Second Announcement

10th International Congress on Mathematical Education

July 4-11 2004
Copenhagen, Denmark
Organised in co-operation among the Nordic Countries

www.ICME-10.dk
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www.ICME-10.dk

The congress web site is the main source of information on all aspects of the congress. It will be updated regularly before, during and after the congress.

Congress period and place

July 4-11 2004 – The venue is the Technical University of Denmark, located in a northern suburb of Copenhagen.

Important dates

Registration category deadlines:
Early registration: Before February 28, 2004
Normal registration: Before May 31, 2004
Late registration: After June 1, 2004

Application for an ICME-10 grant:
As soon as possible, preferably before January 1 and no later than February 15, 2004. Decisions will be made on an ongoing basis, and all applicants will be informed by March 1, 2004.

Dates related to the scientific programme:
January 1: Deadline for submission of abstracts of posters, proposals for Workshops (WS) and Sharing experience Groups (SEG). January 1 is also the guiding deadline for submission of papers to Topic Study Groups (TSG), Discussion Groups (DG), and the Thematic Afternoon (TA). The organising teams may specify alternative dates.
February 15: Deadline for acceptance/rejection of poster abstracts, proposals for WSs and SEGs. February 15 is also the guiding deadline for contributions to TSGs and DGs. The Organising Teams may specify alternative dates. Preferably applications for non-commercial exhibitions should be sent before February 15.
April 1: Deadline for final description of all programme items. The programme will be announced at www.ICME-10.dk.
Welcome to ICME-10

On behalf of the organising bodies for ICME-10: The International Programme Committee (IPC), The Local Organising Committee (LOC) and the Nordic Contact Committee (NCC) we cordially invite all readers of this second announcement to participate in ICME-10. We invite you to experience an intellectually worthwhile and enjoyable congress celebrating the 10th congress in the ICME tradition. The congress is held under the auspices of ICMI, The International Commission on Mathematical Instruction.

The IPC has put together a rich, varied and multi-faceted scientific programme for the congress, with the aim of attracting and addressing the entire community of researchers and practitioners in mathematics education all over the world. The programme will provide food for thought and inspiration for practice for all, from the established mathematics educator of world renown to the novice in the field attending his or her first ICME, and to everyone else with an interest in mathematics education. Through plenary activities, lectures, reports from survey teams, discussions and other activities, the state of the art in mathematics education research and the practices of mathematics teaching will be examined and demonstrated from various perspectives.

The LOC is doing its utmost to provide the best possible organisational conditions for ICME-10. The venue for the congress, The Technical University of Denmark, situated 10 km north of Copenhagen, is an excellent place for an ICME. The campus provides functional lecture rooms of various sizes, exhibition areas and rooms for small group activities, in addition to green surroundings offering convivial areas for social gatherings. Through the programme structure and planned social activities we are aiming to create an inclusive and stimulating atmosphere at the congress for both researchers and practitioners in mathematics education as well as for their accompanying guests.

ICME-10 is held in Denmark, but the organisation of the congress is supported through the work of the NCC by co-operation between all the Nordic countries: Denmark, Finland, Iceland, Norway and Sweden. The NCC takes a particular interest in having as many teachers and researchers as possible from the Nordic countries participating in, and contributing to, ICME-10. Newcomers to ICME will be offered special activities organised by the NCC.

The second announcement provides detailed information on the scientific programme. At this stage not all Regular Lectures have been confirmed and some of the Organising Teams of Topic Study Groups and Discussion Groups are not yet complete. In spite of this there will be no third announcement. However, the progress of completing the scientific programme can be followed at the congress web site www.ICME-10.dk. Likewise the results of the subsequent decentralised planning of the Thematic Afternoon, the Topic Study Groups and the Discussion Groups will be available at www.ICME-10.dk.

We are all very much looking forward to seeing you at ICME-10 and are sure that your participation will contribute greatly to the success of ICME-10.

Mogens Niss
Chair of the IPC

Morten Blomhøj
Chair of the LOC

Gerd Brandell
Chair of the NCC
Organising Committees

ICMI Executive Committee (2003-2006)

President
Hyman Bass, USA

Vice-Presidents
Jill Adler, South Africa
Michèle Artigue, France

Members at large
Carmen Batanero, Spain
Maria Falk de Losada, Colombia
Nikolai Dolbilin, Russia

Ex officio members (IMU)
John M. Ball (President), United Kingdom
Phillip Griffiths (Secretary), USA

Secretary-General
Bernard R. Hodgson, Canada

IPC
International Programme Committee
The International Programme Committee is responsible for the planning of the official scientific programme.

Jill Adler, South Africa
Abraham Arcavi, Israel
Michèle Artigue, France
Mariolina Bartolini Bussi, Italy
Bill Barton, New Zealand
Hyman Bass, USA
(Ex officio, President, ICMI)
Christina Bergsten, Sweden
Ole Björkqvist, Finland
Morten Blomhøj, Denmark
Marcelo de Carvalho Borba, Brazil
Nikolai P. Dolbilin, Russia
Elin Emborg, Denmark
(Administrative secretary)
Barbro Grevholm, Sweden
(Chair)

LOC
Local Organising Committee
The Local Organising Committee is in charge of the practical planning of the congress. The committee represents all levels and branches of the Danish educational system and the Nordic Contact Committee.

Leif Andersen
Michael Wahl Andersen
Morten Blomhøj (Chair)
Gerd Brandell, Sweden
Torben Christoffersen
Lisser Rye Ejersbo
Elin Emborg
(Administrative secretary)
Barbro Grevholm, Sweden
Ebbe Hansen
H. C. Hansen
Vagn Lundsgaard Hansen
Carsten V. Jørgensen
Leif Kragh
Kjeld Bagger Laursen
Bent Lindhardt
Claus Michelsen
Arne Mogensen
Mogens Niss
Anne Winther Pedersen
Tine Wedege
Carl Winsløw

NCC
Nordic Contact Committee
The hosting of ICME-10 in Copenhagen, Denmark, is based on an invitation from the Nordic countries, namely Denmark, Finland, Iceland, Norway and Sweden.
To ensure and develop the Nordic cooperation in relation to the congress, a special Nordic Contact Committee has been formed.
In terms of the traditional organisational structure of an ICME, the Nordic Contact Committee may be seen as playing the role of a National Committee.

Denmark
Morten Blomhøj
Carl Winsløw

Finland
Juha Oikkonen
Erkki Pehkonen

Iceland
Anna Kristjansdóttir

Norway
Otto B. Bekken
Ingivill Holden

Sweden
Gerd Brandell (Chair)
Barbro Grevholm
Kerstin Pettersson (Secretary)
Main Components of The Scientific Programme

The programme structure of ICME-10 reflects our attempts to combine the best of the traditional components which have contributed to the great successes of past ICMEs, with a number of new components and features which are intended to accommodate new needs and to address the changes that mathematics education as a field of research, development and practice is currently undergoing.

The main components of the scientific programme are outlined below. This announcement states names of lecturers and team chairs as well as team members of the Survey Teams. Readers are invited to consult our web site for further details. The web site will be regularly updated. Questions and proposals concerning matters pertaining to the programme should be addressed to the Chair of the IPC.

The observant reader will notice that certain themes are dealt with in several different programme formats. This is deliberate, and reflects the expectation that these themes will appeal to different categories of participants and therefore call for a variety of different approaches.

The official language of the congress is English.

How to contribute to the scientific programme? Submissions and proposals

The individual congress participant may contribute to the scientific programme in several different ways. Participants may contribute to Topic Study Groups, Discussion Groups, the Thematic Afternoon, Workshops, Sharing Experiences Groups, and the Poster Exhibition.

Topic Study Groups: Individuals may submit a paper for consideration by the Organising Team of a TSG to be accepted either for oral presentation in the TSG or as a paper presented by distribution. The Organising Team of the TSG will decide which papers to accept. Only a rather limited number of papers can be presented orally in a TSG. Therefore, as an important component of the work of the TSG, papers considered by the Organising Team to be of appropriate quality and relevance to the TSG, may be accepted for presentation by distribution. Such papers will be placed on the web site of the TSG and thus form part of the material produced for it. Also, authors may distribute such papers in a hard copy version at the sessions of the TSG with a label stating that this paper has been accepted for presentation by distribution. All papers should be submitted directly to the chairs of the TSG (see “Topic Study Groups” below). The different TSGs may have different deadlines for the submission of papers (please check the ICME-10 web site), but typically it will be no later than January 1, 2004.

Discussion Groups: There will be no oral paper presentations in Discussion Groups by individual congress participants. However, it is possible to submit a paper for consideration by the Organising Team of a DG to be presented by distribution. The Organising Team of the DG will decide which papers to accept. Papers considered to be of appropriate quality and relevance to the discussions in the DG will be placed on the web site of the DG and thus form part of the material produced for it. Also, authors may distribute such papers in a hard copy version at the sessions of the DG with a label stating that this paper has been accepted for presentation by distribution. All papers should be submitted directly to the chairs of the DG (see the section “Discussion Groups” below). The different DGs may have different deadlines for the submission of papers (please check ICME-10 web site), but typically it will be no later than January 1, 2004.
Thematic Afternoon: Individuals may submit a paper for consideration by the Organising Team of a TA-Theme (cf. the section “Thematic Afternoon”) to be accepted for oral presentation in the Theme or as a paper presented by distribution. The Organising Team of the Theme will decide which papers to accept. Only a rather limited number of papers can be presented orally in the Theme. However, as an important component of the work of the Theme, papers which the Organising Team considers to be of appropriate quality and relevance to the Theme, may be accepted for presentation by distribution. Such papers will be placed on the web site of the Theme and thus form part of the material produced for it. Also at the sessions of the theme, authors may distribute such papers in a hard copy version at the sessions of the Theme with a label stating that this paper has been accepted for presentation by distribution. All papers should be submitted directly to the chairs of the Theme. The different Themes may have different deadlines for the submission of papers (please check the ICME-10 web site), but typically the deadlines are no later than January 1, 2004.

Workshops: The workshop (WS) is a new kind of activity in the ICME programme. It is a “hands-on” type of activity aimed at a limited number of participants (30-40) and targeted at a specific, or a more general, group of teachers (from pre-school to university), graduate students, and/or researchers, who are interested to learn or try something through active participation. Normally, a workshop will be allotted up to two one-hour time slots. Workshops should acquaint participants with, and provide experience in, a variety of areas such as those suggested by the following examples:

- an alternative/innovative approach to teaching or to classroom practice
- a non-traditional mathematical topic for the curriculum, or a non-traditional approach to a traditional topic
- a methodology or a technique in mathematics education research
- an innovative use of information and communication technologies in the service of mathematics education
- an approach or a method to analysing videotapes (of individual students at work, classroom sessions, etc.)
- ways to read, write or assess academic papers in mathematics education

Please note that participation in a WS is limited and allocated on a “first come first served” basis.

Individuals or groups may submit proposals for review by means of the application form included in this announcement. Application forms must be directed to Mogens Niss, Chair of the IPC and sent to Congress Consultants Martensens Alle 8 DK-1828 Frederiksberg C Denmark before January 1, 2004.

If possible please send proposals electronically through the form available at www.ICME-10.dk. In the case of no access to the Internet please use the standard form on page 27.

Only clearly non-commercial WSs will be accepted in the scientific programme. A sub-committee of the IPC will be in charge of reviewing and accepting workshop proposals. Proposers will be informed of the decisions by February 15, 2004. Latest time for changes to an accepted workshop programme is April 1, 2004.

Sharing Experiences Groups: A Sharing Experiences Group (SEG) is a small interactive group of 10-20 members gathering to exchange and discuss experiences concerning a well-defined theme of common interest. Normally, an SEG will be allotted up to two one-hour time slots. The following are examples of possible themes to be discussed by an SEG:

- how to initiate and conduct a research project
- what should be the balance between course work and dissertation work in a PhD study
- problems typically encountered in planning and carrying through empirical research
- obstacles, or avenues, to innovation experienced by individual teachers who want to adopt innovative approaches to teaching or assessment
- experiences of team teaching
- problems encountered in graduate supervision

Individuals or groups may submit proposals to establish a Sharing Experiences Group by means of the application form included in this announcement. Application form must be directed to Mogens Niss, Chair of the IPC, and sent to Congress Consultants Martensens Alle 8 DK-1828 Frederiksberg C Denmark before January 1, 2004.

If possible please send proposals electronically through the form available at www.ICME-10.dk. In the case of no access to the Internet please use the standard form on page 27.

Only clearly non-commercial SEGs will be accepted in the scientific programme. A sub-committee of the IPC will be in charge of reviewing and accepting SEG proposals. The committee will try to coordinate proposals of a similar nature. Proposers will be informed of the decisions by February 15, 2004. Latest time for changes to an accepted SEG programme is April 1, 2004.
Posters: Congress participants are invited to submit proposals of posters for display in the poster exhibition area. We anticipate space for several hundred posters and encourage this form of congress participation as a means of presenting a wide array of mathematics education initiatives concerning research or practice. The International Programme Committee has formed a new scheme for presentation and discussion of posters. Posters will be grouped, as far as possible, according to the themes of the 29 Topic Study Groups and the 24 Discussion Groups. Time slots will be made available for the presentation of posters. Poster presenters who so wish are invited to participate in scheduled Round Table sessions allowing commentary and discussion of groups of posters belonging to the same theme (approx. ten posters per group). The IPC will appoint experienced mathematics educators to chair such Round Table sessions.

Information about the size and format of posters will be given when a poster has been accepted. Presenters should use a font of at least 24 points so as to make the posters readable at a distance of 1.5 meters. Poster presenters should consider using both textual and visual means of presentation in their posters. The congress will not be able to provide poster supplies or material on site beyond space, pins, tape and suchlike.

An abstract of a proposed poster should be submitted for review by means of the application form included in this announcement. Application forms must be directed to Mogens Niss, Chair of the IPC, and sent to: Congress Consultants Martensens Alle 8 DK-1828 Frederiksberg Denmark before January 1, 2004. If possible please send proposals electronically through the form available at www.ICME-10.dk. In case of no access to the Internet please use the standard form on page 27.

Only clearly non-commercial posters will be accepted in the scientific programme. A sub-committee of the IPC will be in charge of reviewing and accepting poster submissions. Submitters will be informed of the decisions by February 15, 2004. Latest time for changes to an accepted poster abstract is April 1, 2004.

Acknowledgement of receipt

Acknowledgement of receipt of proposals for WS’s, SEG’s and Posters will be forwarded within seven days of submission. Please observe that it is the responsibility of the proposal submitters to contact the organisers if acknowledgement of receipt is not received.

Time Table for ICME-10

<table>
<thead>
<tr>
<th>Sunday 4th</th>
<th>Monday 5th</th>
<th>Tuesday 6th</th>
<th>Wednesday 7th</th>
<th>Thursday 8th</th>
<th>Friday 9th</th>
<th>Saturday 10th</th>
<th>Sunday 11th</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Registration</td>
<td>P 3</td>
<td>P 4</td>
<td>P 6</td>
<td>P 7</td>
<td>P 8</td>
<td>08:00</td>
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<tr>
<td>09:00</td>
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<td>ECO</td>
<td>ECO</td>
<td>Coffee break</td>
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<td>09:00</td>
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<tr>
<td>09:30</td>
<td></td>
<td>Coffee break</td>
<td>Coffee break</td>
<td>Coffee break</td>
<td></td>
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<td>10:00</td>
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<tr>
<td>10:00</td>
<td>Opening</td>
<td>R I</td>
<td>R II</td>
<td>R III</td>
<td>R IV</td>
<td>R V</td>
<td>10:30</td>
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<tr>
<td>10:30</td>
<td></td>
<td>Short break</td>
<td>Short break</td>
<td>Short break</td>
<td></td>
<td></td>
<td>11:30</td>
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<tr>
<td>11:30</td>
<td></td>
<td>P 1</td>
<td>TSG I</td>
<td>TSG II</td>
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<td>12:00</td>
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<tr>
<td>12:00</td>
<td>Lunch break</td>
<td>Lunch break</td>
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<td>12:30</td>
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<tr>
<td>13:00</td>
<td></td>
<td>P 2 Panel</td>
<td>P 5 Interview</td>
<td>Thematic Afternoon</td>
<td>DG III/ SGA IV</td>
<td></td>
<td>13:30</td>
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<tr>
<td>14:30</td>
<td></td>
<td>Coffee break</td>
<td>Coffee break</td>
<td>Coffee break</td>
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<td>14:30</td>
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<tr>
<td>15:30</td>
<td>DG I</td>
<td>SGA I</td>
<td>SGA II</td>
<td>SGA III</td>
<td>Poster/RT/ICMI Studies/ASG III</td>
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<td>15:00</td>
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<tr>
<td>16:00</td>
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<td>NP cont.</td>
<td>DG II</td>
<td>SGA III</td>
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<td>16:00</td>
</tr>
<tr>
<td>16:30</td>
<td>DG II</td>
<td>Poster RT</td>
<td>SGA II</td>
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<td>16:30</td>
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<tr>
<td>18:00</td>
<td>Happy hour</td>
<td>MS</td>
<td>MS</td>
<td>Happy hour</td>
<td>MS/GA</td>
<td>MS</td>
<td>18:30</td>
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<td>19:00</td>
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<td>MS</td>
<td>MS</td>
<td>MS</td>
<td></td>
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<td>19:30</td>
</tr>
</tbody>
</table>

Legend: The hour gives the starting time of the following activity. Roman numerals refer to session slots with parallel activities.

P: Plenary Activity
R: Regular Lecture
TSG: Topic Study Group session
DG: Discussion Group session
ASG: Affiliated Study Group meetings
NP: National Presentation
MS: Meeting Slot after happy hours available for meetings in different groupings within the mathematics education community.
Plenary activities

The plenary activities are those components of the scientific programme that address all congress participants at the same time. For ICME-10 there will be eight different plenary activities. These will include six plenary lectures, two of which will present the outcomes of the work of two of the Survey Teams (ST) (see below). There will be a panel debate on the theme "Mathematics education for whom, and why? The balance between mathematics education ‘for all’ and ‘for high level mathematical activity’”. Finally, there will be an interview session during which four senior mathematics educators will be interviewed by an expert about their perceptions and views of the development of mathematics education during their professional lifetime. The plenary activities are numbered and listed below according to their order on the timetable.

P1: Hyman Bass, University of Michigan, Ann Arbor, USA:
“Mathematicians, mathematics, and mathematics education”

P2: Panel Debate moderated by Stephen Lerman, South Bank University, London, United Kingdom
Panel members:
Richard Askey, University of Wisconsin, USA
Susana Carreira, University of Algarve, Portugal
Yukihiko Namikawa, Nagoya University, Japan
Reneka Vithal, University of Durban-Westville, South Africa

P3: Anna Sfard, University of Haifa, Israel:
“The relations between research and practice in mathematics education” report of the work of ST1:
Yasuhiko Hashimoto, Yokohama National University, Japan
Gelsa Knijnik, University of Vale do Rios dos Sinos, Porta Alegre, Brazil
Aline Robert, IUFM de Versailles, France
Ole Skovsmose, Aalborg University, Denmark

P4: Erno Lehtinen, University of Turku, Finland:
“Mathematics education and learning sciences”

P5: Interview session moderated by Michele Artigue, University of Paris VII, France
Interviewees:
Ubiratan D’Ambrosio, São Paulo, Brazil
Gila Hanna, University of Toronto, Canada
Jeremy Kilpatrick, University of Georgia, Athens, USA
Gérard Vergnaud, University of Paris VIII, Paris, France

P6: Jill Adler, University of the Witwatersrand, Johannesburg, South Africa:
“The professional development of mathematics teachers” report of the work of ST3:
Deborah Ball, University of Michigan, Ann Arbor, USA
Konrad Käser, Interuniversity Department of Interdisciplinary Research and Further Education, Klagenfurt, Austria
Lin, Fou-Lai, National Taiwan Normal University, Taipei, China, Taiwan
Jarmila Novotna, Charles University, Prague, The Czech Republic

P7: Andreas Dress, University of Bielefeld, Germany:
“Structure formation in nature as a topic of mathematics”

P8: Ferdinando Arzarello, University of Torino, Italy:
“Mathematical landscapes and their inhabitants: perceptions, languages, theories”

After the lectures by Hyman Bass, Anna Sfard, Jill Adler, Andreas Dress, and Ferdinando Arzarello there will be an opportunity for participants to meet and discuss with the lecturers in the timeslot of the next Regular Lecture.

ICMI Awards

The Executive Committee of the International Commission on Mathematical Instruction (ICMI) has decided to create two new awards in mathematics education research:
- The Hans Freudenthal Award, for a major programme of research on mathematics education during the past 10 years.
- The Felix Klein Award, for lifelong achievement in mathematics education research.

These awards will consist of a certificate and a medal, and they will be accompanied by a citation. They should have a character similar to that of a university honorary degree, and they shall be given in each odd numbered year. At each ICME, the medals and certificates of the awards given after the previous ICME will be presented at the Opening Ceremony.

At the end of 2003 the inaugural recipients of the Freudenthal and Klein awards will be announced; these awards will formally be presented at the opening of ICME-10.
ICME-10 Survey Teams

As an innovative feature of ICME-10, five ICME-10 Survey Teams (ST) have been appointed. Each team will work until the congress to survey the state-of-the-art with respect to a certain theme or issue, with particular regard to identifying and characterising important new knowledge, recent developments, new perspectives, and emergent issues. The outcomes of the work of each ST will be presented in a plenary (ST1 and 3) or in a regular lecture (ST2, 4 and 5) at the congress. The creation of these teams is intended to strengthen the emphasis on new developments and progress in the area of each theme or issue since the latest ICMEs. The themes are:

ST 1: The relations between research and practice in mathematics education
Team Chair: Anna Sfard, University of Haifa, Israel, sfard@netvision.net.il
Team Members: Yoshihiko Hashimoto, Yokohama National University, Japan
Gelsa Knijnik, University of Vale do Rios dos Sinos, Porta Alegre, Brazil
Aline Robert, IUFM de Versailles, Versaille, France
Ole Skovsmose, Aalborg University, Denmark

ST 2: Reasoning, proof, and proving in mathematics education
Team Chair: Maria Alessandra Mariotti, University of Pisa, Italy, mariotti@dm.unipi.it
Team Members: Celia Hoyles, Institute of Education, London, United Kingdom
Hans Niels Jahnke, University of Duisburg-Essen, Essen, Germany
A. S. Mishchenko, Moscow State University, Russia
Ren, Zizhao, National Education Examinations Authority, Beijing, China

ST 3: The professional development of mathematics teachers
Team Chair: Jill Adler, University of the Witwatersrand, Johannesburg, South Africa, adlerJ@educ.wits.ac.za
Team Members: Deborah Ball, University of Michigan, Ann Arbor, USA
Konrad Krainer, Interuniversity Department of Interdisciplinary Research and Further Education, Klagenfurt, Austria
Lin, Fou-Lai, National Taiwan Normal University, Taipei, Taiwan, Republic of China
Jarmila Novotna, Charles University, Praha, The Czech Republic

ST 4: The shaping of mathematics education through testing
Team Chair: Christine Keitel-Kreidt, Free University of Berlin, Germany, keitel@zedat.fu-berlin.de
Team Members: Antoine Bodin, University of France Comté-IREM, Ormns, France
David Clarke, University of Melbourne, Australia
Kyunghee Park, Hongik University, Seoul, Korea
Bill Schmidt, Michigan State University, East Lansing, USA

ST 5: Information and communication technology in mathematics education
Team Chair: Frederick Leung, University of Hong Kong, China – Hong Kong, hraslks@hkucc.hk / frederickl@lessonlab.com
Team Members: Colette Laborde, University of Grenoble, France
Thomas Lingefjärd, University of Gothenburg, Sweden
Teresa Rojano, CINVESTAV, Mexico
Jeremy Roschelle, SRI International, Menlo Park, USA
Regular Lectures

There are five time slots for regular lectures in the congress timetable, each with approximately 16 regular lectures running in parallels. The regular lectures will all be given by prominent mathematics educators from different parts of the world who have been invited by the IPC. The lectures will cover a wide spectrum of topics, themes, and issues. The list below contains the names in alphabetic order of those who have already accepted the invitation. The list will be updated on the web site and will eventually also include titles and abstracts. Please check the web site for details.

Karoline Afamasaga-Fuatai, Samoa  
Jin Akiyama, Japan  
Dimitri Anosov, Russia  
Mike Askew, United Kingdom  
Deborah L. Ball, USA  
Carmen Batanero, Spain  
Nadine Bednarez, Canada  
Christer Bergsten, Sweden  
Albrecht Beutelspacher, Germany  
Rolf Biehler, Germany  
Werner Blum, Germany  
Jo Boaler, USA  
Cinzia Bonotto, Italy  
Jonathan Borwein, Canada  
Margarida de Piedade da Silva César, Portugal  
Maria Luiza Cestari, Norway  
Louis Charbonneau, Canada  
Cho, Sungje, Korea  
Doug Clarke, Australia  
Jean-Luc Dorier, France  
Willibald Dorfler, Austria  
Raymond Duval, France  
Paula Ensor, South Africa  
Peter Galbraith, Australia  
Anthony Gardiner, United Kingdom  
Rossella Garuti, Italy  
Daniel Goroff, USA  
Koeno Gravemeijer, The Netherlands  
Dominique Guin, France  
Miguel de Guzmán, Spain  
Vagn Lundsgaard Hansen, Denmark  
Patricio Herbst, USA  
Rina Hershkowitz, Israel  
Geoffrey Howson, United Kingdom  
Shigeru Iitaka, Japan  
Victor Katz, USA  
Berinderjeet Kaur, Singapore  
Christine Keitel-Kreidt, Germany  
(on behalf of Survey Team 4)  
Christoph Körkel, Norway  
Anna Kristjánsdóttir, Norway/Iceland  
Pekka Kupari, Finland  
Lee, Ngaan Hoe, Singapore  
Frederick Leung, China – Hong Kong  
(on behalf of Survey Team 5)  
Romulo Lins, Brazil  
Liu, Yizhu, China  
Salvador Llaures Ciscar, Spain  
Liping Ma, USA  
Carolyn Maher, USA  
Nicolina Malara, Italy  
Maria Alessandra Mariotti, Italy,  
(on behalf of Survey Team 2)  
John Mason, United Kingdom  
Mike Mitchelmore, Australia  
K. Subramaniam, India  
Masahiko Suzuki, Japan  
Juliana Szendrei, Hungary  
Mike O. J. Thomas, New Zealand  
Renuka Vithal, South Africa  
Jane Watson, Australia  
Wong, Ngai-ying, China – Hong Kong  
Woo, Jeong-Ho, Korea  
Zhang, Dianzhou and Dai, Zaiping, China  
Judy Mousley, Australia  
Eric Müller, Canada  
Richard Noss, United Kingdom  
Park, Han Shick and Shin, Hyunyong, Korea  
Erkki Pehkonen, Finland  
David Pimm, Canada  
Vladimir Protasov and Igor Sharygin, Russia  
Luis Puig, Spain  
Alexander I. Samoylovsky, Russia  
Alan Schoenfeld, USA  
Zbigniew Semadeni, Poland  
Mamokgethi Setati, South Africa  
Evgeny Shchepin, Russia  
Michaela Singer, Romania  
Ole Skovsmose, Denmark  
Vera W. de Spinadel, Argentina  
Heinz Steinbring, Germany  
Gilbert Strang, USA  
K. Subramaniam, India  
Masaiko Suzuki, Japan  
Juliana Szendrei, Hungary  
Mike O. J. Thomas, New Zealand  
Renuka Vithal, South Africa  
Jane Watson, Australia  
Wong, Ngai-ying, China – Hong Kong  
Woo, Jeong-Ho, Korea  
Zhang, Dianzhou and Dai, Zaiping, China
Topic Study Groups

As the name suggests, a Topic Study Group is designed to gather a group of congress participants who are interested in a particular topic in mathematics education. The word ‘study’ suggests that the activities of the groups will include presentations and discussions of important new trends and developments in research or practice related to the topic under consideration. Each TSG will be organised by a team of five prominent experts in the field. Two chairs have been appointed for each team. They are listed below with e-mail addresses. The teams will be announced at the web site as soon as they are complete. The purpose of the TSGs is to provide both an overview of the current state-of-the-art in the topic, and expositions of outstanding recent contributions to it, as seen from an international perspective. By their very nature, some of the topics are focused more on research than on practice. For others the opposite will be the case, whereas several topics will have a fairly equal balance of the two.

To some extent, a number of the topics in the list for the Topic Study Groups have mutual overlaps with other topics. Even so, each topic has a well-defined and specific ‘centre of gravity’ that makes it clearly discernible from the others in the list.

The list of topics is organised into four clusters. The first cluster, TSG 1-7, consists of Topic Study Groups that focus on the target groups of mathematics teaching as reflected in educational levels and special categories of students. The next cluster, TSG 8-21, focuses on matters and issues pertaining to content-related aspects of mathematics curricula, across educational levels, and to teaching and learning in relation to those aspects. The cluster formed by TSG 22-27 deals with the overarching perspectives and facets of mathematics education that are present across different educational levels and different curricula. Finally, TSG 28-29 are the groups in which meta-issues concerning mathematics education itself, as a field of practice and a discipline of research, are the focus of attention.

The TSGs will have three one-hour timeslots and one ninety-minutes timeslot in the congress timetable at their disposal. TSG participants are expected to stay with their group throughout the four sessions. Each TSG organising team will have the responsibility of updating the web site linked to the congress web site. On this site it will be possible to follow the planning process and eventually access all relevant documents including the timetable for TSG sessions. Participants who would like to present papers in a TSG are requested to communicate with the team chairs. The TSG teams are responsible for establishing a scheme for paper presentation by distribution. See “How to contribute” page 5. Typically proposals should be put forward before January 1, but specific guidelines, if such apply, will be made available on the web site.

TSG 1: New development and trends in mathematics education at pre-school and primary level
Team Chairs: Graham Jones, Griffith University, Gold Coast, Australia, jones@ilstu.edu
  Sally Peters, University of Waikato, Hamilton, New Zealand, speters@waikato.ac.nz

TSG 2: New development and trends in mathematics education at secondary level
Team Chairs: Dirk de Bock, Catholic University of Leuven, Belgium, dirk.debock@avl.kuleuven.ac.be
  Masami Isoda, University of Tsukuba, Japan, misioda@human.tsukuba.ac.jp

TSG 3: New developments and trends in mathematics education at tertiary levels
Team Chairs: Derek Holton, University of Otago, Dunedin, New Zealand, dholton@maths.otago.ac.nz
  Rina Zazkis, Simon Fraser University, Burnaby, Canada, zazkis@sfu.ca

TSG 4: Activities and programmes for gifted students
Team Chairs: Ed Barbeau, University of Toronto, Canada, barbeau@math.utoronto.ca
  Hyungyong Shin, Korea National University of Education, Chungbuk, Korea, shin@knu.ac.kr

TSG 5: Activities and programmes for Students with special needs
Team Chairs: Sinikka Huhtala, Helsinki City College of Social and Health Care, Finland, sinikka.huhtala@edu.hel.fi
  Petra Scherer, University of Bielefeld, Germany, scherer@mathematik.uni-bielefeld.de

TSG 6: Adult and life-long mathematics education
Team Chairs: Tine Wedege, Roskilde University, Denmark, tiv@ruc.dk
  Jeff Evans, Middlesex University Business School, London, United Kingdom, j.evans@mdx.ac.uk

TSG 7: Mathematics education in and for work
Team Chairs: Henk van der Kooij, The Freudenthal Institute, Utrecht, The Netherlands, h.vanderkooij@fi.uu.nl
  Rudolf Strässer, Luleå Technical University, Sweden, rudolf@sm.luth.se

TSG 8: Research and development in the teaching and learning of number and arithmetic
Team Chairs: Jula Angblier, University of Cambridge, United Kingdom, jea28@cus.cam.ac.uk
  Lieven Verschaffel, Catholic University of Leuven, Belgium, lieven.verschaffel@ped.kuleuven.ac.be

TSG 9: Research and development in the teaching and learning of algebra
Team Chairs: Daniel Chazan, University of Maryland, College Park, USA, dc278@imap.umail.umd.edu
  Eugeno Filloy Yague, CINVESTAV, Mexico City, Mexico, smmeef@aol.com
TSG 10: Research and development in the teaching and learning of geometry
Team Chairs: Iman Osta, Lebanese American University, Beirut, Lebanon, iman.osta@lau.edu.lb
Harry Silferberg, University of Tampere, Finland, harry.silferberg@uta.fi

TSG 11: Research and development in the teaching and learning of probability and statistics
Team Chairs: Li Jun, East China Normal University, Shanghai, China, lijun@math.ecnu.edu.cn; cn_sg@yahoo.com
Joseph M. Wisenbaker, University of Georgia, Athens, USA, joe@coe.uga.edu

TSG 12: Research and development in the teaching and learning of calculus
Team Chairs: Johan Lithner, Umeå University, Sweden, johan.lithner@math.umu.se
Maggie Schneider, FUNDP, Namur, Belgium, maggy.schneider@fundp.ac.be

TSG 13: Research and development in the teaching and learning of advanced mathematical topics
Team Chairs: Stephen Hegedus, University of Massachusetts – Dartmouth, USA, shegedus@umassd.edu
Caroline Lajoie, University of Québec at Montréal, Canada, lajoie.caroline@uqam.ca

TSG 14: Innovative approaches to the teaching of mathematics
Team Chairs: Claudio Alsina, Technical University of Catalonia, Barcelona, Spain, claudio.alsina@upc.es; dgu.dursi@gencat.net
Anne Watson, University of Oxford, United Kingdom, anne.watson@educational-studies.oxford.ac.uk

TSG 15: The role and use of technology in the teaching and learning of mathematics
Team Chairs: Lulu Healy, Pontifical Catholic University of São Paulo, Brazil, lulu@pucsp.br
Jan Kaput, University of Massachusetts – Dartmouth, USA, jkaput@umassd.edu

TSG 16: Visualisation in the teaching and learning of mathematics
Team Chairs: Gerald Goldin, Rutgers University, Piscataway USA, ggoldin@dimacs.rutgers.edu
Walter Whiteley, York University, Toronto, Canada, whiteley@mathstat.yorku.ca

TSG 17: The role of the history of mathematics in mathematics education
Team Chairs: Man-kwong Siu, University of Hong Kong, China – Hong Kong, mathsiu@hkuce.hku.hk
Costas Tzanakis, University of Crete, Greece, tzanakis@edc.uoc.gr

TSG 18: Problem solving in mathematics education
Team Chairs: Jinfai Cai, University of Delaware, Newark, USA, jcai@math.udel.edu
Joanna Mamona, Universidad de Macedonia, Thessaloniki, Greece, mamona@uom.gr

TSG 19: Reasoning, proof and proving in mathematics education
Team Chairs: Guershon Harel, University of California, San Diego, USA, harel@math.ucsd.edu
Sri Wahyuni, Gadjah Mada University, Yogyarkata, Indonesia, swahyuni@indosat.net.id

TSG 20: Mathematical applications and modelling in the teaching and learning of mathematics
Team Chairs: S. K. Houston, University of Ulster, Jordanstown, Northern Ireland, sk.houston@ulster.ac.uk
Shan-Zhi Wang, Capital Normal University, Beijing, China, wsz@mail.cnu.edu.cn

TSG 21: Relations between mathematics and other subjects of art and science
Team Chairs: Marta Anaya, University of Buenos Aires, Argentina, manaya@fi.uba.ar
Claus Michelsen, SDU-Odense University, Denmark, claus.michelsen@dig.sdu.dk

TSG 22: Learning and cognition in mathematics: Students’ formation of mathematical conceptions, notion, strategies and beliefs
Team Chairs: Terezinha Nunes, Oxford Brookes University, Oxford, United Kingdom, tnunes@brookes.ac.uk
Dina Tirosh, Tel Aviv University, Israel, dina@post.tau.ac.il

TSG 23: Education, professional life and development of mathematics teachers
Team Chairs: Milan Hejny, Charles University of Prague, The Czech Republic, milan.hejny@pedf.cuni.cz
Barbara Jaworski, Agder University College, Kristiansand, Norway, barbara.jaworski@hia.no

TSG 24: Students’ motivation and attitudes towards mathematics and its study
Team Chairs: Philip C. Clarkson, Australian Catholic University, Fitzroy, Australia, p.clarkson@patrick.acu.edu.au
Markku Hannula, University of Turku, Espoo, Finland, markku.hannula@zpg.fi

TSG 25: Language and communication in mathematics education
Team Chairs: Norma Presmeg, Illinois State University, Normal, USA, npresmeg@math.ilstu.edu; npresmeg@msm.com
Siegbert Schmidt, University of Cologne, Germany, siegbert.schmidt@uni-koeln.de

TSG 26: Gender and mathematics education
Team Chairs: Liv Sissel Gronno, University of Oslo, Norway, l.s.gronno@ils.uio.no
Hanako Senuma, National Institute of Educational Research, Tokyo, Japan, hanako@nier.go.jp

TSG 27: Research and development in assessment and testing in mathematics education
Team Chairs: Marja van den Heuvel-Panhuizen, University of Utrecht, The Netherlands, m.vandenheuvel@f.uu.nl
Tom Romberg, University of Wisconsin, Madison, USA, tromberg@facstaff.wisc.edu

TSG 28: New trends in mathematics education as a discipline
Team Chairs: Tommy Dreyfus, Tel Aviv University, Israel, tommyd@post.tau.ac.il
Dominic Paola, Liceo Scientifico “A. Issel”, Alessio, Italy, domingop.daola@tin.it

TSG 29: The history of the teaching and the learning of mathematics
Team Chairs: Gert Schubring, University of Bielefeld, Germany, gert.schubring@uni-bielefeld.de
Yasuhiro Sekiguchi, Yamaguchi University, Japan, ysekigch@yamaguchi-u.ac.jp
Discussion Groups

As their name suggests, the Discussion Groups are designed to gather congress participants who are interested in discussing, in a genuinely interactive way, certain challenging or controversial issues and dilemmas – of a substantial, non-rhetorical nature – pertaining to the theme of the DG. The organisers will identify more specific issues and questions for the DG, and participants in the group will be invited to propose responses to the issues thus raised, including answers to specific questions and possibly recommendations to relevant categories of policy or decision makers. There will be no oral presentations in a DG, except introductions by the organisers of the group to provide the background and framework for the discussion. Information or position papers are expected to be made available to group participants electronically through a web site forming part of the congress web site, in due time before the congress. Each DG will be allotted two two-hour and one one-hour timeslots. DG participants are expected to stay with their group throughout the three sessions.

DG 1: Movements, processes, and policy in curriculum reform
What are the forces that drive or inhibit curriculum reform, and what are the instruments for reform? How do we know whether reform is progress? How do the various agents responsible for mathematics education policy interact?
Team Chairs:
Zalman Usiskin, University of Chicago, USA, z-usiskin@uchicago.edu
Huang Xiang, Chongqing Normal University, China, hx@cqnu.edu.cn

DG 2: The relationship between research and practice in mathematics education
Can we or should we expect results that can be generalised from mathematics education research? How can we ensure that such research is useful and relevant to practitioners in the field? What are the ultimate goals of mathematics education research? What are the forces that shape and influence the evolution of mathematics education research? What are the forces that prevent mathematics teachers from benefiting adequately from research?
Team Chairs:
Luciana Bazzini, University of Turin, Italy, luciana.bazzini@unito.it
Ken Ruthven, University of Cambridge, United Kingdom, kr18@cam.ac.uk

DG 3: Mathematics education for whom and why?
The balance between ‘mathematics education for all’ and ‘for high level mathematical activity’.
Who should receive what kinds of mathematics education, why, and with what goals? Is the dichotomy in the title a genuine one? How can ‘mathematics education for all’ embrace opportunities for high mathematical achievement? How can instructional practices support the development of highly motivated mathematics learners as well as mathematics education for all? Is there sometimes a tendency to tacitly say ‘what not everyone can learn, nobody should learn’? What is the future of mathematics as an education subject in a changing world dominated by technology? Is more better, or ...? What is mathematical literacy?
Team Chairs:
Martha Villavicencio, Ministry of Education, Lima, Peru, villavicencio.mrf@pucp.edu.pe
Lena Lindenskov, Danish University of Education, Copenhagen, Denmark, lenali@dpu.dk

DG 4: Philosophy of mathematics education
What is the significance of philosophy of mathematics education? To what extent are the authorities of mathematics education implicitly or explicitly influenced by ‘recognisable’ philosophies of mathematics education? What are the relations between philosophy of mathematics education and other kinds of philosophies, such as educational philosophy, philosophy of mathematics, social philosophy, etc.? In what ways do different philosophies of mathematics education influence its theory and practice?
Team Chairs:
Bill Higginson, Queen’s University, Kingston, Canada, higginsw@educ.queensu.ca
Maria Viggiù-Bicudo, UNESP, Rio Claro, Brazil, mariabicudo@uol.com.br

DG 5: International co-operation in mathematics education
What are the goals of international co-operation? Should co-operation be global or regional? What forms could such co-operation take, and how could it be organised and implemented? What are the barriers to international co-operation? Is there a danger that international co-operation may lead to excessive homogenisation of mathematics education?
Team Chairs:
Bill Atweh, Queensland University of Technology, Brisbane, Australia, b.atweh@qut.edu.au
Paolo Boero, University of Genova, Italy, boero@dima.unige.it
DG 6: The education of mathematics teachers
What would be an appropriate balance between the main components of teacher education – e.g. mathematical, educational, and pedagogical components – for different educational levels? In particular, what mathematical competencies should different kinds of teachers have? What are the advantages and disadvantages of teachers being educated predominantly as generalists with some mathematical background, or primarily in mathematics with separate educational and pedagogical components being added, or in an integrated manner? How should research on the teaching and learning of mathematics be dealt with in teacher education?

Team Chairs:
Claire Margolinas, IUFM d’Auvergne, Clermont-Ferrand, France, cmargolinas@uavergne.uifm.fr
Derek Woodrow, Manchester Metropolitan University, United Kingdom, d.woodrow@mmu.ac.uk

DG 7: Public understanding of mathematics and mathematics education
What are the problems associated with the prevalent public understanding of the nature, significance, and role of mathematics in culture and society? Does the general public have adequate perceptions of the nature of mathematical literacy, knowledge and competence and of what it means and takes to learn mathematics? What can we, in the mathematics education community, do to effectively counteract these problems? To what extent are attempts to popularize mathematics helpful in these respects? Can they be counter-productive?

Team Chairs:
Chris J. Budd, University of Bath, United Kingdom, cjb@maths.bath.ac.uk
Lim Chap Sam, Malaysia University of Science, Penang, Malaysia, cslim@usm.my

DG 8: Quality and relevance in mathematics education research
What are appropriate criteria for quality and relevance, respectively, in mathematics education research? In actual practice, where and by whom are such criteria established? Are there potential conflicts between the pursuit of quality and the pursuit of relevance in such research? How can criteria be established that pay due respect to the diversity of approaches to mathematics education research?

Team Chairs:
Margaret Brown, King’s College London, United Kingdom, margaret.l.brown@kcl.ac.uk
Rosetta Zan, University of Pisa, Italy, zan@dm.unipi.it

DG 9: Formation of researchers in mathematics education
What academic and professional backgrounds should individuals admitted to graduate studies aiming at mathematics education research have? What is an appropriate balance between course work and work for and on the dissertation? To what extent should research students obtain experiences from institutions abroad? Is international harmonisation of the formation of researchers in mathematics education a desirable goal?

Team Chairs:
Gliah Leder, La Trobe University, Bundooora, Australia, g.leder@latrobe.edu.au
Luis Rico Romero, University of Granada, Spain, lrico@gioliat.ugr.es

DG 10: Different perspectives, positions, and approaches in mathematics education research
To what extent are the different perspectives, positions, and approaches that exist in mathematics education research mutually antagonistic? How can such different ‘schools of thought’ learn from one another? Are there fashion waves in mathematics education research, and, if so, what are the implications?

DG 11: International comparisons in mathematics education
Do international comparisons of performance and achievement tend to produce excessive uniformity across countries with respect to curricula, teaching materials, approaches to teaching and learning, and assessment modes? How do international comparisons influence, for better or for worse, national traditions, values, cultures and approaches to mathematics education? How can international comparisons foster and further national development in mathematics education?

Team Chairs:
Bao, Jiasheng, Suzhou University, China, jsbaod325@yahoo.co.uk
Michael Neubrand, University of Flensburg, Germany, neubrand@uni-flensburg.de

DG 12: Assessment and testing shaping education, for better and for worse
Are current assessment and testing modes and instruments compatible with today’s goals and aims of mathematics education? How do these modes and instruments influence the teaching and learning of mathematics? How much is too much in assessment and testing? Do the costs of testing match the positive results? What is the balance of positive and negative outcomes of testing? How can assessment and testing be devised and organised so as to serve as means to develop and strengthen the teaching and learning of mathematics? What are the barriers to the adoption of innovative modes of assessment and testing?

Team Chairs:
Glenda Lappan, Michigan State University, East Lansing, USA, glappan@math.msu.edu
Dylan Wiliam, King’s College London, United Kingdom, dylan.wiliam@kcl.ac.uk

DG 13: Evaluation of teachers, curricula, and systems
How do current requirements for increased accountability in education, and the ensuing trends of widespread evaluation of teachers, curricula, and systems, influence the teaching and learning of mathematics, as well as teachers and learners? What forms of such evaluation can further and accelerate the development of mathematics education rather than distort it?

Team Chairs:
Claude Gaulin, Laval University, Quebec, Canada, claude.gaulin@fse.ulaval.ca
Max Stephens, University of Melbourne, Victoria, Australia, m.stephens@unimelb.edu.au

DG 14: Mathematics textbooks
To what extents do mathematics textbooks shape the actual teaching and learning of mathematics, for better or worse? What is the balance between textbook impact and that of other forces, e.g. curricula and assessment, which influence mathematics teaching? What are the interests and forces that drive the publication and adoption of textbooks in different countries? Who are the authors of mathematics textbooks in different countries, and what are their backgrounds?

Team Chairs:
Fan, Lianghui, National Institute of Education, Singapore, lhfan@nie.edu.sg
Stefan Turnau, Rzeszow University, Poland, sturnau@atena.univ.rzeszow.pl
DG 15: Ethnomathematics
What is the relationship between ethnomathematics, mathematics and anthropology and the politics of mathematics education? What evidence is there, and how do we get more, that school programmes incorporating ethnomathematical ideas succeed in achieving their (ethnomathematical) aims? What are the implications of existing ethnomathematical studies for mathematics and mathematics education? What is the relationship of different languages (or other cultural features) to the production of different mathematics?
Team Chairs:
Franco Favilli, University of Pisa, Italy, favilli@dm.unipi.it
Abdulcarimmo Ismael, Pedagogical University, Maputo, Mozambique, abdulcarimoismael@hotmail.com

DG 16: The role of mathematical competitions in mathematics education
Do mathematical competitions contribute to widening the gap between ‘mathematics for all’ and ‘mathematics for the elite’, or can the opposite be the case? How can competitions motivate and foster mathematical creativity with students at large? To what extent do problems typically set in mathematical competitions adequately reflect the variety and richness of mathematical activity in problem solving? What should the relations be between competitions and mathematics education?
Team Chairs:
André Deledicq, University of Paris VII, France, adeledicq@wanadoo.fr
Peter Taylor, University of Canberra, Australia, pjt@amt.canberra.edu.au

DG 17: Current problems and challenges in pre-school mathematics education
To what extent is it desirable to expose pre-school children to structured or institutionalised mathematics teaching? What are the most important current problems, issues and challenges pertaining to the mathematical education of pre-school children?
Team Chairs:
Ann Anderson, University of British Columbia, Vancouver, Canada, anders@interchange.ubc.ca
Robert D. Speiser, Brigham Young University, Provo, USA, speiser@mathed.byu.edu

DG 18: Current problems and challenges in primary mathematics education
What are the most important current problems and challenges pertaining to the teaching and learning of mathematics at the primary level and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Giancarlo Navarra, University of Modena and R. Emilia, Italy, gnavara@unimya.it
Catherine P. Vistro-Yu, Ateneo de Manila University, The Philippines, cvistro-yu@ateneo.edu

DG 19: Current problems and challenges in lower secondary mathematics education
What are the most important current problems and challenges pertaining to the teaching and learning of mathematics at the lower secondary level and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Maryvonne Le Berre, IREM of Lyon, France, leberre.maryvonne@free.fr
Gard Brekke, Telemark University College, Notodden, Norway, gard.brekke@hit.no

DG 20: Current problems and challenges in upper secondary mathematics education
What are the most important current problems and challenges pertaining to the teaching and learning of mathematics at the upper secondary level and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Olive Chapman, University of Calgary, Alberta, Canada, chapman@ucalgary.ca
Ornella Robutti, University of Torino, Italy, ornella.robutti@unito.it

DG 21: Current problems and challenges in non-university tertiary mathematics education
What are the most important current problems and challenges pertaining to the teaching and learning of mathematics at the non-university tertiary level and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Sergiy Klymchuk, Auckland University of Technology, New Zealand, sergiy.klymchuk@aut.ac.nz
Marilyn Mays, North Lake College, Irving, USA, memays@dcccd.edu

DG 22: Current problems and challenges concerning students with special needs
What are the most important current problems and challenges pertaining to the teaching and learning of mathematics for students with special needs and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Ann Geravoni, Australian Catholic University, Ballarat, Australia, a.geravoni@acuina.acu.edu.au
Jens Holger Lorenz, University of Education, Frankfurt, Germany, lorenz_jens@phil-ludwigsburg.de

DG 23: Current problems and challenges in distance teaching and learning
What are the most important current problems and challenges pertaining to distance teaching and learning of mathematics and where are they located? Are there issues or dilemmas of a controversial nature? How should these problems, issues and challenges be dealt with?
Team Chairs:
Alexander Afanasiev, The Russian Academy of Science, Moscow, Russia, apa@isa.ru
Nerida Ellerton, Illinois State University, Normal, USA, nellert@ilstu.edu
During one afternoon, the scientific programme will be organised into five overarching themes of general interest to mathematics educators. The themes, which will run in parallel, will take the shape of mini-conferences, comprising both sub-themes that focus on research and development, and sub-themes that focus on issues and problems. The sub-themes will be scheduled in parallel, but structured in such a way that participants may, if they so want, move between the sub-themes at various times. Organising teams of five prominent experts have been appointed by the IPC. Their chairs are listed below with e-mail addresses. The teams which are announced at the web site will take care of the subsequent organisation of their theme in the Thematic Afternoon. The TA teams are responsible for establishing a scheme for paper presentation by distribution, see “How to contribute” page 6. The planning process of the particular themes can be followed through the congress web site.

The themes are:

A. Teachers of mathematics: Recruitment and retention, professional development and identity
   - Recruitment, supply and retention of mathematics teachers
   - Pre- and in-service education of mathematics teachers
   - Mathematics teachers’ identity – their views on, and how they position themselves in relation to, mathematics, teaching and learning
   - The mathematical competencies of teachers

Team Chairs: Glenda Anthony, Massey University, New Zealand, g.j.anthony@massey.ac.nz
Mellony Graven, University of the Witwatersrand, Johannesburg, South Africa, gravenm@educ.wits.ac.za

B. Mathematics education in society and culture
   - Multilingual and multicultural classrooms: Increasing diversity
   - Mathematics education within and across different cultures and traditions
   - Social and political contexts for mathematics education
   - Equity in mathematics education: Culture, gender, and social class

Team Chairs: Alan Bishop, Monash University, Australia, alan.bishop@education.monash.edu.au
Pedro Gómez, University of Los Andes, Bogotá, Colombia, p.t. Spain, pgomez@valnet.es

C. Mathematics and mathematics education
   - Trends in the mathematical sciences and their influence on mathematics education
   - The role of research mathematicians in mathematics education
   - New and old mathematical topics, and the balances between them, in mathematics curricula
   - The mathematics educator: Mathematician or pedagogue?

Team Chairs: Jean-Pierre Bourguignon, IHÉS, Bures-sur-Yvette, France, jpb@daphne.math.polytechnique.fr
Fritz Schweiger, University of Salzburg, Austria, fritz.schweiger@sbg.ac.at

D. Technology in mathematics education
   - New developments in information and communication technology for mathematics education
   - Advantages and pitfalls concerning technology in mathematics education
   - The Internet and mathematics education: Accessibility, use and misuse
   - Technology in distance teaching and learning

Team Chairs: Paul Drijvers, The Freudenthal Institute, Utrecht, The Netherlands, p.drijvers@fi.uu.nl
Kaye Stacey, University of Melbourne, Australia, k.stacey@unimelb.edu.au

E. Perspectives on research in mathematics education from other disciplines
   - The perspective of psychology and cognitive science in research in mathematics education
   - The perspective of philosophy in research in mathematics education
   - The perspective of anthropology and sociology in research in mathematics education
   - The perspective of general education in research in mathematics education

Team Chairs: Brent Davis, University of Alberta, Canada, brent.davis@ualberta.ca
Paul Ernest, University of Exeter, United Kingdom, p.ernest@exeter.ac.uk
**National Presentations**

A national presentation is an activity during which representatives of a given country will make a presentation on the state of and trends in mathematics education in that country. An exhibition, video shows, cd-roms and so forth may accompany a national presentation. ICME-10 will have a combination of regional and national presentations of mathematics education in the Nordic countries, Denmark, Finland, Iceland, Norway, and Sweden. Korea, Mexico, Romania, and Russia will also make national presentations.

**Workshops**

Please consult the section “How to contribute to the scientific programme” on page 6. Submission of proposals must be directed to Mogens Niss, Chair of the IPC, and sent to the Congress Secretariat, see page 3. If possible please send proposals electronically through the form available at www.ICME-10.dk. In the case of no access to the Internet please use the standard form on page 27.

**Sharing Experiences Groups**

Please consult the section “How to contribute to the scientific programme” on page 6. Submission of proposals must be directed to Mogens Niss, Chair of the IPC, and sent to the Congress Secretariat, see page 3. If possible please send proposals electronically through the form available at www.ICME-10.dk. In the case of no access to the Internet please use the standard form on page 27.

**Posters**

Please consult the section “How to contribute to the scientific programme” on page 6. Submission of abstracts must be directed to Mogens Niss, Chair of the IPC, and sent to the Congress Secretariat, see page 3. If possible, please send proposals electronically through the form available at www.ICME-10.dk. In the case of no access to the Internet please use the standard form on page 27.

**Grants for participants from non-affluent countries**

It is one of the aims of the ICME congresses to have a balanced representation from all over the world among the presenters as well as among the general participants. In order to achieve this goal ICMI has instigated a general policy of forming a solidarity fund established by setting aside 10% of the registration fees for grants. These grants assist delegates from non-affluent countries to attend the ICMEs.

An autonomous and anonymous Grants Committee will distribute the funds amongst the successful applicants. Priority will be given to applicants from non-affluent countries who contribute to the scientific programme and to participants who are expected to be the only representative from their part of the world.

Grants will be given as partial support to registration fee, accommodation, meals and/or travel costs. All potential applicants are advised to apply for funding from other sources as well.

**Application for an ICME-10 grant**

Participants who consider themselves eligible for an ICME-10 grant are encouraged to send a grant application to the Congress Secretariat, ICME@congress-consult.com if access to the Internet is available. Applications may also be directed to the Congress Secretariat by post to Congress Consultants Martensens Alle 8 DK-1828 Frederiksberg C Denmark

Applications should be sent as soon as possible and no later the February 15, 2004. Applications should include the following information in no more than 500 words:

1. Personal and professional information
2. Description of the applicant’s intended contribution to ICME-10
3. Possible dissemination of the congress outcomes in his/her country/local environment
4. Financial assistance anticipated from other sources and an estimate of possible own payment.

Applicants will be informed of the Grants Committee’s decision as soon as possible and no later than March 1, 2004.
Official meetings, special sessions and other activities

General Assembly of ICMI
will be held Friday July 9, 19.30-21.00

ICMI Studies
There will be report sessions for three recent or almost complete ICMI-Studies, namely, ICMI-study 12; The Future of the Teaching and Learning of Algebra
ICMI-study 13: Mathematics Education in Different Cultural Traditions: A Comparative Study of East Asia and the West
and ICMI-study 14: Applications and Modelling in Mathematics Education. Each study is allotted a two-hour timeslot.

ICMI Affiliated Study Groups
The five Affiliated Study Groups (ASG) officially affiliated to ICMI are allocated two one-hour and one two-hour timeslots for their meetings during ICME-10. In addition, they may want to make use of the meeting slots after happy hours.

The four ASGs are:

HPM (International Group for the Relations between the History and Pedagogy of Mathematics), www.mathedu.jp/hpm/index.htm
ICMTA (International Community of Teachers of Mathematical Modelling and Applications), www.infj.ulst.ac.uk/ictma/
PME (International Group for the Psychology of Mathematics Education), www.igpme.org

The HPM and PME satellite conferences will be held subsequent to ICME-10 on the following dates:
HPM, July 12-17 in Uppsala, Sweden, and
PME28, July 15-18 in Bergen, Norway.

Meetings
Groups and bodies within the community of mathematics education are invited to hold business meetings during the congress. Requests of such meetings should be sent to the Chair of the IPC, Mogens Niss, before January 1 with information regarding the estimated number of participants, number of proposed meetings (three at the most) and length (normally one hour) of the requested meeting slots. These meetings will take place after the happy hours.

Meeting for research students and young researchers
A seminar will be arranged by Young European Researchers in Mathematics Education (YERME) in the meeting slot on July 5. Young researchers and research students from all over the world are invited to take part in this meeting/seminar (“young” should be interpreted as “new to the field of research in mathematics education”). The seminar will address general questions related to the entrance to mathematics education research and introduce a Sharing Experiences Group on How to initiate and conduct a research project in mathematics education.

Newcomers
For participants who are attending an ICME for the first time, we offer a unique opportunity to be part of a small group of fellow newcomers during the congress. A couple of participants who have attended previous ICME-congresses will also be part of each group.

Please tick the Newcomer box on the registration form if you want to participate in a newcomers group. The first meeting will take place during the lunch break on the opening day.

If you have already attended one or several ICMEs and are willing to join a group of newcomers as a resource person, then please let us know by indicating your interest in an e-mail to the Chair of the NCC, Gerd Brandell, Gerd.Brandell@math.lth.se (see page 3 for postal address).

Mathematical Circus
As a part of a programme directed towards the general public, a mathematical circus will be arranged on campus during the congress days of ICME-10. The idea is that this should attract local families, teachers, participants and accompanying guests as a light-hearted and welcoming way of experiencing mathematical activities. The circus will be located on campus.

Late afternoons and evenings will be aimed at older children and adults. Mathematicians will be engaged to give popular talks aimed at a general audience.

We invite teachers from all countries to contribute and participate in the circus activities. These should be activities that have been tried out with students in class, at mathematics fairs or other events aimed at engaging the audience in active participation. In this way we will also have a chance to show how outdoor activities might be used as a tool for having fun while dealing with mathematics.
The Mathematical Circus is chaired by Ingvill Holden, Norway, and Vagn Lundsgaard Hansen, Denmark. Suggestions for circus activities and popular presentations of mathematics should be sent to Vagn Lundsgaard Hansen, V.L.Hansen@mat.dtu.dk, by December 1, 2003, at the latest. Further information can be found at www.ICME-10.dk.

Non-commercial exhibitions
In relation to the scientific programme the ICME-10 organisers invite proposals for non-commercial exhibitions. Such exhibitions may appear in a variety of different forms but should be of general interest to the mathematics education community. Examples of different types of non-commercial exhibitions could be: the work of teachers’ or researchers’ associations, developmental projects, manipulative materials, the work of institutions or centres, software, photos, videos, and cultural artefacts used for teaching, etc. The general criterion for the acceptance of a non-commercial exhibition is that the activity is not connected to profit making of any kind.

Proposals (max. one page) for non-commercial exhibitions should be directed to the Chair of IPC, Mogens Niss and sent to ICME@congress-consults.com or post to Congress Consultants Martensens Allé 8 DK-1828 Frederiksberg C Denmark preferably before February 15, 2004.

Commercial exhibitions
ICME-10 will include a significant commercial exhibition with displays of books, calculators, computers, software products and other materials relevant for mathematics education.

Requests for commercial exhibitions should be sent to ICME@congress-consults.com or by ordinary mail to Congress Consultants Martensens Allé 8 DK-1828 Frederiksberg C Denmark

Detailed information on prices and practical matters for both commercial and non-commercial exhibitions will be available at www.ICME-10.dk.

Social Programme

Cultural and social events will form part of the congress, and some activities will also be available before and after the congress. In addition to the excursion on Thursday, July 8, activities during the congress will take place in connection with the lunch breaks and the happy hours. Some of these activities have already been planned, such as ‘Walk and talk’ (guided walks in the neighbourhood of DTU), sports activities and mathematical walks in central Copenhagen. Other activities are still in the planning process.

The mathematical walks are:

Mathematical walk in the central parts of Copenhagen:
From the central railway station you will be guided through the old parts of Copenhagen. You will see mosaics in streets and on walls, churches and towers and many of the other attractions that Copenhagen has to offer. Your guides will be members of the Danish Association of Teachers of Mathematics.
Duration: three hours and, if you are interested, ending with a Danish lunch.

A visit to the Citadel of Copenhagen:
This guided tour round the Citadel of Copenhagen includes many of the spectacular sights surrounding the citadel. Your guides will be members of the Danish Association of Teachers of Mathematics.
Transportation: public bus service. A pamphlet in English on Denmark at war and about the citadel will be handed out to participants.
Duration: half a day.
Excursions

Thursday July 8, all participants are invited on a tour (included in the registration fee). All excursions aim at providing enjoyable settings for being together with colleagues and at the same time seeing some of the interesting attractions and aspects of Denmark and the Southern part of Sweden.

Transport time will not exceed 2½ hours for most excursions. Approximate transport time is indicated in cases when it is longer than 2½ hours.

The programme consists of 11 day-tours and 9 half-day tours. For all participants the excursion includes lunch.

Please indicate your choice of excursion on the registration form. Allocation of tours is based on a “first come first served” basis. All excursions may be subject to changes.

Day tours

1. **Kronborg.** Hamlet’s castle in Helsingore is one of the largest Renaissance castles of Northern Europe. *Culture.*
2. **Louisiana.** Museum of contemporary modern art, and in itself an architectural masterpiece, followed by a guided walk in the royal deer park north of Copenhagen. *Art and nature.*
3. **The Vikings in Roskilde.** The Roskilde Viking Ship Museum and the Cathedral of Roskilde, west of Copenhagen, where the Danish kings are buried. *History.*
4. **Viking sailing.** The Roskilde Viking Ship Museum and sailing in open Viking boats in the fjord of Roskilde, west of Copenhagen. *History and outdoor activity.*
5. **Lejre.** Archaeological experimental centre and Ledreborg Castle west of Copenhagen. *History and culture. Outdoor activity.*
7. **Skåne.** Tour in Österlen, South Scania, Sweden, with its many charming low white farmhouses and its special light which has inspired many artists. *Culture and nature.* 4 hours transport.
8. **The white cliffs of Møn.** The island of Møn with its high cliffs is of great geological interest and has many churches with beautiful medieval wall paintings. *Nature and culture. Outdoor activity.* 3½ hours transport.
9. **Odense.** Birthplace of Hans Christian Andersen and visit to Brandts Klædefabrik, Odense, which is an international centre for art and culture. *Culture.* 5 hours transport.
10. **Ecology and organic farming.** Visit to one of the country’s largest producers of organic vegetables. *Agriculture.*
11. **The Danish idea of A People’s College.** An international faculty teaches interdisciplinary and creative subjects to students from all over the world residing at the college. *Culture and education.*

Half-day tours

12. **Scandinavian design.** Walk in Copenhagen to the Danish Design Centre and the Royal Copenhagen Porcelain Factory.
13. **Royalty’s Copenhagen.** Walk in Copenhagen to different places and buildings that belong, or have belonged, to the Danish royal family.
14. **Copenhagen tourist tour.** Boat tour in the harbour and canals of Copenhagen, the little mermaid, the royal palace and the Danish house of parliament.
15. **Science.** The extraordinary Round Tower observatory, the Jens Olsen astronomical clock, Niels Bohr, Ole Romer, H. C. Ørsted.
16. **Another Copenhagen.** Walk in Copenhagen observing Danish everyday life and the non-tourist sights.
17. **Architecture.** Guided tour in Copenhagen of places and buildings of architectural interest.
18. **Copenhagen on your own** including a ticket to the Tivoli gardens.
19. **Mathematical walk in central Copenhagen** See description above.
20. **A visit to the Citadel of Copenhagen** See description above.

It will be possible to join tours no. 19 and 20 at various times during the congress.
Registration

On-line registration is available on the ICME-10 web site www.ICME-10.dk and participants are kindly requested to register on-line, or on the attached registration form (page 26). Registration is valid only when accompanied by confirmation of payment. Payment is possible only in Danish Kroner (DKK) or Euro. The Euro amount shown is calculated on the basis of the exchange rate at the time of publication. However, the currencies are subject to minor fluctuations.

<table>
<thead>
<tr>
<th>Registration fees:</th>
<th>DKK</th>
<th>Approx €</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Feb. 28, 2004</td>
<td>3.100</td>
<td>418</td>
</tr>
<tr>
<td>Before May 31, 2004</td>
<td>3.600</td>
<td>486</td>
</tr>
<tr>
<td>After June 1, 2004</td>
<td>4.100</td>
<td>553</td>
</tr>
<tr>
<td>Accompanying persons</td>
<td>1.100</td>
<td>149</td>
</tr>
</tbody>
</table>

Entitlements
Included in the registration fee:

Participants
Final programme and abstract book (upon arrival). Admission to all scientific sessions, admission to public transport between city centre and venue, social arrangements including happy hours, and one chosen excursion including lunch (see page 20). Congress proceedings when published.

A 10% contribution to the solidarity fund is included in the fee. Further contributions are very welcome and can be indicated on the registration form.

Accompanying persons
Admission to social arrangements and one chosen excursion including lunch (see page 20). Accompanying persons do not have access to scientific sessions.

Confirmation of registration
Confirmation of registration including a detailed travel guide and, if requested, accommodation will be sent by e-mail, if possible, or letter within one week of receipt of payment. If payment is received within the last week prior to the congress, confirmation cannot be guaranteed. Please bring proof of payment to the registration desk.

Cancellation conditions
Cancellation must be made in writing to the Congress Secretariat. Cancellations postmarked before April 4, 2004 will incur a cancellation fee of DKK 500/67€. Refunds in case of cancellation postmarked after April 4, 2004 will not be possible. The cancellation conditions concern registration as well as accommodation. If unable to attend, you will be given the opportunity to send a colleague in your place. A replacement fee of DKK 500/67€ will then be charged.

If, for reasons beyond the control of the organisers, the congress is cancelled, the registration fee will be refunded after deduction of expenses related to the handling of the registration.

Methods of Payment
Payment or proof of payment must accompany all registration forms. The total charges of the registration must be paid in Danish Kroner (DKK) or Euros (€); all costs incurred with cheques and transfers must be covered by the participant.

Please note that the name of the participant must appear on all cheques and transfers!

The following means of payment are accepted:

- Credit cards: American Express, Dankort, Euro Card, JBC, Master Card, VISA
  Please note when paying with American Express the amount will be charged in DKK.

- International cheque in DKK or € made out to ICME-10 and forwarded to the Congress Secretariat.

- Bank transfer to the account of ICME-10, BG-Bank
  Noerrevoldgade 68, 3
  PO Box 1193
  DK-1011 Copenhagen K
  Denmark.
  BIC/Swift code DABADKKK.

Payment in Danish Kroner:
IBAN no: DK62 3000 4777 0695 19.

Payment in Euros:
IBAN no: DK90 3000 4777 0695 00.
Accommodation

Hotels and other types of accommodation are located in Copenhagen and the very near suburbs. Accommodation in Copenhagen has the advantage of city life. The so-called “course facility hotels” are located north of Copenhagen.

Price and payment
The rate is stated per night except for the home stays, dormitory halls, and student homes that state the rate for the entire period, July 4-11.

For home stays, dormitory halls, and student homes full payment is needed on booking, extra nights cannot be guaranteed and deduction cannot be offered for stays less than the full period.

As a guarantee of payment for accommodation the Secretariat will need credit card information. Upon receipt of credit card information a confirmation with all relevant information of the reservation will be sent to the participant.

Payment of accommodation must be settled directly with the hotel upon departure.

For home stays, dormitory halls, and student homes accommodation is guaranteed only when payment has reached the Congress Secretariat, and for hotels and youth hostels when credit card data has been given to the Secretariat.

On-line booking
On-line registration will give you the opportunity to book a specified hotel whereas the Congress Secretariat cannot offer this service when using the registration form in this announcement. On-line, availability of the chosen hotel will be shown when making the booking.

Paper version of registration form
The paper version of the registration form offers only the different accommodation categories. The Congress Secretariat will allocate the specific accommodation according to the category chosen. If the category is fully booked alternative accommodation will be arranged in the available category closest to your choice. The rate will be within the range specified for each category and includes service, taxes, and breakfast (except for student homes and dormitory halls).

Cancellation of Accommodation
Cancellation may be made until April 4, 2004. Changes or cancellations of bookings will incur a handling fee of 500 DKK/67 €. Refunds in case of cancellation post-marked after April 4, 2004 will not be possible and credit card will be charged the full amount.

Group booking
If you register on-line as a group, all rooms must be booked at the same time (preferably by one contact person). If you do not register online, please contact the Congress Secretariat in order to get at group number. This group number will serve as reference for all members of a group and must be indicated on the registration form.
Accommodation will be offered in the following categories:

<table>
<thead>
<tr>
<th>Hotels</th>
<th>Price Range</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Hotel: 4-5 ⭐</strong></td>
<td>1595-1850 DKK per night</td>
<td>215-249€ per night</td>
</tr>
<tr>
<td><strong>B. Hotel: 3-4 ⭐</strong></td>
<td>1250-1460 DKK per night</td>
<td>169-197€ per night</td>
</tr>
<tr>
<td><strong>C. Hotel: 3 ⭐</strong></td>
<td>815-1240 DKK per night</td>
<td>110-167€ per night</td>
</tr>
<tr>
<td><strong>D. Hotel: 2-3 ⭐</strong></td>
<td>450-800 DKK per night</td>
<td>61-108€ per night</td>
</tr>
<tr>
<td><strong>E. Course facility hotel</strong></td>
<td>700-915 DKK per night</td>
<td>94-123€ per night</td>
</tr>
<tr>
<td><strong>F. Youth hostel</strong></td>
<td>225-300 DKK per night</td>
<td>30-40€ per night</td>
</tr>
<tr>
<td><strong>G. Student hostel</strong></td>
<td>1500 DKK the week</td>
<td>202€ the week</td>
</tr>
<tr>
<td><strong>H. Home stays</strong></td>
<td>1500 DKK the week</td>
<td>202€ the week</td>
</tr>
<tr>
<td><strong>I. Dormitory halls (in a gymnasium)</strong></td>
<td>500 DKK the week</td>
<td>68€ the week</td>
</tr>
</tbody>
</table>

Hotels in different categories are available (from 2 to 5 stars). All hotels are centrally located, close to shops and local transportation. All hotels have toilet and bath/shower as well as a breakfast restaurant.

Course facility hotels have been booked for the exclusive use of ICME-10 participants. Standards are almost the same as hotel standards. The rooms are similar to rooms in a regular hotel, with toilet and shower.

The course facility hotels are located north of Copenhagen in green and beautiful surroundings within 20 mins. drive from the city centre.

The youth hostels supply bed, linen, towel, and breakfast. The rooms have access to toilets and showers. The rooms might be shared with 2-7 other persons.

During the summer vacation it is possible to rent a student room. These rooms are “one room apartments” with toilet and shower and access to a kitchen. Final confirmation of student home rentals cannot be guaranteed until three months prior to arrival.

The option of staying in a private home is also offered. It is our aim to find suitable homes preferably with people working in education. A home stay offers a unique opportunity to meet the local people and to get to know them. Please note that only a limited number of home stays will be available.

Dormitory halls, if available, will be located near the congress venue or in the suburb of the venue. Dormitory halls are gymnasiums in public schools with access to toilets and showers. They will be divided according to gender. Please note that participants must bring their own sleeping bag, mattress, towels etc.

Accommodation that can be arranged by the participant him/herself:

In Copenhagen and the area around the venue it is also possible to make use of camping sites. Booking is the responsibility of the participant.

Please contact camping sites directly or see www.dcu.dk or www.campingdanmark.dk for further information.
General Information

Congress language
The official congress language is English.

Travel Information
Copenhagen Airport is the nearest airport. There is a direct train connection, 12 minutes, from the airport to the city centre.

ICME-10 has made an agreement with Star Alliance which offers 10 to 15% discount on all fares to Copenhagen in relation with ICME-10. When booking please quote event code SK10154. See announcement on page 25. The registration fee includes admission to the flexible and well functioning public transportation from the city centre to the venue and back on all congress days.

A detailed travel guide will be forwarded with the confirmation of registration.

Visa
Non-EU participants should find out whether they need a visa for their stay in Denmark.

Applications for visas (stays for less than 3 months) must be submitted to Danish missions abroad, i.e. all Embassies and certain Consulates General. Visa rules can be found on the web site of the Danish Ministry of Foreign Affairs: www.um.dk/english/. You are advised to apply well in advance of the congress.

Letter of invitation
Upon request, a letter of invitation will be sent to all submitters of scientific material, invited speakers and invited participants from countries in which a visa is needed.

Other participants are kindly asked to forward official documentation of their professional affiliation with mathematics education. Upon receipt of such confirmation, the registration is actioned and an official letter of invitation will be forwarded. Due to the “first come, first served” scheme applied to accommodation and excursions, applicants are advised to register and make payment even if a visa application is still in process.

Currency
The currency in Denmark is Danish Kroner (DKK).

One DKK = 100 Øre
Notes: 50, 100, 200, 500, 1000 Kroner.
Coins: 25, 50 øre and 1, 2, 5, 10, 20 Kroner.

Denmark is not a member of the European Monetary Union, and the Euro is therefore not legal tender. However, certain places may accept Euros.

Payment in Euros of registration fees is accepted.

The current exchange rate is 1€ = 7.42 DKK (at time of publication).

Health insurance
Congress participants should be insured as business travellers and take out individual insurance. Details may be obtained from your travel agency.

Time zone
Denmark is on Greenwich Mean Time (GMT) + 2 hours in summer.

Climate
In July, weather conditions may vary, and you may expect sunshine and scattered showers. Average temperature is +16 C. Daytime temperatures may rise to 20-25 C and night temperatures may drop to 10 C. We recommend a variety of clothing in order to make the most of your stay.

Tourist information
Further information on Copenhagen can be found on the official tourist sites of Copenhagen: www.visitcopenhagen.dk, or at www.ctw.dk. These sites contain all basic tourist information. The official site of Denmark is www.visitdenmark.com. For further information or brochures, please call +45 33 11 14 15.

Price level
Prices in Denmark are rather high compared to many other countries. Nevertheless, a low budget stay is possible if you register before February 28 and choose accommodation category F-I. Excluding travel costs participation in ICME-10 on this basis is estimated at approximately 5.000 DKK/610€ including lunch for the entire week.

Lunch is available at the venue in the price range of 60 DKK/8€ to 150 DKK/20€.
ICME-10 has the pleasure of announcing the following organisations, ministries and other bodies that are kindly supporting the congress:

**Public bodies**
The congress is supported by all relevant universities, departments and professional associations for teachers from all educational levels in Denmark and in the other Nordic countries. Many parties are supporting the congress directly by paying travel expenses for members of Nordic Contact Committee, the Local Organising Committee and the International Programme Committee and by means of supplying manpower (please visit www.icme-10.dk/organisation for further information).

In particular the following institutions have contributed to the congress:
- Technical University of Denmark (DTU)
- Roskilde University, IMFUFA
- Centre for Research in Learning Mathematics
- Danish Ministry of Education
- Lyngby Taarbæk Municipality
- Ministry of Education and Research in Norway
- Ministry of Education and Science in Sweden
- Ministry of Education, Science and Culture in Iceland
- Ministry of Education in Finland
- Danish Research Council for the Humanities
- Nordic Council of Ministers

**Private companies and foundations**
Carlsbergs Mindelegat for Brygger J.C. Jacobsen

**Main sponsors**

![Casio](Image)

![Texas Instruments](Image)

**Going to a convention?**
The Star Alliance airlines are pleased to be your official airline network. Call any one of our 14 member airlines and simply quote the event code SK101S4 to get details and conditions on the Star Alliance Conventions Plus fares and the participating airlines. For information about our member airlines and other products, visit our website at www.staralliance.com

![Star Alliance](Image)
Registration form

If possible please register on-line at www.ICME-10.dk
Registration on-line will allow you to choose among all available hotels and book a specific hotel.

Participant (MANDATORY) Please type or fill in form in capital letters.

Title: ____________________________
Surname: ____________________________
Institution: ____________________________
Department: ____________________________
Institution Address: ____________________________
City: ____________________________ Postal code: ____________________________ State/province: ____________________________
Country: ____________________________ E-mail: ____________________________
Phone: ____________________________ Fax: ____________________________
Accompanying Person: ____________________________
Accompanying Person’s Phone: ____________________________
Accompanying Person’s Country: ____________________________
Accompanying Person’s City: ____________________________
Accompanying Person’s Institution Name: ____________________________
Accompanying Person’s Institution Address: ____________________________
Accompanying Person’s Department: ____________________________
Accompanying Person’s Surname: ____________________________
Accompanying Person’s Title: ____________________________
Accompanying Person’s First name: ____________________________
Accompanying Person’s Preferred category: ____________________________
Accompanying Person’s Comments: ____________________________

Registration Fee (MANDATORY)

☐ Before February 28, 2004: 3100 DKK/418 €
☐ Before May 31, 2004: 3600 DKK/486 €
☐ After June 1, 2004: 4100 DKK/553 €
☐ Accompanying person: 1100 DKK/149 €

Hotel

Please indicate choice of accommodation based on the list page 23 (room prices are based on single rooms only – additional charge for double is approx. 300 DKK per night). If requested category is not available the Congress Secretariat will allocate accommodation from the category nearest to the one chosen. Please note that accommodation cannot be confirmed until credit card information has been received by the Congress Secretariat as a guarantee of payment.

☐ I do not wish to book accommodation.

Category

A. Hotel: 4-5★
1595-1850 DKK per night
215-249 € per night
B. Hotel: 4-3★
1250-1460 DKK per night
169-197 € per night
C. Hotel: 3★
815-1240 DKK per night
110-167 € per night
D. Hotel: 2-3★
450-800 DKK per night
61-108 € per night
E. Course facility hotels
700-915 DKK per night
94-123 € per night
F. Youth hostel
225-300 DKK per night
30-40 € per night
G. Student hostel
1500 DKK the week
Total amount to be paid upon registration
H. Home stays
1500 DKK the week
Total amount to be paid upon registration
I. Dormitory hall
500 DKK the week
68 € the week
Total amount to be paid upon registration

Arrival (DD-MM-YY) ____________________________
Departure (DD-MM-YY) ____________________________
☐ Single ☐ Double
Total no. of nights ____________________________
Preferred category ____________________________
Group no. (if known) ____________________________

Excursions (MANDATORY)

Tour included in registration fee (Tour 1-19, see page 20)
☐ 1st Choice (e.g. 1) ☐ 2nd Choice ☐ 3rd Choice
☐ I do not wish to attend a tour.

Payment (MANDATORY)

Please make sure that your name appears clearly on your payment.

☐ A cheque made out in DKK or € to ICME-10.

Please indicate cheque no: ____________________________

☐ A Bank transfer to: BG-Bank, Noerrevoldgade 68, 3, PO box 1193, DK-1011 Copenhagen K, Denmark

BIC/Swift Code DABADKKK

DKK Account no.: IBAN DK62 3000 4777 0695 19.

€ Account no.: IBAN DK90 3000 4777 0695 00.

Credit card: ☐ American Express ☐ Euro Card ☐ Master Card ☐ Visa ☐ JBC ☐ Dankort

Credit card no: ____________________________

Exact name and initials on the credit card: ____________________________

Expiry date (MM-YY): ____________________________

If you have a three or four digit number on the reverse of your card, please enter it here: ____________________________

By signing below, I authorise Congress Consultants to debit this credit card account for the total amount due.

Full participant reg. fee ____________________________

Acompanying person(s) reg. fee ____________________________

G-I hotel payment ____________________________

I would like to contribute to the solidarity fund with the amount of ____________________________

By signing below I confirm that I have read and am fully aware of the cancellation conditions indicated in the general information.

Date (DD-MM-YY): ____________________________ Name: ____________________________

Signature: ____________________________

Comments: ____________________________

Please return this form by fax (+int): +45 70 20 03 15 or mail to this address:
Congress Consultants
Martensens Allé 8
DK-1828 Frederiksberg C
Denmark
Application and Proposal Form

If possible please use application form at www.ICME-10.dk

Please type or fill in form in capital letters.
Please indicate which presentation form you apply for (Workshop – WS, Sharing Experience Group – SEG or Poster).
If applying for more than one activity, please copy this form.

☐ Workshop WS  ☐ Sharing Experience Group SEG  ☐ Poster

Contact person: First name: __________________________ Surname: __________________________

Institution: __________________________
Department: __________________________

Institution Address:
City: __________________________
Postal code: __________________________
State/province: __________________________
Country: __________________________
E-mail: __________________________
Phone: __________________________
Fax: __________________________

Title: __________________________

Name and affiliation of proponent(s):

<table>
<thead>
<tr>
<th>WS or SEG Application form</th>
</tr>
</thead>
</table>
| Proposed WS or SEG chair(s): __________________________

| Target audience(s): __________________________

| Special equipment requested (ICME will do its best to try to accommodate your requests within availability and budget constraints): __________________________

<table>
<thead>
<tr>
<th>Provide the following descriptions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale/Purpose of the activity – 300 words</td>
</tr>
<tr>
<td>Description – 300 words</td>
</tr>
<tr>
<td>Workshop: activities and nature of the interaction between WS chair(s) and participants and amongst the participants.</td>
</tr>
<tr>
<td>Sharing Experience Group: description of themes or issues to be dealt with in the SEG and the proposed format of the discussions/interaction amongst the participants.</td>
</tr>
<tr>
<td>Paragraph for final programme – 100 words</td>
</tr>
<tr>
<td>Provide a draft paragraph describing the WS or SEG for publication in the final programme.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Poster application form</th>
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</table>
| Poster title: __________________________

| Include on one page a poster abstract of no more than 150 words. |
| I wish to have my poster discussion in a Round Table session |
| Topic Study Group(s) or Discussion Group(s) to which my poster corresponds most closely: __________________________

| AND/OR |
| Five key words describing the theme of my poster: __________________________

Please direct this form to Mogens Niss, Chair of the IPC, and address to Congress Consultants, Martensens Alle 8, DK-1828 Frederiksberg C, Denmark, e-mail: ICME@congress-consult.com before January 1, 2004.