



International Study Group on the Relations Between
the HISTORY and PEDAGOGY of MATHEMATICS
An Affiliate of the International Commission on
Mathematical Instruction

No. 71

July 2009

This and earlier issues of the Newsletter can be downloaded from our website
<http://www.clab.edc.uoc.gr/hpm/>

Giorgio T. Bagni (1958-2009)

Giorgio T. Bagni was born in Milan (Italy) in 16 June 1958. He died the night of 10 to 11 of June 2009, in a bike accident in a little village near Treviso, his home town.

He leaves his wife Luisa and his daughters Chiara and Elena, his parents and his brother.

He graduated from the University of Padua. For some years he was teacher of Mathematics and Physics in high school and was teaching professor in the University of Bologna and Querétaro (Mexico). In 2000 he was appointed assistant professor in the University “La Sapienza” of Rome; in 2004 he passed to the University of Udine. In these Universities he taught courses of Logic, History of Mathematics and Sciences, Epistemology, Didactics of Mathematics and Sciences, Geometry, Arithmetic and Number Theory.

On the website <http://www.syllogismos.it/>, which includes Bagni’s homepage we read that until May 2009, he authored 23 books and 274 papers, published in national and international journals and proceedings. His main interests of research were History of Mathematics and his use in teaching, Hermeneutics, Didactic of Mathematics with particular reference to algebra.

He was invited as a speaker in many conferences. He attended the ICMI Study 10 (The role of the history of mathematics in the teaching and learning of Mathematics) and



contributed to the resulting ICMI Study book. He presented papers in the Satellite Meetings of HPM and the ESUs. Recently he was the leader of the Working Group on Algebra in CERME 6 (Lyon, 2009).

He was a man of wide and deep culture, as evidenced by his appointment in 1999-2002 as a President of the Academy “Ateneo di Treviso” (Treviso) and his involvement in the popularization of mathematics.

Giorgio was appreciated as a kind person and a high intellectual scholar. His family, friends, and colleagues will miss him so much!

**Fulvia Furinghetti,
Genova, Italy**

Other colleagues' notes on the death of Giorgio T. Bagni are available at <http://www.clab.edc.uoc.gr/HPM/Announcements.htm#Bagni>

Conference reports

The editors welcome reports from conferences.

Work in progress

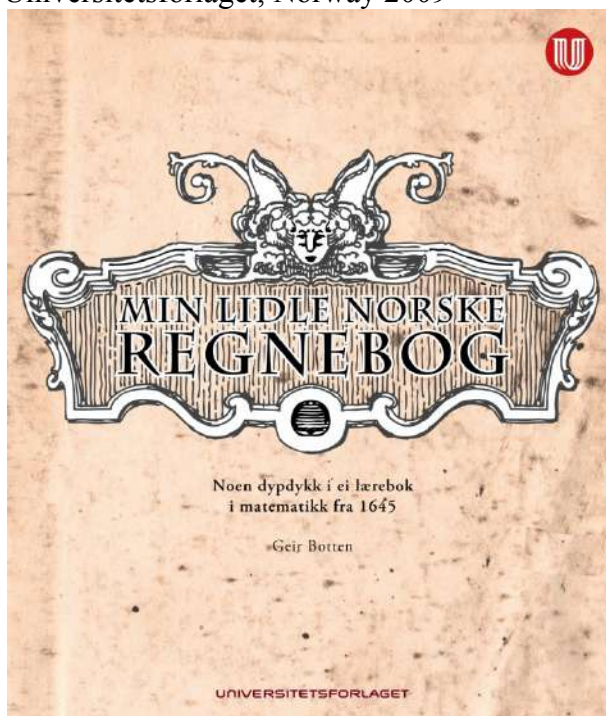
We encourage young researchers in fields related to *HPM* to send us a brief description of their work in progress or a brief description of their dissertation.

New Books

Min lidle norske regnebog

by Geir Botten

Universitetsforlaget, Norway 2009



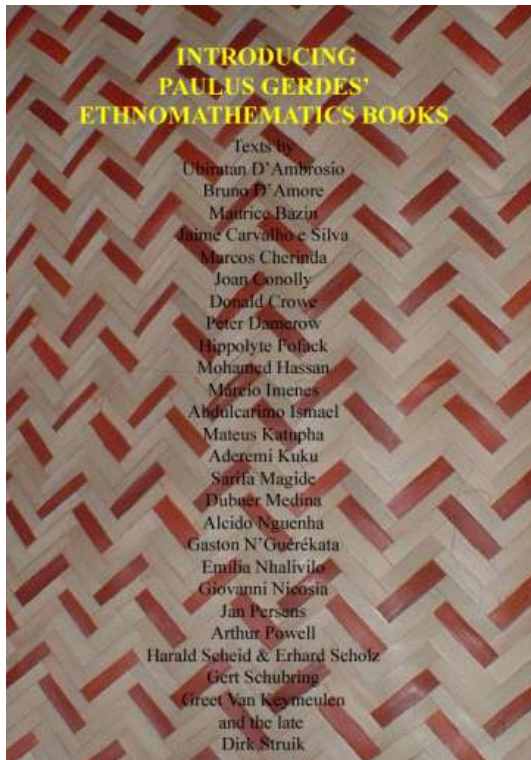
In 1645, Tyge Hansøn published the first mathematics textbook in Norwegian: *Arithmetica Danica*. It treated how to read and write numbers, measuring units, addition, subtraction, multiplication and division as well as *regula de tri* (rule of three). It also included fractions, square roots and cubic roots.

Geir Botten has been studying this textbook for years, and in “*Min lidle norske regnebog*” both the mathematics and the style is discussed (in Norwegian). Botten also discusses the context in which it was written: Tyge Hansøn was a teacher at the Cathedral School in Trondheim (*Scholae Cathedralis Nidrosiensis*), and must have been influenced by Claus Lauridsen Skavbo’s *Arithmetica eller Regnekunst* from 1552.



Thus, the book has become a welcome source for old methods in mathematics in the Norwegian language.

**Bjørn Smestad,
Norway**



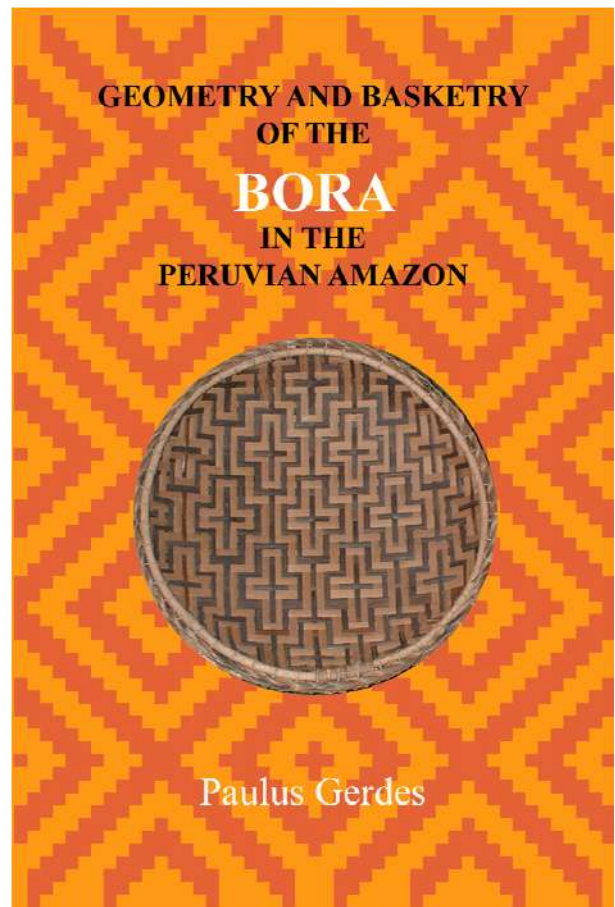
"Introducing Paulus Gerdes' Ethnomathematics Books: A Collection of Prefaces, Forewords, Afterwords, and Afterthoughts"

The book contains texts by Ubiratan D'Ambrosio, Bruno D'Amore, Maurice Bazin, Jaime Carvalho, Marcos Cherinda, Joan Conolly, Donald Crowe, Peter Damerow, Hippolyte Fofack, Mohamed Hassan, Márcio Imenes, Abdulcarimo Ismael, Mateus Katupha, Aderemi Kuku, Sarifa Magide, Dubner Medina, Alcido Nguenha, Gaston N'Guérékata, Emília Nhalivilo, Giovanni Nicosia, Jan Persens, Arthur Powell, Harald Scheid, Erhard Scholz, Gert Schubring, Greet Van Keymeulen, and the late Dirk Struik.

The black-and-white edition (134 pp.) contains only the texts, whereas the colour edition (156 pp.) contains also a reproduction of the covers of the ethnomathematics books.

Printed versions of both editions are available from <http://stores.lulu.com/pgerdes> Both editions are free downloadable.

Geometry and Basketry of the Bora in the Peruvian Amazon



The English language version of Paulus Gerdes' book "**Geometry and Basketry of the Bora in the Peruvian Amazon**" (170 pp.) has now been published together with a supplement (36 pp.). The supplement contains images in colour of the photographs included in black-and-white in the book itself. Book and supplement are available in print and as download from Lulu: <http://stores.lulu.com/pgerdes> (The book was originally published in Portuguese (also available from Lulu)).

The book "Geometry and Basketry of the Bora in the Peruvian Amazon" (170 pp.) presents some geometric aspects of the making and decoration of baskets in the Bora culture. The Bora live along the upper Cahuinari and the Igara-Paraná rivers in the Colombian, Brazilian and Peruvian Amazon.

After a brief presentation of the Bora people in Chapter 1, various aspects of the decoration of circular trays and baskets is

analysed in Chapters 2 to 9, from their design and manufacture to the composition and colouring of finite and plane patterns, including a reflection on the symmetries involved. In Chapter 10, the geometrical aspects of the production of baskets with a square bottom and circular rim are analysed. In Chapter 11 some suggestions for the incorporation of geometrical features of Bora basketry into mathematics education are presented. The last chapters reflect on ethnomathematics and mathematics education.

This book contributes to an appreciation of the Bora scientific and cultural experience, and in particular, to the education of the future generations. A significant facet of geometrical research consists of finding all possible configurations that satisfy certain conditions. The Bora basket weavers excel herein.



L'EthnoMathématique en Afrique

(CEMEC, Maputo & Lulu.com, Morrisville NC, 2009, 148 pages)

L'intérêt manifesté dans ma conférence plénière « Idées mathématiques dans l'histoire et les cultures africaines » pendant le Colloque

Espace Mathématique Francophone 2009 à Dakar, Sénégal (6 au 10 avril 2009) m'a stimulé à préparer une édition nouvelle de mon livre « L'ethnomathématique comme nouveau domaine de recherche en Afrique : Quelques réflexions et expériences du Mozambique ».

La nouvelle édition reproduit la préface, l'introduction et les cinq chapitres de l'édition originale de 1993 « Recherche ethnomathématique : une réponse à l'un des plus grands défis à l'enseignement mathématique en Afrique », « Sur le concept de l'ethnomathématique », « Exemples de 'conscientisation culturelle' des futurs enseignants de mathématiques », « L'ethnomathématique et l'éducation des enseignants : exemples et illustrations » et « Un motif décoratif amplement diffusé et le Théorème de Pythagore », ainsi qu'inclut deux articles écrits plus tard « Pensée mathématique et exploration géométrique en Afrique et ailleurs », publié dans le numéro spécial « Dialogue des rationalités », organisé par Paulin Hountondji, de la *Revue Diogène* (UNESCO & Presses Universitaires de France, 2003, No. 202, 126-144), et « Paroles, gestes et symboles », élaboré avec mon collègue Marcos Cherinda pour le numéro spécial *Naissance des Nombres : Comptes et Légendes*, organisé par Tony Lévy, de *Le Courrier de l'UNESCO* (Paris, Novembre 1993, 37-39).

Après la publication de la première édition de « L'ethnomathématique comme nouveau domaine de recherche en Afrique », quelques de mes livres ont été publiés en Français par les Éditions L'Harmattan : *Une tradition géométrique en Afrique*. — *Les dessins sur le sable* (1995, Tome 1 : Analyse et reconstruction, 247 p. ; Tome 2 : Exploration éducative et mathématique, 184 p. ; Tome 3 : Analyse comparative, 144 p.) ; *Femmes et Géométrie en Afrique Australe*, (1996, 219 p.) ; *Lusona : Recréations géométriques d'Afrique* (1997, 127 p.) ; et *Le cercle et le carré: Créativité géométrique, artistique, et symbolique de vannières et vanniers d'Afrique, d'Amérique, d'Asie et d'Océanie* (2000, 301 p.) (<http://www.editions->

harmattan.fr/). En 1994, l'Université Pédagogique au Mozambique avait publié *Sipatsi: Technologie, Art et Géométrie à Inhambane* (1994, 102 p.)

En ensemble avec le Pr. Ahmed Djebbar, nous avons publié la biographie *Les Mathématiques dans l'Histoire et les Cultures Africaines. Une Bibliographie Annotée* (Université de Lille & Union Mathématique Africaine, Lille, 2007, 332 p.) que peut être consulté pour connaître plus sur mathématiques et culture en Afrique, c'est-à-dire, sur « L'EthnoMathématique en Afrique »

Aussi publié en Anglais: *Mathematics in African History and Cultures. An annotated Bibliography*, Lulu.com, Morrisville NC (EUA), 2007, 430 p. (<http://stores.lulu.com/pgerdes>)).



Have you read these?

Bockstaele, Paul . (2009) *Between Viète and Descartes: Adriaan van Roomen and the Mathesis Universalis*. Archive for History of Exact Sciences Online First

<http://dx.doi.org/10.1007/s00407-009-0043-4>

Bullynck, Maarten. *Decimal periods and their tables: A German research topic (1765-1801)*, Historia Mathematica, Volume 36, Issue 2, May 2009, Pages 137-160,

Charalambous, Charalambos, Panaoura, Areti and Philippou, George. (2009) *Using the history of mathematics to induce changes in preservice teachers' beliefs and attitudes: insights from evaluating a teacher education program*. Educational Studies in Mathematics 71 (2).

Grant, Hardy. *What's in a word? Symmetry through the centuries*, Historia Mathematica, Volume 36, Issue 2, May 2009, Pages 171-177,

Jankvist, Uffe Thomas. (2009) *On empirical research in the field of using history in mathematics education*. Revista

Latinoamericana de Investigación en Matemática Educativa (2009) 12(1): 67-101.

Palmieri, Paolo. (2009) *Superposition: on Cavalieri's practice of mathematics*. Archive for History of Exact Sciences Online First <http://dx.doi.org/10.1007/s00407-008-0032-z>

Radford, L, Schubring, G, Seeger, F (eds): *Semiotics in Mathematics Education: Epistemology, History, Classroom and Culture* (Rotterdam: Sense, 2008).

Rey, Javier Docampo. *Algebraic diagrams in an early sixteenth-century Catalan manuscript and their possible sources*, Historia Mathematica, Volume 36, Issue 2, May 2009, Pages 113-136.

Schubring, Gert. *Mathematics in Naples. An extraordinary case of institutional development*, La Historia de la Ciencia y de la Técnica: Un Arma Cargada de Futuro. Ensayos en Homenaje a Mariano Hormigón, eds. M.A. Velamazan, F. Veá, J. Cobos & C. Martín (Cádiz: Diputación Provincial de Cádiz, FPZ, Servicio de Publicaciones, 2008), 143-153.

Schubring, Gert. *Reforma e Contra-Reforma na Matemática - o Papel dos Jesuítas*, Perspectivas da Educação Matemática (Campo Grande/MS), 2008, 1: 2, 23-38.

Schubring, Gert. *Gauss e a Tábua dos Logaritmos*, Relime, 2008, 11: 3, 383-412.



Have you been here?

In this section we bring links related to the scope of the HPM from around the world. Please send suggestions.

New link(s) in this issue

ESU-6 website

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

Societies and organisations

Commission on the History of Mathematics in Africa (including newsletter)
http://www.math.buffalo.edu/mad/AMU/amuc_hma_online.html

Association des Professeurs de Mathématiques de l'Enseignement Public [APMEP] History site:
<http://www.apmep.asso.fr/BMhist.html>

British Society for the History of Mathematics [BSHM]
<http://www.bshm.org>

HOMSIGMAA - History of Mathematics Special Interest Group of the MAA
<http://www.maa.org/sigmaa/hom>

HPM Americas
<http://www.hpm-americas.org/>

Italian Society of History of Mathematics
<http://www.dm.unito.it/sism/indexeng.html>

Association pour la Recherche en Didactique des Mathématiques:
<http://www.ar dm.asso.fr/>

Commission Française pour l'Enseignement des Mathématiques: <http://www.cfem.asso.fr/>

Instituts de Recherche sur l'Enseignement des Mathématiques (IREM):
<http://www.univ-irem.fr/>

Canadian Society for History and Philosophy of Mathematics
<http://www.cshpm.org>

Brazilian Society for History of Mathematics
<http://www.sbhmat.com.br>

Nuncius Newsletter
<http://brunelleschi.imss.fi.it/nuncius/inln.asp?c=5302>

International History, Philosophy and Science Teaching Group

www.ihpst.org

Centre for the History of the Mathematical Sciences.
The Open University, UK
http://puremaths.open.ac.uk/pmd_research/CHMS/index.html

Oxford Museum of the History of Science
www.mhs.ox.ac.uk/exhibits/
<http://www.mhs.ox.ac.uk/measurer/text/title.htm>
<http://www.mhs.ox.ac.uk/geometry/title.htm>
<http://www.mhs.ox.ac.uk/scienceislam/>

Topics and Resources

MATHS for EUROPE: The history of some aspects of mathematics like: history of mathematical persons, symbols, algorithms...
<http://mathsforeurope.digibel.be/index.html>
<http://mathsforeurope.digibel.be/list.htm>
<http://mathsforeurope.digibel.be/olvp.htm>
<http://mathsforeurope.digibel.be/olvp2.htm>
<http://mathsforeurope.digibel.be/olvp3.htm>

Ethnomathematics on the Web
<http://www.rpi.edu/%7Eeglash/isgem.dir/links.htm>

About Medieval Arabic Numbers
<http://www.geocities.com/rmlyra/Numbers.html>
<http://www.geocities.com/rmlyra/arabic.html>

Annotated Bibliography on Proof in Mathematics Education
<http://fcis.oise.utoronto.ca/~ghanna/educationabstracts.html>

BibM@th
<http://www.bibmath.net/dico/index.php3?action=rub&quoi=0>

Centro Virtual de Divulgación de las Matemáticas, esta siendo desarrollada por la Comisión de Divulgación de la Real Sociedad Matemática Española (R.S.M.E.)
<http://www.divulgamat.net/index.asp>

Digitization of the oldest extant manuscript of Euclid's *Elements*

<http://librarieswithoutwalls.org/bookviewer/>

History of Statistics

<http://www.stat.ucla.edu/history/>

Images of Lobachevsky's context

<http://www.ksu.ru/eng/museum/page0.htm>

Images of Mathematicians on Postage Stamps

<http://members.tripod.com/jeff560/index.html>

Photos of Mathematicians

<http://www.math.uni-hamburg.de/home/grothkopf/fotos/math-ges/>

Numdam-Digitization of ancient mathematics documents

<http://www.numdam.org/en/ressnum.php>

The Montana Mathematics Enthusiast (journal)

<http://www.montanamath.org/TMME/>

Convergence: an online magazine of the MAA providing resources to teach mathematics through its history

<http://convergence.mathdl.org/>

International Journal for Mathematics Teaching and Learning,

<http://www.cimt.plymouth.ac.uk/journal/default.htm>

Homepage of International Journal for the History of Mathematics Education

<http://www.tc.edu/centers/ijhmt/index.asp?Id=Journal+Home>

Documents for the History of the teaching of mathematics in Italy

<http://www.dm.unito.it/mathesis/documents.html>

Ethnomathematics Digital Library

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

Some Japanese Mathematical Landscapes:

The results of wandering in a beautiful country, with a mathematical eye, aided by a digital camera, by A. Arcavi

http://math.criced.tsukuba.ac.jp/museum/arcavi/arcavi_english/index.html

Wann-Sheng Horng's webpage

with HPM related materials in Chinese.

<http://math.ntnu.edu.tw/~horng/>

Fred Rickey's History of Mathematics Page

<http://www.dean.usma.edu/math/people/rickey/hm/default.htm>

CultureMATH. Ressources pour les enseignants de Mathématiques

www.dma.ens.fr/culturemath/actu/livres.htm

The French INRP (National Institute for Pedagogical Research) is developing a website on questions related to mathematics teaching: EducMath

<http://educmath.inrp.fr>

Geometrical books and instruments from 15th to 18th century

<http://www.geometricum.com/>

David Henderson's Home Page [Educational and Historical Topics on Geometry]

<http://www.math.cornell.edu/~dwh/>

Homepage of Albrecht Heffer

<http://logica.ugent.be/albrecht/>

Homepage of Jens Høyrup

<http://www.akira.ruc.dk/~jensh/>

***L'Enseignement Mathématique*, Archive**

<http://retro.seals.ch/digbib/vollist?UID=ensmat-001>

Homepage of Prof. Leo Corry

<http://www.tau.ac.il/~corry/>

Opera Mathematica of Christoph Clavius

<http://mathematics.library.nd.edu/clavius/>

Archimedes Project [Some famous mathematical books of the Renaissance period are available on line, i.e. Pacioli's *Summa*]

http://archimedes2.mpiwg-berlin.mpg.de/archimedes_templates

Simon Stevin's *De Meetaet* [The Practice of Measuring]

<http://www.math.leidenuniv.nl/~wiskonst/mee-taet/index.html>

and *The Principal Works of Simon Stevin*

http://www.historyofscience.nl/works_detail.cfm?RecordId=2702

Mathematicians Gallery

http://www.math.uconn.edu/MathLinks/mathematicians_gallery.php?Rendition=printerfriendly

History of Mathematics

<http://www.otterbein.edu/resources/library/libpages/subject/mathhis.htm>

The Garden of Archimedes. A museum for Mathematics

http://web.math.unifi.it/archimede/archimede_NEW_inglese/

Mathematical instruments

<http://brunelleschi.imss.fi.it/museum/esim.asp?c=500164>

and

<http://web.mat.bham.ac.uk/C.J.Sangwin/Sliderules/sliderules.html>

and

<http://www.mhs.ox.ac.uk/epact/catalogue.php?ENumber=52265>

Homepage of Eleanor Robson

<http://www.hps.cam.ac.uk/dept/robson.html>

Flickr group for HPM related photos

<http://www.flickr.com/groups/812621@N24/>

Monuments on Mathematicians

<http://www.w-volk.de/museum/exposi.htm>

We would like to provide a more comprehensive list of websites containing resources useful to researchers and students (not necessarily in English). If there are any you use, or you know are useful for students or researchers, please send your recommendations to the editors.

Notices

First announcement ESU-6

6th European Summer University on the History and Epistemology in Mathematics Education

19-23 July 2010,

Vienna, Austria



The initiative of organizing a *Summer University (SU)* on the *History and Epistemology in Mathematics Education* belongs to the French Mathematics Education community, in the early 1980's. From those meetings emerged the organization of a SU on a European scale, as the *European Summer University (ESU) on the History and Epistemology in Mathematics Education*, starting in 1993. Since then, ESU was successfully organized in 1996, 1999, 2004 and 2007 in different places in Europe. By now, it has been established into one of the main international activities of the HPM Group, which – from 2010 onwards – will be organized every four years, so that every two years there will take place at least one major international meeting of the Group; namely, ESU and the HPM Satellite Meeting of ICME.

1. Aim and focus of the ESU

The ESU mainly aims

- to provide a forum for presenting research in mathematics education and innovative teaching methods based on a historical, epistemological and cultural approach to mathematics and their teaching, with emphasis on actual implementation,
- to give the opportunity to mathematics teachers, educators and researchers to share their teaching ideas and classroom experience related to this perspective,
- in this way, to motivate further collaboration along these lines, among members of the mathematics education community in Europe and beyond, attempting to reveal the following aspects of mathematics:

- Mathematics should be conceived as a human intellectual enterprise with a long history, a vivid present and an as yet unforeseen future;
- Although its “polished” products form that part of mathematical knowledge that can be communicated, criticized (in order to be finally accepted or rejected) and serve as the basis for new work, the process of “doing mathematics” is equally important, especially from a didactical point of view;
- Hence, the meaning of mathematical knowledge is determined, not only by the circumstances in which it becomes a deductively structured theory, but also by the procedure that originally led, or may lead to it and which is indispensable for its understanding. Therefore, learning mathematics includes the understanding of implicit motivations, the sense-making actions and the reflective processes, which are aimed at the construction of meaning; hence, teaching mathematics should include the opportunity given to students to “do mathematics”;

- This conception of mathematics should be, not only the core of the teaching of mathematics, but also the image of mathematics spread to the outside world.

In this connection, putting emphasis on historical and epistemological issues constitutes a possible natural way for exposing mathematics in the making that may lead to a better understanding of specific parts of mathematics and to a deeper awareness of what mathematics as a whole really is. This is important for mathematics education, helping to realize that:

- Mathematics is the result of contributions from many different cultures;
 - Mathematics has been in constant dialogue with other sciences, arts and technics;
 - Mathematics has been a constant force of scientific, technical, artistic and social development;
 - The philosophy of mathematics has evolved through the centuries;
 - The teaching of mathematics has developed through the ages;
- and in this way, to improve the learning of mathematics and stimulate students’ interest to it;

This helps to improve mathematics education at all levels, at the same time, however, realizing that although mathematics is central to our modern society and a mathematically literate citizenry is essential to a country’s vitality, it is not the sole subject worth studying. It is the harmony of mathematics with other intellectual and cultural pursuits that makes the subject interesting, meaningful and worthwhile. In this wider context, history and epistemology of mathematics have a yet more important role to play in providing a fuller education of the community.

This is most important, especially today that many countries are concerned about the level of mathematics their students learn and about their decreasing interest in mathematics at a time when the need for both technical skills and a wider education is rising.

2. Main themes of ESU-6

The ESU is neither a collection of intensive courses, nor a conference for researchers, but something in between. More specifically, it is a place where beginners, more experienced researchers and teachers present their teaching experience to the benefit of the participants and get a constructive feedback from them. It refers to all levels of education – from primary school, to tertiary education – including in-service teachers' training. For ESU-6 the focus is preferably on work and conclusions based on actual classroom experiments and/or produced teaching & learning materials. The programme and activities of ESU-6 are structured around the following *main themes*:

- Theoretical and/or conceptual frameworks for integrating history in mathematics education;
- History and epistemology implemented in mathematics education: classroom experiments & teaching materials, considered from either the cognitive or/and affective points of view; surveys of curricula and textbooks;
- Original sources in the classroom, and their educational effects;
- History and epistemology as tools for an interdisciplinary approach in the teaching and learning of mathematics and the sciences;
- Cultures and mathematics;
- Topics in the history of mathematics education;

In several of these themes emphasis is put on work and conclusions based on actual classroom experiments and/or produced teaching & learning materials, but insightful theoretical ideas and/or historical analysis with visible didactical implications are also welcome.

3. Activities during ESU 6

All activities should refer to the ESU 6 *main themes*. Its scientific program will be structured along these themes, consisting of a few *plenary lectures & panels*, as well as, parallel sessions of *oral presentations*, *short communications* and *posters*, for participants,

who want to speak about their own experience, or research. A major part of the programme, however, consists of *workshops*.

Normally there will be at most one *plenary lecture* per theme.

In the *panels* the participants will work together, well in advance, so that, during the panel session, there is a real discussion among them and/or with the panel coordinator.

Workshops consist in studying a specific subject and having a follow-up discussion. The role of the workshop organizer is to prepare, present and distribute the historical/epistemological or pedagogical/didactical material, which motivates and orients the exchange of ideas and the discussion among the participants. Participants read and work on the basis of this material (e.g. original historical texts, didactical material, students' worksheets etc). This means that there are many workshops in parallel, which will vary in duration (2 hours for workshops based on didactical – pedagogical material; 3 hours for workshops based on historical and/or epistemological material). It would be very good and stimulating if there were workshops, which elaborate on the general ideas presented in the plenary lectures.

Oral presentations will normally be allocated a 30-minute time slot; 25 minutes for presentation and 5 minutes for discussion. It is an activity in the spirit of a conventional research conference.

Finally, 10-minutes *short oral communications* and *poster presentations* (with an abstract of no more than 200 words to be included in the proceedings), as well as *exhibitions* of books and other didactical material will also be possible.

4. Target population

The major part of the participants is expected to be (elementary or secondary) schoolteachers, who may wish to gain new ideas on how they can integrate the history of mathematics into their teaching. However, there will be also university teachers and students, interested in the integration of the history and epistemology of mathematics into

mathematics education, as well as, historians of mathematics, who may give a limited number of lectures and workshops to inform others about recent developments in their domain, and mathematicians with an interest in the relation between mathematics, its history and epistemology, and its role at present and in the past.

5. Time and place

The 6th ESU will take place from Monday 19 to Friday 23 July 2010 at the Vienna University of Technology, Vienna, Austria.

6. Official Languages

The official languages of ESU-5 are: English, German and French.

More specifically:

- All *plenary talks* and *panel discussions* will be in *English*.
- *Oral presentations* can be delivered in any of the official languages. However, for presentations not in English, presenters will be asked to use *two sets of transparencies*; one set in the language they are going to give their presentation and *one set in English*.
- It is preferable to organize *Workshops* in English. Nevertheless, workshops organizers who intend to organize their workshop in another language are encouraged to prepare copies in English of the material to be distributed to the participants (e.g. transparencies, worksheets etc). This will certainly increase participation, as well as, facilitate communication among participants.

7. Submission of proposals

31 October 2009: deadline for submitting **Abstracts** of proposals for all types of activities.

30 November 2009: Notification of acceptance or not of the submitted proposals.

Important: Please, obtain an *Application Form* and send it in electronic form to Evelyne Barbin, Chair of the ESU-6 :
evelyne.barbin@wanadoo.fr.

The members of the *Scientific Program Committee* (SPC) will review the submitted abstracts. At this stage, acceptance of a proposal means that the proposed activity will be included in the ESU-6 Scientific Programme. However, this does not imply that a full text based on this activity will automatically be included in the ESU-6 Proceedings, which are going to be published after the ESU. Full texts will be further reviewed by members of the SPC at the usual international standards. For more details, see *Proceedings*, §10 below.

8. The (international) Scientific Program Committee (SPC)

Evelyne Barbin, University of Nantes (France),
Manfred Kronfellner, Vienna University of Technology (Austria),
Constantinos Tzanakis, University of Crete (Greece),
Abraham Arcavi, Weizmann Institute of Science (Israel)
Renaud Chorlay, IREM, Université Paris 7 (France)
Carlos Coreia de Sa, University of Porto (Portugal)
Ubiratan d' Ambrosio, Campinas University, Sao Paulo, (Brazil)
Abdellah El Idrissi, Ecole Normale Supérieure, Marrakech (Morocco)
Gail FitzSimons, Monash University, Victoria (Australia)
Florence Fasanelli, American Association for the Advancement of Science, USA
Fulvia Furinghetti, University of Genoa (Italy)
Wann-Sheng Horng, National Taiwan Normal University (Taiwan)
Masami Isoda, University of Tsukuba (Japan)
Niels Jahnke, Universität Duisburg-Essen (Germany)
Uffe Jankvist, Roskilde University, (Denmark)
Sten Kaisjer, University of Uppsala (Sweden)
Victor Katz, University of the District of Columbia, Washington, DC (USA)
Ewa Lakoma, Military University of Technology, Warsaw (Poland)
Snezana Lawrence, Simon Langton Grammar School for Boys (UK)
David Pengelley, New Mexico State University (USA)
Luis Radford, Université Laurentienne Sudbury, Ontario (Canada)
Leo Rogers, University of Roehampton (UK)
Tatiana Roque, Universidade Federal do Rio de Janeiro (Brasil)
Gert Schubring, University of Bielefeld (Germany)
Man-Keung Siu, University of Hong Kong (China)
Bjørn Smestad, Oslo University College, Norway
Robert Stein, California State University (USA)
Jan van Maanen, Freudenthal Institute, University of Utrecht (The Netherlands),

Chris Weeks, Downeycroft, Virginstow Beaworthy, UK

The Local Organizing Committee (LOC)

Anita Dorfmayr, University of Vienna,
Elisabeth Hofmann, Vienna University of
Technology
Manfred Kronfellner, Vienna University of
Technology (chair)

9. The web site

Making known the ESU in various countries (in Europe and beyond) is a major task to be realized by the SPC. To this end, a web site will be operating shortly at <http://www.algebra.tuwien.ac.at/kronfellner/esu6/>

This is going to be a very efficient tool to make known the ESU worldwide, to allow for online registration etc.

10. Proceedings

Publishing the Proceedings of the ESU is also a major task. In fact, Proceedings of the previous ESU have become standard references in this area (cf. the Appendix).

The Proceedings will be published **after** ESU-6, so that authors are given the opportunity to enrich their text as a result of the feedback they will gain during this European Summer University.

Each submitted full text for a workshop, or an oral presentation will be reviewed by one or two members of the SPC at the usual international standards.

More details on the deadline for submitting full texts, their size, the format guidelines and the expected date by which the proceedings will be available and sent to all registered participants, will be announced in due course from the ESU-6 and HPM websites

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

<http://www.clab.edc.uoc.gr/hpm/>
respectively.

11. More information – contact

Evelyne Barbin,
Chair of the HPM Group, 2008-2012
IREM-Centre François Viète, Faculté
des sciences et des techniques,

Université de Nantes 2 rue de la
Houssinière, BP 92208, 44322 Nantes
Cedex, France
evelyne.barbin@wanadoo.fr

Manfred Kronfellner
Vienna University of Technology,
Institute of Discrete Mathematics and
Geometry, A-1040 Vienna, Wiedner
Hauptstr. 8-10, Austria
m.kronfellner@tuwien.ac.at

Constantinos Tzanakis
Department of Education, University
of Crete, 74100 Rethymnon, Crete,
Greece
tzanakis@edc.uoc.gr

Evelyne Barbin, France
Manfred Kronfellner, Austria
Constantinos Tzanakis, Greece

History of mathematics in the first Wikipedia logo

For about eight months of 2001, Wikipedia used a logo which I had created some time earlier.



The text is almost impossible to read due to the “fisheye” effect, but it is based on a text from the preface of “Euclid and his Modern Rivals” by Lewis Carroll (Charles Dodgson), which read:

“In one respect this book is an experiment, and may chance to prove a failure: I mean that I have not thought it necessary to maintain throughout the gravity of style which scientific writers usually affect, and which has somehow come to be regarded as an ‘inseparable accident’ of scientific teaching. I never could quite see the reasonableness of this immemorial law: subjects there

are, no doubt, which are in their essence too serious to admit of any lightness of treatment – but I cannot recognise Geometry as one of them. Nevertheless it will, I trust, be found that I have permitted myself a glimpse of the comic side of things only at fitting seasons, when the tired reader might well crave a moment’s breathing-space, and not on any occasion where it could endanger the continuity of the line of argument.”

This note is included in the newsletter in the spirit of Lewis Carroll, to give a moment’s breathing-space...

(Source:

http://en.wikipedia.org/wiki/Wikipedia:Logos_and_slogans)

**Bjørn Smestad,
Norway**

Historical recreational maths in maths education

Narges Assarzadegan from Isfahan, Iran has been using recreational maths problems in her classes. She has taken these problems from historical sources, in particular, from three manuscript sources:

Lub al hisab by Ali ibn Yusuf Monshi (6th hegira, Persian), *Miftah Al Moamelat* by Haseb Tabari (5th hegira, Persian) and *Attakmilah fel Hisab* by Abu Mansour Baghdadi (5th hegira, Arabic). She says that she finds that such problems are a help in making the lessons interesting and appealing to non-mathematical learners. Also translating the word problems into algebra helps with learning algebra and thirdly, she values the culture and ethnomathematical perspectives the problems offer. The students are able to learn about the rich mathematical heritage of Persian and Arabic history (here from 11th–13th centuries CE).

Here are a selection of the problems she has used. For a full copy of her report, please contact Narges Assarzadegan at the email address given below.

Examples

1. A certain tree has its third in the earth, a quarter is in water, and 3 units are outside. What is its length?

$$\left(\frac{1}{3} + \frac{1}{4}\right)x + 3 = x \Rightarrow \frac{5}{12}x + 3 = x \Rightarrow x = \frac{36}{5}$$

2. There is a fish its head is third of its length, its tail is $\frac{1}{5}$, and its middle without head and tail is 10 units. What is its length?

$$\frac{x}{3} + \frac{x}{5} + 10 = x \Rightarrow \frac{7}{15}x + 10 = x \Rightarrow x = \frac{150}{7}$$

3. There is a little pool with three channels, one of them can fill the pool in three days, the second in four days, and other in five days. If all three channels are open at the same time, what is the time to fill the pool?

$$1 \div \left(\frac{1}{3} + \frac{1}{4} + \frac{1}{5}\right) = \frac{60}{20+15+12} = \frac{60}{47}$$

4. There is a little pool with four channels, one of them can fill the pool in one day and night, the second in half a day and night, and third in a quarter of a day and a night and the fourth in third of a day and night. If all four channels are open at the same time, what is the time to fill the pool?

$$1 + 2 + 3 + 4 = 10, \frac{1}{10} = \frac{x}{24}, x = 2\frac{2}{5} \text{ hours}$$

A similar problem is illustrated in *Lub al hisab* where the diagram represents different parts of the day:



- a) Two people have 8 loaves of bread. One has three and other five. A guest arrives. They now divide their bread equally. The guest paid 8 *dinars* for what he had eaten. How much should the first and second person pay? If they divide the 8 loaves into three parts, so they have 24 equal parts, then everybody receive 8 parts. First person had 3 loaves (9 parts) and second had 5 loaves (15 parts). So the first person gives away 1 part, and the second gives away 7 parts. The first receives 1 *dinar* and second receives 7 *dinars*.

$$5 - \frac{8}{3} = \frac{7}{3}, \quad 3 - \frac{8}{3} = \frac{1}{3}$$

- b) There is a little worm, every day it puts out $\frac{1}{5}$ of its body from a hole and

slips back $\frac{1}{6}$. How long does it take for the worm to get out of its hole?

$$\frac{1}{5} - \frac{1}{6} = \frac{1}{30}, \quad \frac{24}{30} + \frac{1}{30} = 1$$

So the worm leaves its hole completely on the beginning of the 25th day.

- c) Two messengers, one from Yazd and the other from Kerman walk towards each other. The first can walk a third of the distance per day, the other a quarter of the distance per day. When will they meet?

$$\frac{1}{3} + \frac{1}{4} = \frac{7}{12}, \quad \frac{7}{12} = \frac{1}{x} \Rightarrow x = \frac{12}{7} = 1\frac{5}{7}$$

Narges Assarzadegan, Isfahan
Narges.assarzadegan@gmail.com

History of mathematics in primary school mathematics education

We are teacher educators in primary school teacher training who are interested in how best to include history of mathematics to enhance mathematics education at the primary level. We would like to get in touch with others who are interested in HPM issues on the primary level, for possible collaboration.

Konstantinos Nikolantonakis,
 University of Western Macedonia, Greece
nikolantonakis@noesis.edu.gr
 Bjørn Smestad,
 Oslo University College, Norway
bjorn.smestad@lui.hio.no

Announcements of events

Summer course on Mathematics and narrative: bringing mathematics back to the cultural mainstream

July 20-24, 2009
 Budapest, Hungary

Philosophical Aspects of Symbolic Reasoning in Early Modern Science and Mathematics (PASR)

August 27-29, 2009
 Ghent, Belgium

This conference brings together scholars working on philosophy of science, history of science, history of philosophy and history of mathematics on the role and function of symbolic representations in the development of modern science and mathematics from the end of the sixteenth century throughout the seventeenth century.

<http://www.pasr.ugent.be/>

Models in Developing Mathematics Education

September 11-17, 2009
 Dresden, Germany

Second announcement:

<http://www.informatik.htw-dresden.de/~paditz/SecondAnnouncementDresden2009.doc>

ESU 6

July 19-23, 2010

Vienna, Austria

See First Announcement in this issue.

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

CERME 7

2011

Rzeszów, Poland



ICME 12

July 8-15, 2012

Seoul, South Korea

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

HPM 2012

To be announced

A note from the Editors

The Newsletter of HPM is primarily a tool for passing on information about forthcoming events, recent activities and publications, and current work and research in the broad field of history and pedagogy of mathematics. The Newsletter also publishes brief articles which they think may be of interest. Contributions from readers are welcome on the understanding that they may be shortened and edited to suit the compass of this publication.

Distributors:

If you wish to be a distributor in a new or unstaffed area please contact the editor.

| Area | Name and address | Email address |
|------------------------------------|--|--|
| <i>Argentina</i> | Juan E. Nápoles Valdés, Lamadrid 549, (3400) Corrientes, ARGENTINA | napoles4369@gmail.com |
| <i>Australia</i> | G. FitzSimons, Faculty of Education, P.O.Box 6, Monash University, 3800 Victoria, AUSTRALIA | gail.fitzsimons@education.monash.edu.au |
| <i>Austria</i> | Manfred Kronfellner, Institute of Discrete Mathematics and Geometry, Vienna University of Technology, Wiedner Haupstr. 8-10, A-1040 Wien, AUSTRIA | m.kronfellner@tuwien.ac.at |
| <i>Belgium and The Netherlands</i> | Sylvia Eerhart, Freudenthal Instituut, Aidadreef 12, 3561 GE Utrecht, THE NETHERLANDS | S.Eerhart@fi.uu.nl |
| <i>Canada</i> | Thomas Archibald, Mathematics Department, Acadia University, Wolfville, NS B0P1X0, CANADA | Tom.Archibald@acadiau.ca |
| <i>China</i> | Ma Li, Linkoping University, ITN, SE - 601 74 Norrkoping, SWEDEN | ma_li@mac.com |
| <i>Eastern Europe</i> | | |
| <i>France</i> | Evelyne Barbin, Centre François Viète, Faculté des sciences et des techniques, 2 Chemin de la Houssinière, BP 92208, 44322 Nantes cedex, FRANCE | evelyne.barbin@wanadoo.fr |
| <i>Germany</i> | Gert Schubring, Inst. f. Didaktik der Math., Universitaet Bielefeld, Postfach 100 131, D-33501, Bielefeld, GERMANY | gert.schubring@uni-bielefeld.de |
| <i>Iran</i> | Mohammad Bagheri, P.O.Box 13145-1785, Tehran, IRAN | sut5@sina.sharif.edu |
| <i>Israel</i> | Ted Eisenberg, Mathematics Department, Ben Gurion University of the Negev, Beer-Sheva 84105, ISRAEL | eisen@math.bgu.ac.il eisenbt@barak-online.net |
| <i>Italy</i> | Giorgio T. Bagni †, Department of Mathematics and Computer Science, University of Udine, Polo Rizzi, via delle Scienze 206, I-33100 Udine, ITALY and Marta Menghini, Dipartimento di Matematica (Universita' La Sapienza), Piazzale A. Moro 5, 00185 Roma ITALY | marta.menghini@uniroma1.it |
| <i>Japan</i> | Osamu Kota, 3-8-3 Kajiwara, Kamakura Kanagawa-ken, 247-0063 JAPAN | kota@asa.email.ne.jp |
| <i>Malaysia</i> | Mohamed Mohini, Department of Science and Mathematical Education, Universiti Teknologi Malaysia, 81310 Johor, MALAYSIA | mohini@fp.utm.my |
| <i>Mexico</i> | Alejandro R. Garciadiego, Caravaggio 24, Col. Nonoalco Mixcoac Del. Benito Juárez 03700 México, D. F. México | gardan@servidor.unam.mx |
| <i>Morocco</i> | Abdellah El Idrissi, E.N.S. B.P: 2400 Marrakech, C.P: 40 000, MOROCCO | a_elidrissi@hotmail.com |
| <i>New Zealand</i> | Bill Barton, Mathematics Education Unit, Dept of Mathematics and Statistics University of Auckland, Private Bag 92-019, Auckland, NEW ZEALAND | b.barton@auckland.ac.nz |
| <i>Other East Asia</i> | Gloria Benigno, Department of Education, Culture and Sports, Region X, Division of Misamis Occidental, Oroquieta City, PHILLIPINES | glorya4444@yahoo.com |
| <i>Russia</i> | Vasilii Mikhailovich Busev | vbusev@yandex.ru |
| <i>Scandinavia</i> | Sten Kaijser, Department of Mathematics, P.O. Box 480, SE- 751 06 Uppsala, SWEDEN | sten@math.uu.se |
| <i>South America</i> | Marcos Vieira Teixeira , Departamento de Matemática , IGCE - UNESP, Postal 178 13 500 - 230 Rio Claro, SP BRAZIL | marti@rc.unesp.br |
| <i>South Asia</i> | Prof. R. C. Gupta, Ganita Bharati Academy, R-20, Ras Bahar Colony, Jhansi-284003, U.P. INDIA | |

| | | |
|--|--|--|
| <i>South East Europe</i> | Nikos Kastanis, Department of Mathematics, Aristotle University of Thessaloniki, Thessaloniki 54006, GREECE | nioka@auth.gr |
| <i>Southern Africa</i> | Paulus Gerdes, Mozambican Ethnomaths Research Centre, C.P. 915, Maputo, MOZAMBIQUE | paulus.gerdes@gmail.com |
| <i>Spain and Portugal</i> | Carlos Correia de Sá, Departamento de Matemática Pura; Faculdade de Ciências da Universidade do Porto; Rua do Campo Alegre, 687 P - 4169 - 007 Porto; Portugal | csa@fc.up.pt |
| <i>Taiwan</i> | Wann-sheng Horng, Math dept NTNU, 88 Sec.4, Tingchou Rd., Taipei, TAIWAN | horng@math.ntnu.edu.tw |
| <i>Turkey</i> | Funda Gonulates, Bagazici Universitesi, Egitim Fakultesi, Bebek- Istanbul, TURKEY | oprucuf@boun.edu.tr |
| <i>United Kingdom</i> | Snezana Lawrence, Simon Langton Grammar School for Boys, Canterbury, CT4 7AS, UK | snezana@mathsisgoodforyou.com |
| <i>United States of America</i> | | |

Table of contents

| | |
|------------------------------|-------|
| Giorgio T. Bagni | p. 1 |
| New Books | p. 2 |
| Min lidle norske regnebog | p. 2 |
| Introducing Paulus Gerdes... | p. 3 |
| Geometry and Basketry... | p. 3 |
| L'EthnoMathématique... | p. 4 |
| Have you read these? | p. 5 |
| Have you been there? | p. 5 |
| Notices | p. 8 |
| First announcement ESU6 | p. 8 |
| Wikipedia logo | p. 12 |
| Historical recreational... | p. 13 |
| History in primary school... | p. 14 |
| Announcements of events | p. 14 |

The views expressed in this Newsletter may not necessarily be those of the HPM Advisory Board.

Please pass on news of the existence of this newsletter to any interested parties.

This and previous newsletters can be downloaded from our website:

<http://www.clab.edc.uoc.gr/hpm/>

Items for the Newsletter should be sent to the editors, preferably by email (see addresses below).

The Newsletter appears three times a year with the following deadlines for next year.

| No. | Deadline for material | Sent to distributors |
|-----|-----------------------|----------------------|
| 72 | 12 October 2009 | 1 November 2009 |
| 73 | 12 February 2010 | 1 March 2010 |
| 74 | 12 June 2010 | 1 July 2010 |

The Newsletter is the communication of the International Study Group on the Relations between the History and Pedagogy of Mathematics, an affiliate of the International Commission on Mathematical Instruction.

The Newsletter is free of charge, available upon request from the distributor for your area, and may be reproduced with acknowledgement.

Editors:

Chris Weeks, chrs.weeks@gmail.com (Downeycroft, Virginstow, Beaworthy, GB - EX21 5EA, Great Britain)

Bjørn Smestad, bjorn.smestad@lui.hio.no (Faculty of Education and International Studies, Oslo University College, Postbox 4 St. Olavs plass, N-0130 Oslo, Norway)

HPM Advisory Board:

| | |
|-------------------------------|--|
| Arcavi Abraham | Weizmann Institute of Science, Rehovot, 76100, Israel |
| Barbin Evelyne | Universite de Nantes, IREM-Centre Francois Viete, France |
| Chorlay Renaud | IREM, Université Paris 7, 175-179 rue Chevaleret, 75013 Paris, France |
| D'Ambrosio Ubiratan | Pontificia Universidade, Catolica de Sao Paulo, Brazil |
| El Idrissi Abdellah | Ecole Normale Suprieure, BP 2400, ENS, Marrakech, CP. 40000 Maroc |
| Fasanelli Florence | American Association for the Advancement of Science, USA |
| FitzSimons Gail | Faculty of Education, PO Box 6, Monash University, Victoria 3800, Australia |
| Furinghetti Fulvia | Dipartimento di Matematica dell'Universita di Genova, Genova, Italy |
| Hornng Wann-Sheng | Department of Mathematics, National Taiwan Normal University, Taiwan |
| Isoda Masami | Graduate School of Comprehensive Human Science, University of Tsukuba, Japan |
| Jahnke Niels | Fachbereich Mathematik, Universität Duisburg-Essen, Germany |
| Jankvist Uffe | Department of Science, Roskilde University, P.O. Box 260, DK-4000 Roskilde, Denmark |
| Kaisjer Sten | Department of Mathematics, University of Uppsala, Uppsala Sweden |
| Katz Victor | University of the District of Columbia, Washington, DC, USA |
| Kronfellner Manfred | Vienna University of Technology, Vienna, Austria |
| Lawrence Snezana | Simon Langton Grammar School for Boys, UK |
| Pengelly David | Department of Mathematical Sciences, New Mexico State University, Las Cruces, USA |
| Radford Luis | École des sciences de l'éducation, Université Laurentienne, Sudbury, Ontario, Canada |
| Roque Tatiana | Universidade Federal do Rio de Janeiro, Brasil |
| Schubring Gert | IDM, Universitat Bielefeld, Postfach 100 131, D-33501 Bielefeld, Germany |
| Siu Man-Keung | Department of Mathematics, University of Hong Kong, Hong Kong SAR, CHINA |
| Smestad Bjørn | Faculty of Education, Oslo University College, Norway |
| Stein Robert | California State University, San Bernardino, USA |
| Tzanakis Constantinos | Department of Education, University of Crete, Rethymnon 74100, Greece |
| van Maanen Jan | Freudenthal Institute, Utrecht University, The Netherlands |
| Weeks Chris | Downeycroft, Virginstow Beaworthy, UK |
| Winicki Landman Greicy | Department of Mathematics and Statistics, California State Polytechnic University, USA |