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

These and other news of the HPM group are also available on the website

http://grouphpm.wordpress.com/

(the online and on time version of this newsletter).

7th EUROPEAN SUMMER UNIVERSITY ON THE HISTORY AND EPISTEMOLOGY IN MATHEMATICS EDUCATION

ESU-7

14-18 July 2014

Aarhus University, Campus Emdrup, Denmark

Important remark: although ESU-7 will be organized by Aarhus University, the event will take place in Campus Emdrup, which is located in **Copenhagen**.

FIRST ANNOUNCEMENT

The initiative of organizing a *Summer University* 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, 2007 and 2010 in different places in Europe:

Montpellier (France),
Braga (Portugal),
Louvain-la-Neuve and Leuven (Belgium),
Uppsala (Sweden),
Prague (Czech Republic),
Vienna (Austria).

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

- o to provide a school for working on a historical, epistemological and cultural approach to mathematics and its teaching, with emphasis on actual implementation,
- o to give the opportunity to mathematics teachers, educators and researchers to share their teaching ideas and classroom experiences related to a historical perspective in teaching,
- o to motivate further collaboration along these lines, among teachers of mathematics and researchers on history and education of mathematics in Europe and beyond, attempting to reveal the following aspects of mathematics:
    - o Mathematics as a human intellectual enterprise with a long history, a vivid present and an as yet unforeseen future;
    - o Although the "polished" products of mathematics form the part of mathematical knowledge that is communicated, criticized (in order to be finally accepted or rejected) and serve as the basis for new work, the process of "doing mathematics", producing mathematical knowledge, is equally

important, especially from a didactical point of view;
    - o 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";
    - o This perception of mathematics should not only be the core of the teaching of mathematics, but also the image of mathematics communicated 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:

- o Mathematics is the result of contributions from many different cultures;
- o Mathematics has been in constant dialogue with other sciences, arts and technology;

- 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 in mathematics.

This helps to improve mathematics education at all levels, and at the same time also realize that although mathematics is central to our modern society and although a mathematically literate citizenry is essential to a country's vitality, historical and epistemological issues of mathematics is also worth studying. The harmony of mathematics with other intellectual and cultural pursuits also 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, and especially today where many countries are concerned about the level of mathematics which their students are learning, and about the students' decreasing interest in mathematics at a time when the need for both technical skills and a broader education is increasing.

2. Main themes of ESU-7

The ESU is more a collection of intensive courses than a conference for researchers. More specifically, it is a place where teachers and researchers meet and work together. It is also a place where beginners, more experienced researchers and teachers present their teaching experience to the benefit of the participants and receive constructive feedback from them. It refers to all levels of education – from primary school, to tertiary education – including in-service teachers' training. The focus is preferably on work and conclusions based on actual classroom experiments and/or produced teaching and learning materials.

The program and activities of ESU-7 are structured around the following *main themes*:

1. Tools of history and epistemology, theoretical and/or conceptual frameworks for integrating history in mathematics education;

2. Classroom experiments and teaching materials, considered from either the cognitive or/and affective points of view; surveys of curricula and textbooks;

3. Original sources in the classroom, and their educational effects;

4. History and epistemology as tools for an interdisciplinary approach in the teaching and learning of mathematics and the sciences;

5. Culture and mathematics;

6. Topics in the history of mathematics education;

7. History of mathematics in the Nordic countries.

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

3. Activities during ESU 7

All activities should refer to the ESU-7 *main themes*. Its scientific program will be structured along these themes, consisting of a few *plenary lectures* and *panels*. A major part of the program consists of *workshops*. The program will also contain parallel sessions of *oral presentations* and *short communications* about *posters* for participants, who want to speak about their own experience or research.

o Normally there will be at most one *plenary lecture* per theme. The plenary lectures are conceived as introductory lectures for the workshops.

o 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. The themes of the two *panels* for ESU7 will be:

- History and philosophy of mathematics, technics and technology in mathematics education
- The question of evaluation and assessment of experiences with introducing history of mathematics in the classroom

o *Workshops* consist of 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' work, etc). There are many workshops in parallel, which vary in duration (2 hours for workshops on didactical/pedagogical material; 3 hours for workshops on historical/epistemological material). To the extent possible, workshops may elaborate on the ideas presented in the plenary lectures.

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

o There will be special sessions for *short oral communications* about *poster presentations*. *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 also be university teachers and students in attendance who are 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 7th ESU will take place from Monday 14 to Friday 18 July 2014 at the **Aarhus University, Campus Emdrup (Copenhagen), Denmark.**

6. Official Languages

The official languages of ESU-7are: English, Danish, and French.

More specifically:

- All *plenary talks* and *panel discussions* will be in *English*.
- It is preferable to organize *Workshops* in English. Nevertheless, workshop 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.
- *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**.

7. Submission of proposals

31. October 2013: **deadline** for submitting **Abstracts** of proposals for all types of activities.

Send abstracts of proposals in electronic form to:

Evelyne Barbin, Chair of the ESU7:
    evelyne.barbin@wanadoo.fr

Tinne Hoff Kjeldsen, Co-chair:
    tinne.kjeldsen@ind.ku.dk

Uffe Thomas Jankvist, Co-chair:
    utj@dpu.dk

30. November 2013: Notification of acceptance or not of the submitted proposals.

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-7 Scientific Program. However, *this does not imply that a full text based on this activity will automatically be included in the ESU-7 Proceedings*, which will be published after the ESU. Full texts of program activities will be further reviewed by members of the SPC, using the usual international standards. For more details, see *Proceedings,* §10 below.

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

Evelyne Barbin, University of Nantes (France) (Chair)

Tinne Hoff Kjeldsen, University of Copenhagen (Denmark) (Co-chair)

Uffe Jankvist, Aarhus University, (Denmark) (Co-chair)

George Booker, Griffith University (Australia)

Renaud Chorlay, IREM, Université Paris 7 (France)

Kathy Clark, Florida State University (USA)

Ubiratan d'Ambrosio, Campinas University, Sao Paolo (Brazil)

Abdellah El Idrissi, Ecole Normale Supérieure, Marrakech (Morocco)

Florence Fasanelli, American Association for the Advancement of Science (USA)

Gail FitzSimons, Monash University, Victoria (Australia)

Fulvia Furinghetti, University of Genoa (Italy)

Wann-Sheng Horng, National Taiwan Normal University (Taiwan)

Sunwook Hwang, Soongsil University, Seoul (Korea)

Masami Isoda, University of Tsukuba (Japan)

Niels Jahnke, Universität Duisburg-Essen (Germany)

Sten Kaisjer, University of Uppsala (Sweden)

Victor Katz, University of the District of Columbia, Washington, DC (USA)

Manfred Kronfellner, Vienna University of Technology (Austria),

Ewa Lakoma, Military University of Technology, Warsaw (Poland)

Snezana Lawrence, Simon Langton Grammar School for Boys (UK)

Maria Rosa Massa-Esteve, University Politecnica of Catalunya (Spain)

David Pengelley, New Mexico State University (USA)

Luis Puig, University of Valencia (Spain)

Luis Radford, Université Laurentienne Sudbury, Ontario (Canada)

Tatiana Roque, Universidade Federal do Rio de Janeiro (Brasil)

Gert Schubring, University of Bielefeld (Germany)

Man-Keung Siu, University of Hong Kong (China)

Bjorn Smestad, Oslo University College, (Norway)

Robert Stein, California State University (USA)

Constantinos Tzanakis, University of Crete (Greece)

Jan van Maanen, Freudenthal Institute, University of Utrecht (The Netherlands),

Chris Weeks, Downeycroft, Virginstow Beaworthy (UK)

Geisy Winicki-Landman, Califormia State Polytechnic University (USA)

The *Local Organizing Committee* (LOC)

Uffe Thomas Jankvist, Aarhus University (Chair)

Tinne Hoff Kjeldsen, University of Copenhagen

Morten Misfeldt, Aalborg University

Lena Lindenskov, Aarhus University

Pernille Ussing-Nielsen, Aarhus University

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. This will be a very efficient tool to make known the ESU worldwide and 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-7, 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, 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-7 and HPM websites

http://conferences.au.dk/ESU-7/

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

11. For further information – contact
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Evelyne Barbin, France
Tinne Hoff Kjeldsen, Denmark
Uffe Thomas Jankvist, Denmark

WG12 Report: history in mathematics education

About the WG on history in mathematics education

2013 was the third time that the history working group was part of the CERME program. This time the group had about twenty participants, presenting twelve papers and three posters.

The educational scope of the contributions ranges from the use of history in kindergarten over primary and secondary school, upper secondary school, tertiary level, and teacher education. In addition to this, the group also has studies on the history of mathematics education as long as they have relevance for mathematical practices of today, as seen from the main themes in the call for papers:

1. Theoretical, conceptual and/or methodological frameworks for including history in mathematics education;
2. Relationships between (frameworks for and empirical studies on) history in mathematics education and theories and frameworks in other parts of mathematics education;
3. The role of history of mathematics at primary, secondary, and tertiary level, both from the cognitive and affective points of view;
4. The role of history of mathematics in pre- and in-service teacher education, from cognitive, pedagogical, and/or affective points of view;
5. Possible parallelism between the historical development and the cognitive development of mathematical ideas;
6. Ways of integrating original sources in classrooms, and their educational effects,

preferably with conclusions based on classroom experiments;

7. Surveys on the existing uses of history in curricula, textbooks, and/or classrooms in primary, secondary, and tertiary levels;
8. Design and/or assessment of teaching/learning materials on the history of mathematics;
9. The possible role of history of mathematics/mathematical practices in relation to more general problems and issues in mathematics education and mathematics education research.

Papers presented in WG12

Alpaslan, M. & Güner, Z.	Teaching modules in history of mathematics to enhance young children's number sense
Bayam, S. B.	Students' views about activities for history of mathematics included in mathematics curriculum
Bjarnadóttir, K.	Arithmetic textbooks and 19th century values
Clark, K. & Phillips, L. G.	"I was amazed at how many refused to give up": Describing one teacher's first experience with including history
Jankvist, U. T.	The use of original sources and its possible relation to the recruitment problem
Kaenders, R., Kvasz, L. & Weiss-Pidstrygach, Y.	History of mathematics as an inspiration for educational design
Kotarinou, P. & Stathopoulou, C.	The history of 5th postulate: Linking mathematics with other disciplines through drama techniques
Krüger, J.	The power of mathematics education in the 18th century
Krüger, J. & van Maanen, J.	Evaluation and design of mathematics curricula: Lessons from three historical cases
Lawrence, S.	Making sense of Newton's mathematics
Mota, C., Ralda, M. E. & Estrada, M. F.	The teaching of the concept of tangent line using original sources
Tsiapou, V. & Nikolantonakis, K.	The development of place value concepts to sixth grade students via the study of the Chinese abacus

Posters presented in WG12

Moeller, R. D. & Collignon, P.	Calculus and applications – Learning from history in teacher education
Monteiro, T. M.	Ideas about modern mathematics and teacher trainees at Liceu Normal de Pedro Nunes (1957-1971)
Navarro, M. & Puig, L.	Facets of the presentation of the Cartesian coordinate system in Euler's *Introductio in Analysin Infinitorum* and Lacroix's textbooks

Themes and questions discussed during the WG sessions

The presentation of papers and following group discussions were ordered according to five general themes deemed important for history *in* and *of* mathematics education:

i. Interdisciplinarity
ii. Theoretical frameworks in history *of* mathematics education
iii. History in pre-high school mathematics education
iv. History in high school mathematics education
v. History of mathematics in teacher education and design

In the following, we list the questions that initiated and/or formed the subgroup discussions of the five themes.

Theme I: Interdisciplinarity

- What is true interdisciplinarity? (e.g., the principles, techniques, frameworks, etc. from one discipline that are used to gain new insights within another discipline.)
- How do we 'measure' the level of interdisciplinarity obtained in a given context?
- To what extent does *interdisciplinarity* (need to) go hand in hand with *cooperation between researchers*?

- What is a good example of interdisciplinary research; and what is a non-example?
- Do we consider a study about mathematics education as interdisciplinary (i.e., between mathematics and the social sciences)?

Theme II: Theoretical frameworks in history *of* mathematics education

- What is the difference between *story* and *history*?
- What theoretical frameworks are available already?
- To what extent does history of mathematics education require the study of primary sources?

Theme III: History in pre high school mathematics education

- What are the special challenges when using history in primary school, kindergarten, etc.?
- How do we stay *true* to history, i.e., non-Whig, when applying history of mathematics at pre high school levels? (Briefly, 'Whig' history may be explained as an interpretation of the past through the eyes of the present.)
- How do we determine the effect of history, as opposed to the use of physical materials/resources or other interventions (e.g., drama, poetry, posters, and presentations)?

Theme IV: History in high school mathematics education

- How far can you 'push' the use of primary sources when using history of mathematics at high school level? What are techniques for doing so?
- If one of the aims of using history of mathematics at high school level is to develop students' mathematical awareness (beliefs, images, etc.) about mathematics as

a (scientific) discipline, what is then the best way(s) to describe or maybe even 'measure' such development?
- How do we appreciate the principle of 'authentic practice' (i.e., to have the students act as if they were a 17th century surveyor, or a Roman treasurer?)
- What role can history in mathematics education play in building new mathematical concepts with the students? Are there other specific domains in which history in mathematics education was useful, or can be useful?

Theme V: History of mathematics in teacher education

- In the UK there is an increasing public opinion that the universities should get out of teacher training and that teachers should be employed by schools where they will train on the job. If this is the case, what role would or could academic research in the history of mathematics have in teacher training?
- What is the role (from a policy/institutional point of view) of history of mathematics in teacher/mathematics teacher education?
- What lessons can we learn about the engagement of teachers with the history of mathematics and their professional progression for the teacher training?
- What part of cultural/historical/heritage implications does the history of mathematics have in teacher training?

Selected outcome of the group discussions

In the final session, every subgroup gave a report of its discussion of the five themes and the related questions. Providing a full account of all these subgroup discussions is beyond the possible scope of this introductory report, but in order to illustrate what went on in the WG we shall focus on a few of the themes and

questions by drawing in viewpoints and arguments on these from all subgroup reports.

The first is theme II. The reason for including this as one of the general themes has to do with our experiences of sometimes receiving manuscripts (e.g., when reviewing for journals) that seem to report more of a story related to mathematics education, than to report on an actual historical research study. We are delighted to report that this was not the case of the participants of WG12, which was also reflected in the discussions. For example, there was a consensus about *story* being something narrative, whereas *history*, although it may contain narratives (or stories), is structured by theoretical frameworks, the purpose of which includes being able to see benefits or limitations, to communicate results, and to enable the researchers to organize and present findings, assertions, etc. As examples of such frameworks, the participants pointed to sample constructs from history research, e.g., those of more externalistic historiography of studying factors crucial to the development of institutions, etc. But in the light of main theme 9, frameworks from mathematics education research of course also play an important role in creating a scene for pointing at possible consequences for modern day practice. As to the role of primary sources, all participants consider these practically a necessity for conducting history of mathematics education. But one important aspect regarding this is that primary sources in this context can be of various different kinds, including written documents, oral records, textbooks, conference proceedings, etc. This is different from when discussing, for example, theme IV, where the reference to primary sources usually refers to original mathematical texts.

The use of history at high school level (***theme IV***) is something that has been extensively discussed within the context of using history in mathematics education, not least because students at this level to some degree can be successfully exposed to original sources, even if it is still a challenging task for them. But what about using history in pre-high school education, such as primary school, kindergarten, and other early childhood education contexts? An actual reading of original texts at this level is often far beyond pupils' reach. The participants point to the fact that in practice when using history at younger age levels there is a need for compromise, also in order to make the mathematics itself more accessible to children. In particular with very young children there may be the need for narratives in the form of telling stories of mathematics, rather than confronting them with the actual history of mathematics. But as one of the subgroups state in their report: "You have to tell stories, but the knowledge of history enables you to tell *true* stories." To the question of why one would even bother to go to all the efforts of bringing in history of mathematics to younger aged pupils, another subgroup refers to the discussion of providing *context* in the teaching of mathematics stating that lack of context can have a negative influence on learning and that "history provides that context" which is often needed and welcome.

The above naturally links in with ***theme V***, illustrating that sound knowledge of history of mathematics can act as a valuable resource for teacher practice. But equally important is that history of mathematics has a role to play in mathematics teachers' professional development – something that was illustrated through a few empirical studies issued in the late 1970s and early 1980s. Nevertheless, the frequency with which we come across examples from practice of using history of mathematics in mathematics teacher training is

still fairly low. Why is this so? It is an open question. But it is clear that it is related to the matter, as one subgroup mentions, of showing teachers, mathematics educators, curriculum designers, and politicians the benefits and potential of using history of mathematics in mathematics education. How to possibly, and partly, do so is addressed next.

A permeating question of frameworks and constructs

One topic or question which permeated many of the other discussions and to which we found ourselves returning again and again, is that of which frameworks, theories, or theoretical constructs from mathematics education research may apply best to the various uses of history of mathematics in the teaching and learning of mathematics. The challenge of conducting studies within the scope of WG12 is to find a balance between the three fields: that of the *history of mathematics*, *mathematics*, and *mathematics education* (*research*). This requires knowledge of all three disciplines, often making such studies a relatively demanding task to undertake. For 'outsiders', e.g., math educators who are not as familiar with the history of mathematics, we need to be able to provide convincing arguments for wanting to resort to history in the teaching and learning of mathematics. A sensible way of doing so is to argue by means of theoretical constructs from mathematics education research and to rely on suitable mathematics education frameworks for analyzing data, presenting and discussing results, etc. For 'insiders', who are familiar with history of mathematics, it is important not to be unintentionally anachronistic (or 'Whig') when including history in the teaching and learning of mathematics. From an educational point of view, this is important if having as a goal to foster historical awareness

with students. From a research community point of view, it is important if we want to maintain our integrity and strengthen the connections with research historians of mathematics.

Evaluation and Aspects to consider for the next WG

In accordance with decisions made at CERME-7, more time was allocated to poster presenters during the WG sessions of CERME-8. More precisely poster presenters gave short presentations of their posters in the WG *before* they presented their posters in general. This initiative seemed to function well, and we plan to repeat it again. As always, the history group at CERME works to maintain very close connections to the HPM group, not least within the leading team. As new initiatives for CERME-9, we have in mind to broaden the 'bullets' in the call for papers to also encompass studies related to epistemology of mathematics in relation to mathematics education and the use of philosophy of mathematics in the teaching and learning of mathematics.

CERME-9

The next CERME will be held in Prague, Czech Republic, 4 – 8 February 2015. The Local Chair is Nada Vondrova and the Program Chair is Konrad Krainer. Please check http://www.mathematik.uni-dortmund.de/~erme/ in the future for information.

Uffe Thomas Jankvist,
Kathy Clark,
Snezana Lawrence,
Jan van Maanen

Have you read these?

(July, 2013)

Anderson, I.; Crilly, T. (2013). Robert Richard Anstice (1813–1853): a Hertfordshire bicentenary. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (2), 75-83.

Bietenholz, W. (2013). Should We Revitalize the Maya Numerals? *The Mathematical Intelligencer* (Article not assigned to an issue).

Biggs, N. (2013). Thomas Harriot on continuous compounding. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (2), 66-74.

Bjarnadóttir, K. (2013). The Implementation of the 'New Math' in Iceland: Comparison with Neighbouring Countries. *International Journal for the History of Mathematics Education*, Vol. 8 (1).

Blåsjö, V. (2012). The rectification of quadratures as a central foundational problem for the early Leibnizian calculus. *Historia Mathematica*, 39 (4), 405-431.

Brueckler, F. M.; Stilinović, V. (2013). Teaching arithmetic in the Habsburg Empire at the end of the 18th century—A textbook example. *Historia Mathematica*, 40 (3), 309-323.

Christianidis, J.; Oaks, J. (2013). Practicing algebra in late antiquity: The problem-solving of Diophantus of Alexandria. *Historia Mathematica*, 40 (2), 127-163.

Ciliberto, C.; Colombo, E. S. (2013). Pasquale del Pezzo, Duke of Caianello, Neapolitan mathematician. *Archive for History of Exact Sciences*, Vol. 67 (2), 171-214.

Eden, A.; Irzik, G. (2012). German mathematicians in exile in Turkey: Richard von Mises, William Prager, Hilda Geiringer, and their impact on Turkish mathematics. *Historia Mathematica*, 39 (4), 432-459.

Flood, R. (2013). James Clerk Maxwell (BSHM–Gresham Lecture 2012). *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (2), 84-96.

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Jardine, D. (2012). Alden Partridge and Practical Mathematics Education in 19th Century America. *International Journal for the History of Mathematics Education*, Vol. 7 (2).

Karp, A. (2012). Interview with Heinrich Bauersfeld. *International Journal for the History of Mathematics Education*, Vol. 7 (2).

Karp, A. (2013). Interview with Alexey Werner. *International Journal for the History of Mathematics Education*, Vol. 8 (1).

Kichenassamy, S. (2012). Brahmagupta's propositions on the perpendiculars of cyclic quadrilaterals. *Historia Mathematica*, 39 (4), 387-404.

Lim, T. S.: Wagner, D. B. (2013). The Grand Astrologer's platform and ramp: Four problems in solid geometry from Wang Xiaotong's 'Continuation of ancient mathematics' (7th century AD). *Historia Mathematica*, 40 (1), 3-35.

Malpangotto, M. (2013). L'univers auquel s'est confronté Copernic: La sphère de Mercure dans les *Theoricae novae planetarum* de Georg Peurbach. *Historia Mathematica*, 40 (3), 262-308.

Morel, T. (2013). An Institutional History of Classical Mathematical Teaching in Saxony (1773-1848). *International Journal for the History of Mathematics Education*, Vol. 8 (1).

Mozaffari, S. M. (2013). Wābkanawī's prediction and calculations of the annular solar eclipse of 30 January 1283. *Historia Mathematica*, 40 (3), 235-261.

Rauff, J. (2013). The chicken went into the bush and never came back: a note on infinity. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (2), 97-100.

Rommevaux, S. (2013). A treatise on proportion in the tradition of Thomas Bradwardine: The *De proportionibus libri duo*

(1528) of Jean Fernel. *Historia Mathematica*, 40 (2), 164-182.

Schlimm, D. (2013). The correspondence between Moritz Pasch and Felix Klein. *Historia Mathematica*, 40 (2), 183-202.

Schubring, G. (2012). Report on the First Brazilian Meeting on Research into the History of Mathematics Teaching. *International Journal for the History of Mathematics Education*, Vol. 7 (2).

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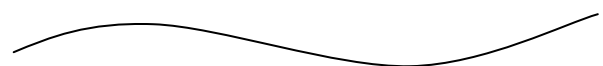
Announcements of events

MEI5 MATHEMATICS EDUCATION: CROSSING BORDERS

September 5-6, 2013
Dublin, Ireland

Dear Friends in the HPM Community,

I am pleased to let you know that the first call for papers has been announced on the MEI 5 web page, www.spd.dcu.ie/mei.

This is the fifth in the series of "Mathematics Education Ireland" biennial conferences. International keynote speakers are: Tinne Hoff Kjeldsen (Roskilde), John Monaghan (Leeds) and Jennifer Young-Loveridge (Waikato).

Research reports, reviews, and posters relating to work done in mathematics education across the educational spectrum are invited. The conference proceedings will be published. Papers should be submitted by 8th April 2013. (**Editors' Note:** This deadline has of course passed.) For further details, see the conference web page.

Although MEI 5 does not specialize in HPM, the theme of the conference, "Mathematics Education: Crossing Boundaries", is amenable to HPM contributions – to *dépaysement* in all its manifestations! If you would like to send this announcement to others, I encourage you to do so.

Maurice OReilly

Third International Conference of the History of Mathematics Education (3ICHME)

September 25-28, 2013
Uppsala, Sweden

1st Announcement

Organizer: Department of Education, Uppsala University

We are calling for papers for this third conference continuing the successful works initiated in Iceland (June 2009) and continued in Portugal (October 2011). Abstracts of proposed contributions (length: about one page) should be submitted by **March 31, 2013**. The decision about acceptance will be communicated by **May 15, 2013**. (**Editors' Note:** These deadlines have passed.) Submission of abstracts, and later on papers, is done via the conference website:

http://www.blasenhus.uu.se/3ICHME

The conference

History of mathematics education, since it first became visible internationally at ICME 10 in 2004 in Copenhagen as the TSG 29, is meanwhile a well-established research area. The first international journal devoted to this field of study, the *International Journal for the History of Mathematics Education*, has been published since 2006. History of mathematics education became a subject in

various international meetings, for instance at the ESU-5 (Prague, 2007) and ESU-6 (Vienna, 2010), at the CERME meetings, and at ICME 11 (Monterrey, 2008, TSG 38), ICME 12 (Seoul, 2012, TSG 35) and HPM2012 (Daejong, 2012)

The first specialized research conference, entitled "On-going Research in the History of Mathematics Education", held in Garðabær near Reykjavík (the capital of Iceland) in 2009, turned meanwhile to a series of such specialized conferences. We are now organizing the third international conference, this time in Uppsala, Sweden. Uppsala University has longstanding traditions in studies of the history of education and also more recently in the history of mathematics and mathematics education.

The themes treated in the former conferences were, in particular (see also the Proceedings): Geometry teaching, Algebra teaching, Teaching of calculus, Interdisciplinarity and contexts, the modern mathematics movements, Curriculum history, Development of mathematics education in specific countries, Practices of teaching, Mathematics textbooks and Transmission and reception of ideas.

We are projecting to publish peer-reviewed proceedings.

Organizing committee:

- Kristín Bjarnadóttir
- Fulvia Furinghetti
- Johan Prytz
- Gert Schubring

Further information about the conference, accommodation and Uppsala is or will be available on the conference website.

Registration and conference fee
Before **June 15**, **2013**, the fee is 160 Euros, after that the fee is 190 Euros. Last day of registration and payment is **August 28, 2013**. Registration is done via the conference website.

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Information sent by
Johan Prytz
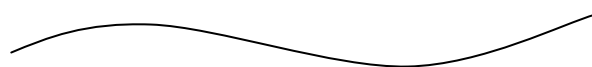
II CONGRESO IBEROAMERICANO DE HISTORIA DE LA EDUCACIÓN MATEMÁTICA

(II IBEROAMERICAN CONGRESS OF HISTORY OF MATHEMATICS EDUCATION)

November 4-7, 2013
Cancun, Mexico

(The following information is in Spanish)

¿Qué es el CIHEM?

La realización del II Congreso Iberoamericano de Historia de la Educación Matemática atiende a la necesidad de profundizar en el intercambio entre investigadores y en la producción del conocimiento ligada a la historia de la educación matemática en América Latina, en Portugal y en España, mostrando las diversas perspectivas y metodologías que se han seguido hasta el momento. El interés por esta temática ha crecido enormemente en el ámbito de la Educación Matemática en todos estos países. Comisiones internacionales, revistas con números especiales sobre este asunto, grupos de trabajo, de investigación y muchos otros indicadores justifican un evento de esta naturaleza en seguimiento de lo que se ha realizado en Covilhã, Portugal.

Organizadores:

Departamento de Matemática Educativa – Cinvestav, IPN – México
Red de Centros de Investigación en Matemática Educativa AC

Sociedad Matemática Mexicana AC
Comité Latinoamericano de Matemática Educativa (CLAME)

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http://www.cihem2.com/br/portada/
(available in **Spanish** and **Portuguese**)
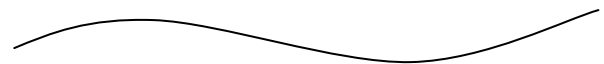
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Table of contents

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

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

These and other news of the HPM group are also available on the website

http://grouphpm.wordpress.com/

(the online and on time version of this newsletter).

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
84	**12 October 2013**	**1 November 2013**
85	12 February 2014	1 March 2014
86	12 June 2014	1 July 2014

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.

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A note from the Editors

The Newsletter of HPM is primarily a tool for passing along 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.