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ICMI News 20 : October 2011

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Mathématiques

ICMI News 20 : October 2011

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

Editor : Jaime Carvalho e Silva, Dep. Matematica, Universidade de Coimbra, Portugal

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1. Editorial : Mathematics Education in Mainland China

One of the important roles that ICMI plays is to help researchers from different parts of the world better understand each other and the different conditions under which we all work. It is important, for example, that those of us who have access to good libraries, research funding, or a significant group of colleagues are reminded that many others work without easy access to resources, with little ability to undertake or communicate their research, or on their own.

However differences are not simply matters of having, or not having physical, financial, or human resources. The structure, content, and philosophy of mathematics education varies considerably around the world. Coming to terms with these differences is possibly a more difficult task, and one requiring more tolerance. Hence ICMI has an important role to play. In this newsletter, in lieu of an Editorial, we present a short (edited) piece on Mathematics Education in the Peoples Republic of China. Bill Barton

Mathematics Education in Mainland China

A key characteristic of mathematics education in Mainland China schools over the last twenty years has been change both in content and in teaching approach in order to mirror contemporary world development. More emphasis is given to the needs of future citizens, and the role of mathematics teachers is changing from that of a transmitter of knowledge to that of a student guide. The purpose of the mathematics curriculum reform is

- ▶ - To break the centrally-controlled education system ;

- ▶ - To update content with more relations to real life and applications ;
- ▶ - To promote flexible and student-centered instruction methods, such as group work and classroom discussion ;
- ▶ To focus on students' abilities training instead of rote learning. Mathematics curriculum reform has brought about many changes in the mathematics classroom. Students are now in a more significant position with more attention to student participation, and the traditional expository method is being replaced by a more heuristic method. A consensus has been reached on mathematics education reform :
- ▶ Mathematics is not only a tool for solving real life problems but also significantly develops students' ability to reason ;
- ▶ The mathematics curriculum should cater for students with different interests and abilities, all individuals shall develop their abilities and interests as well as their self-confidence ;
- ▶ Teachers need to pay more attention to the cognitive style of students in their classroom, and to understand mathematics well ;
- ▶ The humanistic context for teachers' professional development will be the key to mathematics education reform ?this refers to personal respect, the promotion of human life, and the value independent consciousness.

A brief history of the mathematics curriculum reform in mainland China :

- ▶ 1996-1998 Gestation stage of an ideal
- ▶ 1999-2001 Curriculum documents developed, and experimental preparation phase

Compulsory Education Stage (grade 1 to 9) :

	Number of the experimental districts	Percentage
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High School Stage (grade 10 to 12) :

Experimental provinces :

- ▶ 2004 Hainan, Guangdong, Shandong and Ningxia
- ▶ 2005 + Jiangsu
- ▶ 2006 + Fujian, Zhejiang, Anhui, Tianjin and Liaoning
- ▶ 2007 + Beijing, Hilonjiang, Jilin, Shaanxi and Hunan
- ▶ 2008 + Shanxi, Jiangxi, Henan, Xingjiang and Shanghai
- ▶ 2010 New curriculum adopted nationally

Li Jianhua October, 2011 (Condensed by Bill Barton)

2. ICME-12 : The 3rd announcement is out

The 3rd Announcement for ICME-12 has been published. Please click the button <3rd Announcement> at the first page of the congress website

<http://www.icme12.org/>

Or please visit <ICME-12 /Announcements> at the first page of the congress website. This 3rd Announcement is the summary of what IPC and LOC have done so far, containing helpful information for all who are planning to participate in ICME-12.

Hee-chan Lew, Vice Chair of the LOC and Chair of the Congress Subcommittee, hclew@knue.ac.kr

3. ICME-12 : registration is open

The registration system for ICME-12 is open. Please visit at the first page of the Congress website

<http://www.icme12.org/>

and read the direction for the registration carefully. Then, please go to and login with your ID and Password you used in the sign-up process.

Hee-chan Lew, Vice Chair of the LOC and Chair of the Congress Subcommittee, hclew@knue.ac.kr

4. ICME-12 : Deadline to submit papers for TSGs was extended

IPC of ICME-12 has determined to prolong the deadline for the proposal submission of Topic Study Group(TSG) until November 30, 2011 in order to give ICME-12 potential participants more chance to submit TSG proposals. Originally the deadline was November 1, 2011. Date of proposal acceptance notification is same as January 15, 2012. If you have any question, please feel free to contact the IPC chair(sungjcho@snu.ac.kr).

Hee-chan Lew, Vice Chair of the LOC and Chair of the Congress Subcommittee, hclew@knue.ac.kr

5. ICME-12 : Two more appetizers

The 12th International Congress on Mathematical Education will be held in Seoul, Korea, on July 8-15, 2012. This Congress is the main event organized by ICMI and it is expected that more than 3000 professionals will attend. In order to open the appetite for this Congress and encourage people to participate and register early, we will begin publishing some appetizers for the plenary lectures and plenary panels. I thank all the people involved for the effort made to anticipate what they might say at the Congress.

APPETIZER # 3

Mathematics education and language diversity : background, findings and future research directions

by Mamokgethi Setati (Full professor and executive Dean of the College of Science, Engineering and Technology at the University of South Africa, Honorary Professor of Mathematics Education at Wits University. PhD in Mathematics Education, University of the Witwatersrand (2002))

There is a growing body of research on mathematics education and language diversity. The unit of study in early research in this area of study was the bi/multilingual learner. This location of the problem in the learner was based on an underlying assumption of inferiority - that there is something wrong with the bi/multilingual learner. Studies in the

eighties moved from focusing on the bi/multilingual learner to the bi/multilingual classroom. In recent years, research on mathematics education and language diversity has come to recognize the socio-political role of language even as it is used in mathematics teaching and learning. The fact that decisions about which language to use ; how to use it ; and for what purposes are not just pedagogic. This presentation will focus on the development of research on mathematics education and language diversity, highlighting significant advances, findings, gaps and future research directions.

APPETIZER # 4

From Psychological Imprisonment to Intellectual Freedom - The Different Roles that School Mathematics Can Take in Student's Lives

by Jo Boaler (Professor at the School of Education, Stanford University, USA, PhD (Mathematics Education) King's College, London University, (1996) MA (Mathematics Education) King's College, London University (1991), BSc (Psychology) Liverpool University (1985))

Some years ago I studied two schools in England that taught mathematics very differently. In one of the schools the students learned by watching a teacher demonstrate mathematical methods that they copied and practiced. In the other school the students worked on applied projects. In both schools students learned the same mathematical content but in very different ways. When I first reported on the study I knew that the students had developed different ways of knowing mathematics, different ways of interacting with mathematics, and had achieved at different levels at the end of school. In a follow-up study, that will be the basis of this presentation, I found the students from the two schools some eight years later when they were adults of 23-24 years of age. In this presentation I will report on the ways the differing mathematics approaches had impacted the young people as adults, with some profound differences emerging in the ways that they interacted with knowledge, and the intellectual authority and responsibility they took into their lives. These two studies give opportunity to examine the different ways that people may hold, use and relate to mathematics knowledge, in school and beyond.

Jaime Carvalho e Silva, Secretary-General of ICMI, jaimecs@mat.uc.pt

6. ICME-12 : DGs

Contrary to past ICME practice, Discussion Groups for ICME-12 were created in response to a proposal submitted by a group of up to five persons representing diverse regions of the world. As their name suggests, Discussion Groups (DGs) are designed to gather Congress participants who are interested in discussing, in a genuinely interactive way, certain challenging, controversial or emerging issues and dilemmas of interest to an international or regional audience. Each DG was allocated two time slots of 90 minutes each during the Congress. Before the congress, the discussion group organizing team will post their page at the ICME-12 web site (<http://icme12.org>) including contributions that define, limit, and/or present basic premises, theoretical considerations, research findings, viewpoints and facts that should be accounted for a fruitful discussion to be attained. Prior to the congress, participants can send individual contributions to the organizers for consideration as additional background information and may raise questions or participate in an exchange of ideas through the web site. The list of the DGs that have been considered and their co-chairs is :

- ▶ DG 1 : Current Problems and Challenges in Non-university Tertiary Mathematics Education (NTME) Co-Chairs : James Roznowski(USA) jroznowski@harpercollege.edu Low-Ee Huei Wuan(Singapore) lowhw@sp.edu.sg
- ▶ DG 2 : Creativity in Mathematics Education Chair : Hartwig Meissner(Germany) meissne@uni-muenster.de

- ▶ DG 3 : Issues Surrounding Teaching Linear Algebra Co-chairs : Avi Berman(Israel) berman@technion.ac.il Sang-Gu Lee(Korea) sglee@skku.edu

 - ▶ DG 4 : The Evolvement of Mathematics Teachers' Community-of-Practice Co-Chairs : Nitsa Movshovitz-Hadar(Israel) nitsa@technion.ac.il Atara Shriki(Israel) Shriki@technion.ac.il

 - ▶ DG 5 : Uses of History of Mathematics in School (pupils aged 6 - 13) Co-Chairs : Bjørn Smestad(Norway) bjorn.sme stad@lui.hio.no Funda Gonulates(USA/Turkey) fgonulates@gmail.com

 - ▶ DG 6 : Postmodern Mathematics Co-Chairs : Paul Ernest(UK) p.ernest@ex.ac.uk Regina Möller(Germany) regina.moeller@uni-erfurt.de

 - ▶ DG 7 : Improving Teacher Professional Development Through Lesson Study Co-Chairs : Toshiakira Fujii(Japan) tfujii@u-gakugei.ac.jp Akihiko Takahashi(USA) atakahas@depaul.edu

 - ▶ DG 8 : Theory and Perspective of Mathematics Learning and Teaching from the Asian Regions Co-Chairs : Chun Chor Litwin Cheng(Hong Kong) cccheng@ied.edu.hk Hong Zhang(China) Zhanghongredg6@163.com

 - ▶ DG 9 : Using Technology to Integrate Geometry and Algebra in the Study of Functions Co-Chairs : Scott Steketee(USA) stek@kcptech.com Cheah Ui Hock(Malaysia) uhcheah@recsam.edu.my

 - ▶ DG 10 : New Challenges in Developing Dynamic Software for Teaching and Learning Mathematics Co-Chairs : Zsolt Lavicza(UK) zl221@cam.ac.uk Markus Hohenwarter(Austria) markus.hohenwarter@jku.at

 - ▶ DG 11 : Mathematics Teacher Retention Co-chairs : Axelle Faughn(USA/NC) afaughn@email.wcu.edu Barbara Pence(USA/CA) Barbara.Pence@sjsu.edu

 - ▶ DG 12 : Mathematics Teacher Educators' Knowledge for Teaching Co-chairs : Kim Beswick(Australia) kim.beswick@utas.edu.au Olive Chapman(Canada) chapman@ucalgary.ca

 - ▶ DG 13 : The Role of Mathematics Education in Helping to Produce a Data Literate Society Co-Chairs : William Finzer(USA) bfinzer@kcptech.com Cliff Konold(USA) konold@srri.umass.edu

 - ▶ DG 14 : Mathematical Modeling in Connecting Concepts to Real World Application Co-Chairs : Zhonghe Wu(USA) zwu@nu.edu Lijun Ye(China) yeatsylj@126.com

 - ▶ DG15 : Mathematics and Culture in Micronesia : An exploration of the mathematical aspects of indigenous practices Co-Chairs : A. J. (Sandy) Dawson(USA) dawsona@hawaii.edu Donald Rubinstein(Guam) rubinste@uguam.uog.edu

 - ▶ DG16 : Can art save mathematics ? Co-Chairs : Dirk Huylebrouck(Belgium) Huylebrouck@gmail.com Slavik Jablan(Serbia) sjablan@gmail.com

 - ▶ DG17 : Teaching of Problem Solving in School Mathematics Classrooms Co-chair : Yew Hoong Leong(Singapore) yewhoong.leong@nie.edu.sg Rungfa Janjaruporn(Thailand) rungfajan@yahoo.com
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7. ICME-12 : 7 Reasons to visit Seoul and Korea

Seoul, the capital of Korea, receives ICME-12 in its Convention & Exhibition Center-COEX. ICME-12 will certainly be a huge scientific and social success but the city and the country are also worth visiting. Let's see the main reasons to visit Seoul and Korea.

1. Korean boyangsik food

Korean people often say that "good food has magical powers." To keep in shape, no medicine beats a fine-cooked meal. This belief is well reflected in Korea's boyangsik food, which literally means food that invigorates the body. The most popular boyangsik foods in Korea are those that come in a meat-based broth like samgyetang, seolleongtang, and gomtang. In terms of Oriental medicine, boyangsik food replenishes the body, helps circulate energy, and balances the ying and the yang. Traditionally, boyangsik was consumed to maintain body balance (especially during the changing seasons), or to replenish the body in times of weakness. Nowadays, it is consumed throughout the year regardless of the season. Try some of the popular Korean boyangsik foods for its great taste and healthy benefits. And you should not forget Soju, a distilled beverage native to Korea.

2. Myeong-dong is all about shopping !

From the towering super stores of Migliore, Lotte Department Store, Avatar and High Harriet to the cozy, mom-and-pop shops lining the sidestep, Myeong-dong has something for everyone. Whether the search is for accessories, athletic wear, shoes, boots or a number of other mid-to-high priced items, you'll find it all here. With the main streets boasting larger, well-known stores, many of the better bargains are to be found at some of the discount stores that require a little walking to get to. All this selection of styles and sizes, coupled with the freedom of strolling in the open-air make Myeong-dong a shopping destination not to be missed and an adventure sure to be remembered.

2. Seoul : Towering High into a Bright Future

Korean capital city, Seoul, is located in the Midwest of the Korean peninsula. It has been an area of strategic importance since prehistoric times, particularly in the realms of politics, economics, society and culture. During the Era of the Three States (4th to mid-7th centuries), the area was frequently used as a battleground among the ancient ruling kingdoms of Goguryeo, Baekje and Silla. It was designated as Korea's capital city during the Joseon Dynasty (1392-1910). In 1945, the city was named Seoul, which means 'towering high.' It is home to more than 10 million inhabitants.

4. UNESCO World Cultural Heritage

In the heart of Seoul stands a royal palace designated as UNESCO World Cultural Heritage, Changdeokgung Palace. The Joseon Dynasty built "Five Grand Palaces" in Seoul : Changdeokgung, Changgyeonggung, Deoksugung, Gyeongbokgung and Gyeonghuigung, all of which are located in the district of Jongno-gu and Jung-gu. Asia's largest underground street shopping mall lies near the 15th century royal tombs. Namdaemun, officially the Sungnyemun, is a historic pagoda-style gateway located in the center of Seoul. The gate, which was begun in the 14th century, is now listed first among the National Treasures of South Korea. The historic 24-hour Namdaemun market is next to the gate where it has been operating for centuries.

5. Jeju : Volcanic Island Designated as a World Natural Heritage

The southernmost territory of Korea, the Jeju Special Self-Governing Province is a volcanic island created by eruptions millions of years ago. It is Korea's largest island and an international destination with fascinating natural landscapes and academic value. In October 2010, nine geological sites in Jeju Island received recognition as UNESCO Global Geoparks from the UNESCO Global Geoparks Network (GGN). The Jeju sites became the first in Korea to earn this recognition, and with it, Jeju becomes the only place in the world with three UNESCO certifications, following its Biosphere Reserve and UNESCO World Heritage Site designations in 2002 and 2007, respectively. The nine Jeju sites designated as Global Geoparks include Hallasan Mountain, Seongsan Ilchulbong Peak, and Manjanggal Cave.

6. Gyeongju : Treasure Trove of UNESCO World Cultural Heritage

Gyeongju, located in southeast Korea, was the capital of the Silla Kingdom for 992 years (BC 57-935), the longest surviving kingdom in the history of Korea. Not only is it astounding that it was ruled by 56 kings spanning a period of almost a thousand years. Gyeongju still shines today, more than a millennium after the kingdom's demise. Buddhism was introduced in Silla in the 6th century and played a significant role in strengthening royal authority and unifying the people, becoming the foundation of the area's art, tradition, and culture. Consequently, Gyeongju is the home of the greatest Buddhist art treasures in Korea, and is the nation's most popular field trip destination. Bulguksa Temple and Seokguram Grotto are Gyeongju's most celebrated relics and are said to capture the essence of the Korean Buddhist culture. Gyeongju is a virtual cornucopia of history, meriting praise and preservation worldwide.

7. The World's Oldest and Most Complete Buddhist Scriptures : UNESCO Memory of the World Register

The Tripitaka Koreana (Goryeo Dynasty Tripitaka) are the world's only extant collection of wooden printing blocks for the Buddhist scriptures that are written in classical Chinese. Stored in the buildings of Janggyeong Panjeon Hall in Haeinsa Temple in Gyeongsangnam-do province, the Tripitaka Koreana was completed by scribes between 1236 and 1251. It is recognized as the most comprehensive example of the woodblock printing technique in all known Buddhist scriptures of that time. The Goryeo Dynasty Tripitaka is a priceless example of the early woodblock printing technique. Lacquered using sap from the lacquer tree, the woodblocks have excellent durability and can still print crisp copies 760 years after their creation. The total 87,000 woodblocks that make up the Goryeo Dynasty Tripitaka record nearly the entire collection of Buddhist scriptures that exist in Asia. Based on the value of their content and the excellent state in which they have been preserved, they were listed on the UNESCO Memory of the World Register in June 2007.

8. ICMI Awards Committee calls for nominations

The Executive Committee of the International Commission on Mathematical Instruction (ICMI) a number of years ago created two awards, each in the form of a diploma and a medal, to recognise outstanding accomplishments in mathematics education research :

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

An ICMI Awards Committee has been appointed for selecting the awardees. The President of ICMI has appointed Professor Carolyn Kieran to chair this committee, the other members of which are anonymous until their terms have come to an end.

The first recipients of these two awards, Professor Guy Brousseau (France) for the Felix Klein Award and Professor Celia Hoyles (UK) for the Hans Freudenthal Award, formally received these at the opening ceremonies of ICME-10 in

Copenhagen, in July 2004. The two 2005 awards went to Professors Ubiratan D'Ambrosio (Brazil) (the Klein Award) and Paul Cobb (USA) (the Freudenthal Award), and for 2007, Professors Jeremy Kilpatrick (USA) and Anna Sfard (Israel/UK/USA) received the Klein and the Freudenthal Awards, respectively ; these awards were formally presented to the recipients at the opening ceremony of ICME-11 in Monterrey, México, in July 2008. The two 2009 awards went to Professors Gilah Leder (Australia) (the Klein Award) and Yves Chevallard (France) (the Freudenthal Award). The awards for 2009 and for the current 2011 cycle will be formally presented to the recipients at the opening ceremony of ICME-12 in Seoul, Korea, in July 2012.

The ICMI Awards Committee is at this time entering the 2011 cycle of selecting awardees. We acknowledge that the 2011 process is a little behind schedule, and apologise for the delay, but we expect to announce the 2011 awards in February, 2012. As was the case with the previous cycles, the ICMI Awards Committee welcomes suggestions coming from the mathematics education community, hence this call for nominations. A nomination of a candidate for the Felix Klein Award or the Hans Freudenthal Award has to be accompanied by a summary presenting the vita and the achievements of the person nominated, as well as the reasons for the nomination. Moreover, nominations also have to include the names and coordinates of two or three persons from whom the committee may seek further information.

All proposals must be sent by e-mail (kieran.carolyn@uqam.ca or carkie2@yahoo.ca) to the Chair of the Committee no later than December 1, 2011.

Prof. Carolyn Kieran, Chair of the ICMI Awards Committee Département de mathématiques, Université du Québec à Montréal, C.P. 8888, succursale Centre-Ville, Montréal, QC, H3C 3P8, CANADA

9. Report on the first implementation of CANP "Capacity and Networking Programme in the Mathematical Sciences" : School EDiMaths

The school EDiMaths, which is the first implementation of project CANP "Capacity and Networking Programme in the Mathematical Sciences", a joint program of the International Commission on Mathematical Instruction (ICMI) and the International Mathematical Union (IMU) set up with the support of UNESCO and CIMPA, was held in the FAST (Faculty of Science and Technology), University of Bamako from 18 to 30 September 2011. It referred as planned capacity building of teaching mathematics and mathematics teacher educators in the sub-region of Francophone West Africa, paying particular attention to the specific regional context, the strengthening of connections and collaborations between different communities involved in the training of teachers : mathematics, didactics, teacher trainers from secondary schools, inspectors ... and the creation of a regional network of trainers whose activities are intended to continue beyond the EDiMaths only school.

The school concerned as planned five countries in the sub-region : Mali, Senegal, Burkina Faso, Ivory Coast, Niger, for which national contacts were identified. Benin has also sent a representative. Participation requests had been received from citizens of other Francophone countries (Cameroon, Congo Brazzaville, Democratic Republic of Congo, Madagascar), but uncertainties about the school budget failed to respond positively to such requests.

The initial project included the funding of about forty participants : 20 from the host country and 5 for each of the other four countries. The selection of participants in each country was made in consultation between the national contacts, the inspectorate and teacher training institutions. This selection has not caused problems, school EDiMaths having, upon its announcement, aroused great interest and national contacts have played their role perfectly. Furthermore, according to our demands, a special effort was made to include the various communities involved in the formation. To the participants in the sub-region are to add the six lecturers French scientific committee members, the local members that have occurred as trainers, the national contacts who also acted as trainers, two invited african faculty members who developed the work on gender, and nine members of the local organizing committee. Finally

the effective EDiMaths was composed of 61 persons.

The school was primarily the training of mathematics teachers of the second degree but, as had been hoped, many participants and trainers were also involved in the training of teachers of elementary school. Regarding the participants must be noted, however the large imbalance in the genre, no country in the sub-region having more than two participants and two of them, with the host country, had none.

The school program was developed by the Scientific Committee in consultation with the local organizing committee. In accordance with the philosophy of the program CANP, the Scientific Committee with eight members plus a representative of the ICMI consisted of a balanced academic mathematicians and educationalists, teachers and researchers of the North (in this case France) and the sub-region. The scientific program was organized around seven major themes : fundamental mathematics, contemporary mathematics, situations for class research, technology and mathematics education, cross-cutting themes relevant to regional priorities, building a professional community, promotion of mathematics.

ICMI has proposed to open a Moodle platform accessible to all participants of the school. Initially, in it will be available all documents that have been made to this school and additional resources posted by the trainers. It will also host the current version of the reports prepared for school. It will then serve as a forum between the participants of the school who are committed to continue to feed it by pooling their resources for teacher training. In addition a web page will be open for EDiMaths on the ICMI website where organizers of the school will be able to migrate documents which appear to deserve wider distribution.

The evaluation of EDiMaths was conducted using a questionnaire sent to participants and a debriefing session coordinated by Michèle Artigue. All but three participants meet that EDiMaths has reflected the philosophy of the program CANP and show their commitment to this philosophy. The reasons given to justify this position are primarily the composition of participants in school, the choice of themes and their management through the school and decisions taken to build a regional network. The few negative responses came from participants who feel that the school has not paid sufficient attention to regional specificities.

Achieving EDiMaths was made possible by the support of UNESCO, the International Mathematical Union, the ICMI, the International Centre for Pure and Applied Mathematics (CIMPA), the SCAC of the Embassy of France in Mali, Joseph Fourier University in Grenoble and substantial support from the Ministry of Education, Literacy and National Languages of Mali. In addition, the FAST University of Bamako has made freely available to EDiMaths, an amphitheater for the opening ceremony, a large room and a computer room for training and provided wireless internet access for participants. The trainers have also benefited from the reception in his office of the Department of Mathematics and a small adjoining office.

Michèle Artigue, Université Paris Diderot - Paris 7 et ICMI

10. Mathematics of Planet Earth 2013

a) MATHEMATICS OF PLANET EARTH COMPETITION FOR AN OPEN SOURCE EXHIBITION OF VIRTUAL MODULES <http://www.mpe2013.org/competition> This competition is part of the world initiative "Mathematics of Planet Earth 2013" (MPE2013). The exhibition will have a virtual part as well as instructions to realize material parts. Examples of modules or themes to be covered are available on the website

To stimulate imagination on the many domains where mathematics plays a crucial role in planetary issues the following four themes are proposed, but these themes are not exhaustive :

- ▶ A PLANET TO DISCOVER : oceans ; meteorology and climate ; mantle processes, natural resources, celestial mechanics
- ▶ A PLANET SUPPORTING LIFE : ecology, biodiversity, evolution
- ▶ A PLANET ORGANIZED BY HUMANS : political, economic, social and financial systems ; organization of transport and communications networks ; management of resources ; energy
- ▶ A PLANET AT RISK : climate change, sustainable development, epidemics ; invasive species, natural disasters

The typical modules submitted to this competition can be of four forms and should have some scientific explanations for the public :

- ▶ A module explaining how to realize a physical module in a museum
- ▶ An interactive exhibit to be watched either on the web or in a museum
- ▶ A film
- ▶ Image(s)

COMPETITION PERIOD, JURY, PRIZES The competition will be open from January 2012 to May 15, 2012. The prize winners will be selected by an international jury nominated by MPE2013. The prize winners will be announced in August 2012. The judges decision will be final. The first, second and third prize winners will receive respective prizes of US\$ 5000, US\$ 3000 and US\$ 2000. The winning modules will occupy a prominent place on the website of the exhibition. Moreover it is planned to show the modules of the overall winners in exhibitions and museums.

b) SUBSCRIBING TO MPE2013 Newsletter

Click on <http://mpe2013.us2.list-manage.com/track/click>

?u=f59ce33759e67baa06b045721&id=89298e6cba&e=d7647eeaac and go to the "Newsletter" button to subscribe to MPE2013 online.

11. ICSU Science Education Review

The International Council for Science ICSU is the umbrella body for Science internationally. As well as National Members it has Institutional Members, and ICMI is associated with ICSU as a Commission of the International Mathematical Union IMU, one of ICSU's institutional members. As part of ICSU's development of its new Strategic Plan 2012-2017, ICSU wished to "... define [its] future role in relation to science education". It established a 12 person panel which produced the recently released "Report of the Ad-Hoc Review Panel on Science Education". ICMI/IMU made a substantial submission to the review in 2010

<http://www.mathunion.org/icmi/other-activities/reports/>

and also commented on a draft of the report in January 2011. The review is confined to education in the Natural Sciences, but mentions the work of ICMI. The Report was endorsed by the ICSU Committee C SPR, and will be discussed at the ICSU General Assembly in September 2011 in Rome. The ICSU Executive has decided not to propose a new initiative dedicated to science education at the General Assembly. Instead it was agreed that science education should be integrated across all relevant ICSU science activities. A copy is available at :

<http://www.icsu.org/what-we-do/committees/science-education-review>

Recommendations relevant to Mathematics Education include (i) a web site pointing to portals where science education resources may be found, and (ii) encouragement of the three ICSU Regional Offices to contribute actively

to "mapping the status of science education, whether formal or informal, in the regions in which they are located ; ... to network with any organizations in their respective regions involved in science education and science literacy that are aligned with ICSU's own science education strategy, and work together to foster South-South cooperation in science education".

Cheryl Praeger", IMU-ICMI liaison, cheryl.praeger@uwa.edu.au

12. News from IMU

a) CIMPA/ CARMIN : CALL FOR A PROGRAM OF SHORT MATHEMATICAL VISITS

CARMIN and CIMPA issued a call for a program to support short visits of young mathematicians from developing countries to CARMIN institutions in France, which may include visits to CIMPA supporting states.

This program is designed for mathematicians residing in a developing country and having received their PhD within the last four years when applying or expecting to obtain it in the next two years.

Those coming from newly industrialized countries as of 2011 will be considered for partial support.

Application deadline : end of November 2011 <http://www.mathunion.org/cdc/grants/non-imu-grants/>

b) IMU's Commission for Developing Countries (CDC) invites applications for its individual and conference support programs. For more information please go to : <http://www.mathunion.org/cdc/grants/>

c) Sir JOHN BALL ELECTED ON THE EXECUTIVE BOARD OF ICSU (International Council for Science). The General Assembly elected the officers for the next three year period and John Ball, former president of IMU, was elected on the Executive Board of ICSU for a three year period starting January 2012. IMU is a member of ICSU.

13. André Delessert, former Secretary-General of ICMI passed away

André Delessert, Secretary of ICMI from 1964 to 1972 passed away one year ago October 19, 2010. Born in Lausanne July 2, 1923, he made all his studies to get the Bachelor of Science degree from the University of Lausanne in 1945. It was here that he continued his career focused primarily on the teaching of mathematics and their pedagogy, with the exception of two years (1946-1948) during which a French government scholarship enabled him to study at the Institut Henri Poincaré and Ecole Normale Supérieure. Upon his return to Lausanne for several years he devoted himself to teaching secondary and upper secondary education, while preparing a thesis that he presented in 1962, thesis entitled "A construction of elementary geometry based on the concept of reflection". This work was conducted in parallel with the writing of a manual of geometry, simply titled "Plane Geometry", manual which allowed several generations of students to discover the rigorous geometric reasoning, illuminated by the intrusion of a picturesque character, Zosyme, that naively questioned the master at the end of the chapters. Contained in this manual are also many exercises that awakened the geometric intuition of the student.

In 1964 he was appointed professor at the University of Lausanne, where he continued his educational activity in particular by teaching general mathematics to the science students. His organizational skills made him little by little take responsibility within the University : President of the Section mathematics and dean of the Faculty of Science and finally Rector University from 1983 to 1987, years preceding his retirement. At the same time and even beyond

his retirement he has continued to provide support to the young colleagues of compulsory secondary education by conducting training seminars of continuous preparation, encouraging the development of a bulletin of the teachers of mathematics.

The interests in the life of André Delessert were not reduced to mathematics and its pedagogy ; let's note the artistic side : the practice of sculpture and a wife artistic painter.

Daniel AMIGUET, Renens, Switzerland, daniel.amiguet @ tvmail.ch

14. Publications of Interest to the ICMI Community : The very last copies of the ICMI centenary volume

The very few last printed copies of the ICMI centenary volume are still available for a short time and will not be printed again.

The volume with the title "The First Century of the International Commission on Mathematical Instruction (1908-2008). Reflecting and Shaping the World of Mathematics Education" includes texts written by Hyman Bass ; Jeremy Kilpatrick ; Jean Luc Dorier ; Mogens Niss ; Toshi Ikeda ; Jo Boaler ; Joao da Ponte ; Gert Schubring ; Ferdinando Arzarello ; Gelsa Knijnik ; Mamokgethi Setati ; Michèle Artigue ; Bernard R. Hodgson ; Alan Bishop ; Ubiratan D'Ambrosio ; Jill Adler ; Bill Barton ; Deborah Ball ; Marcelo Borba ; Gilah Leder and many others.

Please hurry to buy your personal copy or recommend immediately to the library of your department. The price is 40 euros for the ICMI community and 60 euros for libraries. Details of the procedure to buy the book are available here :

http://www.treccani.it/catalogo/catalogo_prodotti/Le_collane/biblioteca_enciclopedica.html

<http://www.unige.ch/math/EnsMath/Rome2008/>

Jaime Carvalho e Silva, Secretary-General of ICMI, jaimecs@mat.uc.pt

15. Calendar of Events of Interest to the ICMI Community

Volcanic DELTA 2011, Eighth Southern Hemisphere Conference on the Teaching and Learning of Undergraduate Mathematics and Statistics, Rotorua, NZ, November 27 - December 2, 2011 <http://www.delta2011.co.nz/delta2011/>

Fourth National Conference "Technology and Innovation in Math Education" TIME 2011, Indore Public School, Indore, India, 26-29 December, 2011 <http://www.math.iitb.ac.in/TIME2011/>

Creating Balance in an Unjust World Conference on Math Education and Social Justice Mission High School in San Francisco, CA, USA, January 13-15, 2012. <http://creatingbalanceconference.org/>

EMF 2012 - Espace Mathématique Francophone, Genève, 3-7 Février 2012 <http://www.emf2012.unige.ch/>

Seventh International Conference on Science, Mathematics & Technology Education : Transformations through Science, Mathematics and Technology Education

- Towards an Innovative and Sustainable Society, Muscat, Oman, February 12-15, 2012

d.fisher@smec.curtin.edu.au

International colloquium in honour of Michele Artigue -

- ▶ (Professor at the Université Paris Diderot, ex-president of ICMI) : The didactics of mathematics : approaches and issues. Paris, May 31st, June 1st and 2nd 2012. <http://www.lar.univ-paris-diderot.fr/colloque/artigue>

MERGA 35 National Institute of Education, Nanyang Technological University, Singapore, July 2-6, 2012

<http://www.merga.net.au/conferences>

WFNMC Mini Conference 2012 COEX, Seoul, July 7, 2012

<http://www.amt.edu.au/wfnmc/icme2012miniconference.html>

ICME-12 - Twelfth International Congress on Mathematical Education COEX, Seoul, Korea, July 8-15, 2012

<http://www.icme12.org/>

MCG7 KSA, Busan, Korea, July 15-18, 2012 <http://www.mcg7.org/>

HPM 2012 History and Pedagogy of Mathematics The HPM Satellite Meeting of ICME-12 Daejeon (Korea), July

16-20, 2012 <http://www.hpm2012.org>

PME Annual Conference Taipei, Taiwan, July 18-22, 2012 <http://www.tame.tw/pme36/>

Statistics Education Section of Eleventh Iranian Statistical Conference Iran University of Science and Technology, August 28-30, 2012 info : isc11@iust.ac.ir EARCOME6 - The Sixth East Asia Regional Conference on Mathematics Education, Thailand, March, 2013

16. SUBSCRIBING TO ICMI News

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