliate Organization* was added to the Terms, 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 specific fields of interest in mathematics education, like the current five ICMI Affiliated Study Groups, but also to multi-national organizations with interest in mathematics education. (More on this in section 11 below.)

The 2007-2009 ICMI EC was succeeded on January 1, 2010, by the 2010-2012 EC, elected at the ICMI General Assembly held in July 2008 on the occasion of ICME-11 and whose composition was announced in the 2008 ICMI report on activities. In order to facilitate the passage from one EC to the next, a transition working meeting between the outgoing and incoming secretaries-general took place in Coimbra in October 2009, thus allowing for a scrutinized review of the many dossiers incumbent to the ICMI Secretary-General.

## 2. ICMEs

The preparation of the Proceedings of **ICME-11**, held in Monterrey on July 6-13, 2008, has met with substantial delay with respect to the planned schedule, in particular as regards the contacts with all those who were in charge of specific components of the congress programme and who are to prepare documents and reports for the Proceedings. Consequently the ICMI EC has launched during 2009 a series of actions in order to alleviate this situation. In addition to formal contacts with the Sociedad Matemática Mexicana (SMM), the main body responsible for the Mexican bid for ICME-11, these actions included discussions with the Chair of the ICME-11 International Programme Committee in order to try to reorganise the agenda for the realisation of the Proceedings, offer of support from the ICMI EC with some of the steps to be undertaken, and finally, just after the ICMI EC meeting held in September in Saint-Petersburg, establishment of direct contacts by ICMI with all the regular lecturers as well as chairs of Topic Study Groups and Discussion Groups at ICME-11. Those actions were very well received by the potential contributors to the Proceedings and provoked immediate reactions, thus allowing for a substantial part of the needed documents to be promptly collected and sent to the SMM. However, it must

be reported that, in spite of these actions by the ICMI EC, the global issue of the ICME-11 Proceedings remained unresolved by the end of 2009.

The International Programme Committee of the 12th International Congress on Mathematical Education, **ICME-12**, to be held in Korea on July 8-15, 2012, is chaired by Professor Sung Je Cho, of Seoul National University. This IPC, whose composition is announced in the December 2008, No. 63, issue of the *ICMI Bulletin*, had its first meeting at the COEX in Seoul on June 14-17, 2009, on the very site of the ICME-12 congress. This meeting was held in an excellent atmosphere, thanks to the remarkable support offered by the Korean bodies responsible for the congress, and was initiated by having the IPC members involved in a critical reflection on the evolution of the programme of the recent ICMEs, which has become more and more complex over the years. A first set of decisions was made during the meeting, regarding in particular the plenary activities of the congress as well as the list of Topic Study Groups. It was also decided to reorganise the functioning of some of the activities, such as the Discussion Groups. The next decisions of the IPC, concerning among others the choice of the Regular Lecturers or the appointment of the teams in charge of TSGs, is to be finalised by email discussions. The second IPC meeting will be held in February 2011. The June 2009 meeting of the IPC was also the occasion of the official launching of the ICME-12 website, which can be accessed at the url <http://www.icme12.org>

Up to date information about the congress is available there, as well as the First Announcement. The ICME-12 organisers have already announced that the registration fees will be of 400 USD, which brings a welcome substantial reduction to these fees as compared to recent ICMEs.

An official call for bids to host **ICME-13** in 2016 was made by the Secretary-General of ICMI during the closing session of ICME-11. This call also appears in the *ICMI Bulletin* (No. 63, December 2008). Three countries have responded in 2009 to the invitation of informing the ICMI Executive Committee by a declaration of intent indicating that they are considering preparing an official bid, thus comforting the EC that sound proposals should be submitted by the deadline of November 2010. The decision about the site of ICME-13 will be announced by the end of 2011.

### **3. ICMI Studies**

No new ICMI Study was launched in 2009. However at its meeting in Saint-Petersburg, the Executive Committee discussed a set of 16 possible themes for future studies — ten of these being proposals made in the past and kept as potential themes, while six resulted from the call for proposals made by the Secretary-General in the editorial of *ICMI News* no. 6 (October 2008). The EC decided to select some of these themes for further consideration (this includes both “old” and “new” topics) and asked the proposers to provide additional information about the possible scope of such studies, so to be able to make suggestions to the next EC about the theme that ICMI Study 22 may address. The selected themes concerns primary school mathematics education, the mathematics education of children with special needs, and the design and use of tasks for pedagogic purposes in mathematics education. The EC also considered the development of a study in the mathematical domain of discrete mathematics.

By the end of 2009 the situation as regards recent and ongoing Studies was as follows.

- **ICMI Study 15:** *The Professional Education and Development of Teachers of Mathematics*  
The ICMI Study volume has appeared in 2009 in the New ICMI Study Series; eds: Ruhama Even and Deborah Loewenberg Ball. (NISS 11)
- **ICMI Study 16:** *Challenging Mathematics In and Beyond the Classroom*  
The ICMI Study volume has also appeared in 2009 in the New ICMI Study Series; eds: Edward J. Barbeau and Peter J. Taylor. (NISS 12)

- **ICMI Study 17:** *Mathematics Education and Technology - Rethinking the Terrain*  
The ICMI Study volume, dated 2010, has in fact appeared late in 2009 in the New ICMI Study Series; eds: Celia Hoyles and Jean-Baptiste Lagrange. (NISS 13)
- **ICMI Study 18:** *Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*  
This Study is organised jointly with the International Association for Statistical Education (IASE) and its study conference was held in 2008. The NISS volume is in preparation under the editorship of Carmen Batanero, chair of the International Programme Committee, together with Gail Burrill and Chris Reading. It is expected to appear in 2011. (NISS 14)
- **ICMI Study 19:** *Proof and Proving in Mathematics Education*  
The Conference for Study 19 was held at the National Taiwan Normal University, in Taipei, Taiwan, on May 10-15, 2009. It was attended by 131 participants coming from more than 30 different countries. The NISS volume is currently in preparation under the editorship of the two co-chairs, Gila Hanna and Michael de Villiers, with publication expected in 2011 as well. (NISS 15)
- **ICMI Study 20:** *Educational Interfaces between Mathematics and Industry (EIMI)*  
The International Programme Committee for the 20th ICMI Study met for a second time in November 2009 in Paris to finalise the programme of the Study conference, to be held in April 2010 in Lisbon. This Study is organised jointly with the International Council for Industrial and Applied Mathematics (ICIAM).
- **ICMI Study 21:** *Mathematics Education and Language Diversity*  
The International Programme Committee for ICMI Study 21, co-chaired by Mamokgethi Setati (University of Pretoria) and Maria do Carmo Domite (Universidade de São Paulo), had its first meeting in Pretoria, South Africa, in February 2009. The Discussion Document was finalised by the end of 2009. The Study conference will be held in Brasil in September 2011.

Considering the global difficult financial situation of ICMI, it had been decided at the December 2005 meeting of the ICMI EC that the royalties on the sales of volumes of the NISS series should from then on be payable to ICMI. As a consequence of this policy, royalties of 1146,61 USD were received by ICMI from Springer in 2009.

#### 4. ICMI Regional Conferences

One ICMI Regional Conference was held in 2009.

- **EMF 2009** (*Espace mathématique francophone 2009*) took place in Dakar, Senegal, on April 6-10, 2009. It gathered more than three hundred teachers and researchers coming from twenty countries, among which twelve from Africa. The importance given to this Conference by the Senegalese authorities can be seen through the presence at a special opening session of the President of Senegal, Abdoulaye Wade, who stressed to the participants the crucial role played by mathematics and its teaching in preparing the future of his country and region. Himself trained as a mathematician, the President offered to each participant a copy of his book on the mathematics of economic analysis. The EMF 2009 conference was organised with a financial support from UNESCO which allowed to cover part of the expenses of nine participants. A report on EMF 2009 appears in the *ICMI Bulletin* no. 64 (June 2009).

Besides **AFRICME 3** (to be held in Gaborone, Botswana, May 18-21, 2010) and **ICMI-EARCOME-5** (Tokyo, Japan, August 18-22, 2010), already announced, the ICMI EC has granted in 2009 the status of ICMI Regional Conference to two other conferences:

- **XIII CIAEM** (Conferencia interamericana de educación matemática), to take place in Recife, Brasil, on June 26-30, 2011. This meeting will coincide with the 50th anniversary of the *Comité Interamericano de Educación Matemática* (CIAEM), an organisation recently affiliated to ICMI (see section 11 below).
- **EMF 2012** (Espace mathématique francophone), to be held in Geneva, Switzerland, in 2012.

The ICMI EC is represented on the International Programme Committee of EMF 2012 by Bernard R. Hodgson and Jaime Carvalho e Silva, and by Michèle Artigue and Bernard R. Hodgson on that of XIII CIAEM.

## 5. ICMI Centennial

The most successful symposium celebrating the ICMI Centennial, held in Rome in March 2008, has resulted in two publications.

The Proceedings of the centennial symposium were published under the editorship of Marta Menghini, Fulvia Furinghetti, Livia Giacardi and Ferdinando Arzarello. As already announced, the book *The first century of the International Commission on Mathematical Instruction (1908-2008). Reflecting and shaping the world of mathematics education* has appeared in the “Collana Scienze e Filosofia” of the Istituto della Enciclopedia Italiana, (Roma, 2008). Members of the ICMI community have been offered a special discount on the purchase of the book. Negotiations are underway with the Istituto about the eventual open access to the book via the ICMI Digital Library.

Moreover, the *International Journal for the History of Mathematics Education*, edited by Gert Schubring, has published as its vol. 3 no. 2 (2008) a special issue on the history of ICMI, inspired by the work carried out for celebrating ICMI Centennial. More information on this publication can be obtained on the IJHME website.

The development of the website dedicated to the history of ICMI and launched on the occasion of the ICMI centennial celebration was pursued in 2009 under the direction of Fulvia Furinghetti and Livia Giacardi. ICMI has provided a grant of 1000 € to support this work. The url of the ICMI history website is

<http://www.icmihistory.unito.it/>

## 6. UNESCO/ICMI Exhibition

The collaboration of ICMI to the mathematical exhibition “**Experiencing mathematics**”, initiated in 2004 and developed jointly with UNESCO and other bodies, was maintained in 2009. In particular ICMI provided this year a grant of 2 500 USD to support the travelling of the exhibition. Support for the exhibition is also provided by IMU, CIMPA and the French Ministry of Foreign Affairs. The three copies of the exhibition have circulated during 2009 in various parts of the world.

In Latin America, the exhibition, coming from Singapore, has visited seven countries since 2007. In 2009, it was presented in Argentina (Buenos Aires, Tandil, Rosario et Tucuman) until March, and then, from April to November, in ten cities in Brasil, from Recife to Belo Horizonte. The presentations in Brasil were carried out in cooperation with CONSECTI-CONFAP (the National Council of Ministers for Science, Technology and Innovation, and the National Council of State Foundations for Support to Research), as well as the Brazilian Association of Science Centres and Museums (ABCMC). The exhibition finishes its circulation in Latin America by returning to Santiago of Chile (Santiago University) for the first quarter of 2010. It will then be in Cordoba

(Spain) in September-October on the occasion of the XIII Congreso de Enseñanza y Aprendizaje de las Matemáticas of the THALES society (Sociedad Andaluza de Educación Matemática THALES).

The presentations of the exhibition in Asia were pursued with a 18-month travel in Korea, with the support of NateSystem and KIDP (Korean Institute of Design Promotion). The exhibition was first in Seoul from June to October 2009, and then presented in five other cities. The Korean journey will end in October 2010.

The exhibition has also travelled in Turkey on the occasion of the fiftieth anniversary of Anadolu University, and with its support. It was presented in Eskisehir, Izmir and Ankara.

The exhibit was brought again in Africa, this time in West Africa, on the occasion of EMF 2009 held in April in Senegal. It has circulated in four cities in Senegal, after which it was brought to Benin (Cotonou) in October-November. Travel plans inside Africa for 2010 include Burkina Faso, where it will be visiting three cities in three months, with the support of local mathematicians and mathematics educators, and Niger.

The virtual exhibition “Experiencing Mathematics”

[www.ExperiencingMaths.org](http://www.ExperiencingMaths.org),

realized as a complement, support and follow-up to the interactive exhibition, was used again in Angola for a session of preparation of trainers who themselves, in turn, trained 80 mathematics teachers from four regions in the country in 2009. Each of the teachers received a CDrom. The CDrom was used in each preparation session when the exhibition is visiting a given place, such as in Santiago where 300 mathematics teachers received the CD.

On the whole, during 2009, the exhibition was presented in eighteen cities within five countries and has been seen by more than 140 000 visitors, 80% of whom are secondary school pupils or undergraduate students. Since its first presentation in 2004, the exhibition was presented in some 100 cities from 30 different countries, and has welcomed more than one million visitors, including 75% of secondary or tertiary students. The year 2009 is the second best year of attendance since the launching of the exhibition.

More information on the exhibition is available on the website

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

## **7. Collaboration with UNESCO**

A nice evolution in the ICMI context for action in recent years is the renewal and strengthening of the relationships with UNESCO, which had been identified as an important objective by the 1999-2002 ICMI EC. A major component of this renewed collaboration is of course the exhibition “Experiencing mathematics” mentioned above. But the ICMI-UNESCO links have not been limited to this exhibition project. UNESCO has recently been sponsoring several ICMI actions, especially as they concern the developing world — for instance grants have been given directly to ICMI to facilitate the attendance from non-affluent countries to the ICMI Study 17 conference held in Hanoi in 2006, or the ICMI Centennial Symposium held in Rome in 2008. Such was the case as well in 2009, as a grant of 5000 USD was provided by UNESCO for the conference of the Francophone network for mathematics education (EMF) held in Dakar.

In 2009, ICMI President Michèle Artigue was invited to be part of a meeting of experts organized by UNESCO in Paris at the end of March about the policies of mathematics and science education. At the end of that meeting, she was asked to contribute to a document on “The challenges of mathematics and science basic education”, to be published and disseminated by UNESCO in French, English and Spanish, by taking responsibility for the section on mathematics

education. The document — 34 pages plus 14 appendices — has been delivered to UNESCO at the end of July, as agreed in the contract signed with UNESCO, and approved by the mathematics experts. Members of the ICMI EC have supported the elaboration of the text, reading a preliminary version of it and, together with members of the ICMI community at large, contributing to the appendices attached to it. This community was also instrumental in preparing translations in different languages from the initial French version. The ICMI EC was specifically in charge of the English translation of the document.

## 8. Developing Countries

ICMI has had through 2009 various actions related to **developing countries**. A substantial part of these actions was targeted to Africa in the context of the regional networks built around both the English-speaking community (AFRICME) and the French-speaking community (EMF).

ICMI outreach to developing country was in part organised in collaboration with the Developing Countries Strategy Group (DCSG) of IMU, where ICMI was represented by Vice-President Jill Adler. She is also representing ICMI on IMU Committee for Developing Countries, an interim committee established in early 2008 with the mandate of designing a structure for a future *Commission for Developing Countries*, to be presented at IMU's next General Assembly in 2010. Moreover, ICMI has collaborated, again with the collaboration of Vice-President Adler, to a report on *Mathematics in Africa: Challenges and Opportunities* prepared by the DCSG and submitted in February 2009 to the John Templeton Foundation. Together with colleagues from the Marang Centre at Wits University, she produced a report on mathematics education in Africa.

Following the tradition of previous AFRICME congresses (2005 in South Africa and 2007 in Kenya), a request for funding support of 5000 USD for AFRICME-3, to be held in Botswana in 2010, was approved by CDC.

Together with its French sub-commission (CFEM), ICMI was involved in the fourth Conference of the Francophone Mathematics Space (*Espace mathématique francophone* — EMF 2009) held in Dakar in April 2009 (see section 4 above). On this occasion, eleven participants representing eight countries met twice during the conference to launch the basis of a network of researchers in mathematics education among Francophone African countries. Further discussions on the establishment of the RADMA (*Réseau africain de didactique des mathématiques*) were held on two occasions later in the year: in August in Yamoussoukro, during the 7th COPAM (see below) and in October in Abidjan, during a conference on research in mathematics and science education. ICMI was represented at both these meetings.

Following the invitation made to the President of ICMI to give a lecture at the second Pan African Space on Mathematics conference, devoted to mathematics education in African countries and held in Hammamet, Tunisia, in November 2008, the Executive of the African Mathematical Union (AMU) was, at the invitation of ICMI, represented at the EMF 2009 conference. Lectures were given by Nouzha El Yacoubi, Secretary of AMU, and Daouda Sangaré, editor of *Afrika Matematika*, the journal of the AMU. Reciprocally, the Secretary-General of ICMI was invited to give a lecture about ICMI and its activities during the 7th Pan African Congress of Mathematicians (PACOM), held in Yamoussoukro, Ivory Coast, on August 3-8, 2009.

The Secretary-General was also invited to make a presentation of the history, structure and mission of ICMI in a lecture given at the International Congress of Science Education held in Cartagena de las Indias, Colombia, on July 15-18, 2009, in relation with the 10th anniversary of the *Journal of Science Education*.

## 9. Projects Related to IMU Concerns

The **Pipeline Project** was launched jointly by IMU and ICMI in reaction to IMU concerns about mathematics students, notably as regards the numbers and quality of students choosing to pursue mathematics study at the university level. It has received impetus from the appointment late in 2008 of a half-time post-doctoral position at The University of Auckland that is partly allocated to the Pipeline New Zealand project, and partly to the international project. A Moodle site for contributors was established, and complementary searches for relevant data for the pilot countries undertaken. In October a presentation was made to the conference on *Paradigms in Mathematics Education for the XXI Century* in Valencia.

The project concerns four different transitions: School to Undergraduate courses, Undergraduate courses to Postgraduate, University into Workforce, University into Teaching. There are large variations according to the countries as regards available data, but the study has allowed in many cases to cover a long period, without restricting to the years 1993-2003, as was the case for the OECD study often quoted in this connection.

The pilot phase of the Pipeline Project ended at the end of this year, and a report for IMU and ICMI is under preparation. The emerging picture is that, worldwide, there may not be a crisis in the numbers of mathematically qualified students, but that there is a crisis in some of the pilot countries involved in the project. The numbers of such students in universities is susceptible to changes in school curricula and examination systems.

Some elements may however be stressed already at this stage. These concern for instance the fluctuations and the diversity of the dynamics observed, the diversity of the factors coming into play, and in particular the role of structural or political changes and that of the attractiveness of various types of profession.

As already mentioned in last year's report, a Special Issue of the *International Journal of Mathematical Education in Science and Technology* (volume 40, number 1), devoted to the theme "Recruitment, Entrance and Retention of Students to University Mathematics Studies in Different Countries", was published in January 2009 under the guest editorship of Derek Holton. This is an important outcome of the Survey Team organised for ICME-11 on the same theme. It shows the positive effects of actions recently taken in some countries as regards the tertiary and secondary levels, as well as the school-university transition.

At the invitation of the President of IMU, the ICMI President and Secretary-General took part in a meeting organised by IMU in Budapest in November, on the occasion of the World Science Forum. The purpose of the meeting was to prepare a proposal for a "**Joint UNESCO Intergovernmental International Mathematical Program**" project to be submitted to UNESCO, so to have it adopted officially a mathematics programme aiming at improving mathematical research and education in all countries, as well as awareness about the role and importance of mathematics. Such a programme must of course have a mathematics education component. The meeting organised by IMU involved, in addition to the ICMI representatives and some members of the IMU EC, representatives from ICIAM (International Council for Industrial and Applied Mathematics), CIMPA (*Centre international de mathématiques pures et appliquées*), ICTP (Abdus Salam International Centre for Theoretical Physics) and the Hungarian Committee for UNESCO.

A few days after the Budapest meeting, a proposal was submitted to UNESCO so to have it considered at the next session (36th) of the General Conference of UNESCO, to be held in the Fall 2011. The bodies formally signing the proposal are IMU, ICMI and ICIAM.



## 10. The Klein Project

The Klein Project was fully launched in 2009 with the first meeting of the Design Group taking place in Paris, from May 28 to June 2. At that meeting it was confirmed that the project would produce a 300-page book and accompanying “wiki” website, as well as, possibly, other DVD or booklet resources. A draft list of chapters was created, and the first newsletter written. The next Design Group meeting is being held in Auckland in April 2010.

The first Klein Conference took place in Madeira on October 1-4, organized under the auspices of CIM (*Centro Internacional de Matemática*, Portugal) and hosted by the University of Madeira. About 80 people — a mixture of mathematicians and mathematics educators — attended, many of whom were from Portugal and Brazil. This meeting provided opportunity for discussing, over the three-day period, possible ideas in connection with the project.

From this meeting, as well as other contexts where the Klein project has been discussed, it is clear that the project generally raises great enthusiasm among the international community to which it is targeted. On the basis of comments received, some adjustments have already been made to the organisation of the project, notably as regards the priority now given to the establishment of the wiki site. This site has already been launched, and more information on the project and its evolution can be found there. It can be accessed at [www.kleinproject.org](http://www.kleinproject.org)

## 11. ICMI Affiliate Organizations

As indicated in section 1 above, the Terms of Reference of ICMI were amended in 2009 in such a way to allow affiliation to ICMI not only of study groups focussing on a specific field of interest and study in mathematics education, but also of multi-national mathematical education societies, or of multi-national societies having a formal mathematical education subgroup. The **CIAEM** (Comité Interamericano de Educación Matemática / Inter-American Committee on Mathematical Education) has become the first organisation to make use of this new mode of affiliation to ICMI. This affiliation, which was approved in December 2009 by the Executive Committees of both ICMI and CIAEM, has allowed to set in a new framework the long-standing links between ICMI and CIAEM, hopefully thus helping these links to remain vivid and productive over the years.

CIAEM thus joins the five other organisations that were already affiliated to ICMI (under the umbrella of “Study Groups”), namely (in the chronological order of their affiliation to ICMI) **HPM** (The International Study Group on the Relations Between the History and Pedagogy of Mathematics) and **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 and **ICTMA** (The International Study Group for Mathematical Modelling and Applications) — 2003.

Contacts have been established with two other multi-national organizations as regards a possible affiliation to ICMI: **CIEAEM** (*Commission Internationale pour l'Étude et l'Amélioration de l'Enseignement des Mathématiques / International Commission for the Study and Improvement of Mathematics Teaching*) and **ERME** (*European Society for Research in Mathematics Education*). It is expected that in both cases, positive developments should be announced in a near future.

## 12. The ICMI Solidarity Program in Mathematics Education

A report to the ICMI EC was presented by Vice-Presidents Jill Adler and Bill Barton at the meeting held in Saint-Petersburg, with the aim of reviving the activities of the **ICMI Solidarity Fund**. It was stressed that the original idea of the Fund, when established at the suggestion of President Miguel de Guzmán in 1992, was not to support individual attendance to ICMI events of

people who otherwise found it difficult, but rather to promote the furtherance of networking by facilitating visits to developing countries to run various programmes associated with mathematics and mathematics education. Connections were made with the past actions of the Funds and with the recommendations prepared in 2004 by Alan Bishop at the ICMI EC request. It was also reminded that a major component of the Solidarity Program of ICMI is happening via the support given at each ICME, since ICME-8 in 1996, to participants from non-affluent countries (this support is now well over 100 000 USD per congress), as well as the support provided at each Study conference.

It was proposed in the report to continue the Fund within the broad terms of supporting mathematics education activities in developing countries, but to relaunch it and use the existing funds (of the order of 40 000 USD) with some given specific focus. The funding of activities that involve networking was seen as liable to have good long-term benefits and should be prioritised. In particular, anything that supports associate or lapsed membership of ICMI of developing countries into becoming strong and participating members should be favoured. The rationale is that this will maximise the individual benefits by making it possible for a large number of people to participate in, and gain benefit from, wider ICMI activities.

It was also proposed that beyond continuing some form of support to participation to ICMI activities, the dissemination of ICMI publications, including by supporting the translations, could be part of the Solidarity actions. For such projects the contribution could be of the order of 5000 USD.

Of course such Solidarity actions would require substantial amounts of money. The development of the Solidarity Fund must thus be considered in the more global context of a deeper discussion about the global long-term financing of ICMI and of its activities.

Further discussions about the development of the ICMI Solidarity Fund is being passed to the next EC. It is proposed that a Solidarity Board of three members be appointed, comprising one ICMI EC member and two others.

### **13. The ICMI Awards**

The following information should have been part of the 2008 ICMI report on activities, but was inadvertently omitted. The two recipients of the **ICMI Awards in mathematics education research** for the year 2007 were announced in a press release issued on April 1, 2008 (see *ICMI Bulletin* No. 62, June 2008, pp. 6-11). The awardees are Jeremy Kilpatrick for the 2007 Felix Klein Medal, and Anna Sfard for the 2007 Hans Freudenthal Medal. During the opening ceremony of ICME-11, held in Monterrey in July 2008, the 2005 and 2007 ICMI Awards were formally presented to Ubiratan D'Ambrosio (Klein Award 2005), Jeremy Kilpatrick (Klein 2007), Paul Cobb (Freudenthal 2005) and Anna Sfard (Freudenthal 2007). As a tangible token of recognition, each awardee received certificate and a medal. Moreover regular lectures by the awardees were on the programme of ICME-11.

A call for nominations for the fourth cycle of the ICMI Awards was made in June 2009 by the chair of the ICMI Award Committee, Mogens Niss. The announcement of the 2009 ICMI Awards is scheduled for the first months of 2010 and the awards will be presented to the recipients in 2012 at the opening ceremony of ICME-12 in Seoul, together with the 2011 ICMI Awards.

### **14. IMU/ICMI Digitisation Programme**

The **ICMI Digital Library** was officially launched on July 1, 2009, with the posting online of the Proceedings of the symposium organised in 2000 on the occasion of the centennial of

*L'Enseignement Mathématique*, the official organ of ICMI. This was made possible by the permission generously granted by the editors of L'EM to make the book available on the ICMI website.

In a similar vein, negotiations were pursued in 2009 with the two main houses where ICMI material has been published over the past years, Springer and Cambridge University Press (CUP). While Springer had shown openness as regards the ICMI Study volumes, as can be seen through the new contract for the NISS series signed in 2008, such is not the case as regards other (and older) material, such as the proceedings of some of the first ICME congresses. Discussions are being pursued on this matter with Springer, but with no clear sign of positive development up to now.

On the other hand, it appears that the difficulties that had been encountered with CUP (see the ICMI 2008 report on activities) are on the verge of being resolved.

### **15. Information and Communication**

The new **ICMI website** was finally launched in May 2009. While the site is still under development, it contains enough material to make it a tool that will hopefully be useful to the ICMI community. For instance all the previous versions of the Terms of Reference of ICMI (see section 1) are now accessible on the website. The maintenance and updating of its content is made much easier by the use of the TYPO3 Web Content Management System.

*ICMI News*, the bimonthly electronic newsletter of ICMI, has now two years of existence. On the other hand, the publication of the two issues of the *ICMI Bulletin* for the year 2009 has again met with delays.

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