



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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This and earlier issues of the Newsletter can be downloaded from our website

<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).

A message from the new Chair of HPM

Dear colleagues,

I would like to take advantage of this newsletter to express my gratitude to Evelyne Barbin and the HPM Advisory Board for the trust and confidence they have placed in me by inviting me to chair our group. I will work hard with all of you to continue the work of our past chairs and members in order to ensure that HPM continues playing its important scientific role.

I joined HPM in the summer of 1992, when our quadrennial meeting was held in Toronto, just before ICME-7. The summer of 1992 was very important in my life. After spending one year at the Université du Québec à Montréal working with a remarkable team of

mathematics educators, psychologists, and historians of mathematics, I had to decide whether or not to come back to my university — Universidad de San Carlos de Guatemala — or to accept an offer that Laurentian University in Ontario was making me to join its school of education. It was in this turmoil of feelings and uncertainties that I went to Toronto to participate in the HPM meeting.

The Toronto HPM meeting gave me the opportunity to meet people whose work I have read with great interest and passion. For instance, I met John Fauvel, whose natural curiosity and inquisitive mind impressed me tremendously. I remember that, during a coffee break, John came to me and invited me to sit on some stairs nearby so that I could tell him how we were trying to distinguish in Montreal between arithmetic and algebraic thinking. I mentioned that our approach was based on an investigation of ontogenetic and

historical developments and synthesized, as best as I could, our findings. I was unaware of how this research problem and the way we tackled it in Montreal was going to affect me during the following years until now. If I see retrospectively the work that we did in Montreal, I find there, albeit in a nascent form, problems and topics that have become the major areas of my research— e.g., the emergence of algebraic symbolism, the development of algebraic thinking, the relationships between ontogenesis and phylogenesis, and the relationships between mathematical thinking and culture.

I found very inspiring and stimulating all the presentations that I attended at the HPM 1992 meeting. As you know, a selection of papers presented at that meeting and HPM talks at ICME-7 were published in *Vita mathematica: historical research and integration with teaching* by Ron Calinger. I read the book from its first page up the last one and ended up writing a review of it some years later (the review appeared in *Revista Brasileira de História da Matemática*, 4(7), 83-95).



This short overview of my first contact with HPM gives you, I hope, an idea of how important HPM has been in my academic life. Each one of the HPM meetings that I have attended has been profoundly inspiring and motivating. And I would like very much that young researchers have the same invaluable opportunity that the group has offered me to grow intellectually through the group's meetings and network possibilities.

Our next meeting is still a few years ahead of us. Yet, we need to start planning it. We'll do it. But I also feel that we could attempt to bring closer and in a more systematic manner our research interests. HPM can do that. With the development of new communication technologies, distances no longer pose the difficult problems they did in the past. So, what I have in mind is the creation of "research dossiers" that could facilitate exchange and joint work among our members. The idea is that each research dossier revolves around a research theme that would be investigated in the course of several years (2 or 3). The results could be presented at the HPM quadrennial meetings, with updates and short synopsis in each Newsletter. You are invited to organize a research dossier and to identify and invite researchers that you think can contribute to the dossier. I approached some colleagues to invite them to start this initiative.

Luis Puig will be in charge of the dossier "On the first books on Algebra written in Spanish." The dossier starts from the fact that, during the second part of the 16th century, the first books written in Spanish containing chapters on Algebra were published: Marc Aurel's *Libro Primero de Arithmetica Algebratica*, published in 1552 in Valencia, Juan Pérez de Moya's *Arithmetica Practica y*

Especulativa, published in 1562 in Salamanca, Pedro Nunes's *Libro de Algebra en Arithmetica y Geometria*, published in 1567 in Anvers (today Antwerp), and Juan Pérez de Moya's *Tratado de Mathematicas*, published in 1573 in Alcala de Henares. It is an interesting fact that only one of these authors, Pérez de Moya, had Spanish as his mother tongue: Marc Aurel was German, and Pedro Nunes was Portuguese. The goal of the research dossier is to compare the presentation of Algebra in these books.

Another dossier will be devoted to the Middle Age and Renaissance mathematics in the Classroom, featuring an investigation of Tartaglia Galigai and some other authors. This dossier will be carried out under the responsibility of Fulvia Furinghetti. So far, the participants include Adriano Demattè and myself.

A third dossier revolves around "Original sources in the teaching and learning of mathematics." Participants include Uffe Thomas Jankvist, Tinne Hoff Kjeldsen, Hans Niels Jahnke, Renaud Chorlay, and Janet Barnett.

A fourth dossier is under the responsibility of Masami Isoda and will work towards the production of a Lesson Study Book for History of Mathematics.

Again, I invite you to identify a research dossier and invite people to participate in it. Of course, you can also try to recruit people who are not currently HPM members. By interacting and working with HPM people, they will become HPM members! One of the strengths of our group is the interdisciplinary composition—mathematicians, historians, epistemologists,

mathematics educators, etc. Let's try to keep building and capitalizing on that strength!

Luis Radford
Laurentian University, Canada
University of Manchester, UK



CERME-8

Reflections of our Young Researchers

Reported by Snezana Lawrence, Bath Spa University, Bath, England



The CERME-8, which took place in Antalya Manavgat-Side in February this year, had, for the third time, the Working Group on the history of mathematics. This time it was given the title History in Mathematics Education. The leader, as last time was Uffe Thomas Jankvist, who is now also on the Council of the European Society for the Research in Mathematics Education: a timely recognition for his contribution to CERME and also almost coinciding with his new permanent position as associate professor of mathematics education at Aarhus University (Campus Emdrup).

The group was very lively, bringing experienced and new researchers together. Whilst the experienced may not be 'old' the new are certainly young – and so here are their recollections of the CERME-8.

Reflections from Mustafa Alpaslan, Middle East Technical University, Turkey

This was my second participation in the group for the history of mathematics at CERME, the first being CERME-7 in Rzeszow. I strive to incorporate the historical connections into my teaching of mathematics, and base this on studying experts in the field. My paper, "Teaching Modules in History of Mathematics to Enhance Young Children's Number Sense" was reviewed before the congress, and I found the comments by U. T. Jankvist, T. H. Kjeldsen and K. Clark very useful. After the presentation, I got some other feedback and this made me believe that the quality of my paper would increase. I also had a chance to further discuss the paper and how to use history of mathematics with younger children with K. Clark. Considering these experiences, I think that we had a group that supported the development of young researchers in their own fields of interest.

Before coming to Antalya, the group leaders determined five hot topics about using history in mathematics education (for example one was 'interdisciplinarity'). Knowing that these five topics would be discussed made me review the related literature about each of these topics. During this preparatory study, I believe I broadened my perspective in the field: I noticed that I came across valuable sources on the topics set for discussion, like for instance, the ICMI Study edited by J. Fauvel and J. van Maanen. This aspect of the Working Study Group gave me inspiration for my future research and gave me some indication where I may go to search for further resources.

Another issue I wanted to address is about the learning that took place in the group. The papers covered a full range of mathematics education, from early childhood to university level. During the presentations, I noticed how

the use of history differs across various levels of education. For example, it seemed more possible to use the original sources in the upper levels. As for the lower grades, adopting the original sources and/or getting inspired from the historical artefacts appeared to work when the lesson focus was practical work involving some historical artefacts. Secondly, I learnt possible difficulties with using original sources (e.g., the problems of recruiting, transition, retention, as discussed in U. T. Jankvist's paper). This was important for me since I also plan to consult and use some of these original sources in my PhD thesis. Lastly, I learnt more about some arguments and theoretical frameworks (e.g., M. Niss' fundamental reasons for mathematics education) for studying the history of mathematics education. This latter, I hope will be helpful to me to as I start researching for my paper on the first journal in mathematical sciences which began to be published in the 19th century Ottoman Turkey.

Finally, the 12th group in CERME-8 had a great atmosphere. The critiques were quite kind and only aimed at increasing the quality of work done in the name of the HPM spirit. I also believe that the group eminently reflected the CERME spirit as that of communication, collaboration and cooperation.

Here a link for my contributions to the HPM community since 2011: <http://metu.academia.edu/MustafaAlpaslan>

Catarina Mota, Didáxis – Cooperativa de Ensino & CMAT – Universidade do Minho, Portugal

About 15 years ago I started learning about the history of mathematics. Ever since, I use the history of mathematics to learn more mathematics itself and to use this in my teaching. Being able to discuss and interact with colleagues that share my enthusiasm for this subject is always a pleasure and a source of knowledge - that is exactly what I found during the CERME-8.

For five days we learnt about mathematics education in different countries and contexts, in particular how the history of mathematics can be used in the classroom. We heard oral presentations, discussed papers previously given to us, and above all shared ideas about our practice.

CERME 8 was my second CERME experience. The main reason for me to attend CERME again this year was that I found the environment, and the learning experience in this group meant that I can present my work knowing that all the criticisms are going to be made to help me improve. Being a congress in mathematics education, CERME also allows all participants to interact with researchers in different fields within mathematics: algebra, geometry, statistics, teacher training, etc.

As I am a PhD student, CERME provided to me the complete experience in academic research, from writing the paper, to reviewing process, to making oral presentation and listening and critiquing others'. It allowed me make the contact with more experience researches, in a friendly environment where everyone is available and willing to help.

In Antalya, during the Work Group 12 – History in mathematics education – I learned several very important things that I believe will help me improve my own practice:

- how the history of mathematics can be an inspiration for interdisciplinary activities
- that even in the earlier years in school the history of mathematics can help improve students' knowledge and enthusiasm for mathematics
- I became aware of how original sources can be used for the teaching of mathematics
- I realized the importance of history of mathematics in teacher training and how the history of mathematics education can help us today with present difficulties in the teaching of mathematics.

All the experience was fruitful thanks to a wonderful organization, an interesting scientific program and an excellent WG chair (Uffe Thomas Jankvist) and co-chairs (Kathy Clark, Snezana Lawrence and Jan van Maanen). They prepared a program divided into different themes, and this allowed everyone's work to be discussed, and promoted the friendly environment that made us receptive to others opinion, and at the same time available to make contribution with our own expertise.

When I left Antalya I was exhausted but full of energy and ideas, eager to start working and to share the experience with all of those who had not attended. For me, CERME and WG 12 is an experience to repeat.

Teresa Maria Monteiro, Portugal

This CERME is my second, I also attended the CERME in Poland two years ago. My fluency in English is not good enough for discussing more the ideas that I would like to talk about, so that is why I presented a poster rather than a paper.

I wanted to participate in this group because the themes of the group are near to my area of interest. We were able to work together and in small groups (4 or 5 people), which I found very good in terms of clarifying ideas and getting to really know colleagues in the group.

This year, I went back home before the end of the congress, so I did not assist the last two days and I know now that they were very intense. I heard from other colleagues that these two days were also full of good discussion, so I am awaiting eagerly the report of the group.

During the three days that I participated in CERME 8, I learned and reflected a little more about:

- Interdisciplinarity
- examples of what and how can we use the history of mathematics in our classrooms
- examples of how to use historical drama in mathematics classroom
- that there is a similarity of the history of mathematics education in different countries, even between the countries that have different systems and structures of mathematics education now

I would like to share some links on the research I have done related to the poster I presented at CERME-8:

Revista: REMATEC 2012 (Brasil)

<http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0C>

[CwQFjAA&url=http%3A%2F%2Fwww.imatec.net.br%2Farquivos%2Frevista_rematec_09.pdf&ei=a6cjUcbDMsWChQfC4ICYDg&usg=AFQjCNHzQhasjvQYVCQtv_29NaoUFMk7Tg&bvm=bv.42553238,d.ZG4](http://www.imatec.net.br/Farquivos/Frevista_rematec_09.pdf&ei=a6cjUcbDMsWChQfC4ICYDg&usg=AFQjCNHzQhasjvQYVCQtv_29NaoUFMk7Tg&bvm=bv.42553238,d.ZG4)

Congresso: I ENAPHEM 2012, Vitória da Conquista (Brasil)

<http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDMQFjAB&url=http%3A%2F%2Fenaphe.m.galao.com.br%2Fsites%2Fenaphem.galao.com.br%2Ffiles%2FResumo-ENAPHEM-metodologia-doc.doc&ei=L6gjUfTCKMqphAfn5YHgCA&usg=AFQjCNG9d7X8xcnvxPj6HANYAKQaVOqNOw&bvm=bv.42553238,d.ZG4>

<http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDMQFjAB&url=http%3A%2F%2Fenaphe.m.galao.com.br%2Fsites%2Fenaphem.galao.com.br%2Ffiles%2FResumo-ENAPHEM-metodologia-doc.doc&ei=L6gjUfTCKMqphAfn5YHgCA&usg=AFQjCNG9d7X8xcnvxPj6HANYAKQaVOqNOw&bvm=bv.42553238,d.ZG4>

Congresso: SPCE 2011, Guarda (Portugal)

http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDMQFjAB&url=http%3A%2F%2Fwww.ipg.pt%2F11congresso-spce%2Fatas_SPCE2011_volume3.pdf&ei=SKkjUc_LDsiEhQedrYDgDQ&usg=AFQjCNFrGL4_TppXb9kV1cuIGniJQPPfQA&bvm=bv.42553238,d.ZG4

Seminário Temático – Casa da Cerca, Almada (Portugal):

<http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0C>

[EsQFjAE&url=http%3A%2F%2Fwww.uied.fct.unl.pt%2Fmoodle%2Ffile.php%2F28%2FX_Semina_rio_Tema_tico-programa-livro.pdf&ei=SKkjUc_LDsiEhQedrYDgDQ&usg=AFQjCNEKGyh7CUyNHYik0ysich5ZY8gb7w&bvm=bv.42553238,d.ZG4](http://www.uied.fct.unl.pt/moodle/file.php/28%2FX_Semina_rio_Tema_tico-programa-livro.pdf&ei=SKkjUc_LDsiEhQedrYDgDQ&usg=AFQjCNEKGyh7CUyNHYik0ysich5ZY8gb7w&bvm=bv.42553238,d.ZG4)
<http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0CEsQFjAE&url=http%3A%2F%2Fwww.uied.fct.unl.pt%2Fmoodle%2Ffile.php%2F28%2FX_Semina_rio_Tema_tico-programa-livro.pdf&ei=SKkjUc_LDsiEhQedrYDgDQ&usg=AFQjCNEKGyh7CUyNHYik0ysich5ZY8gb7w&bvm=bv.42>



Have you read these?

(February, 2013)

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Abdeljaouad, M. (2012). History of Mathematics Education in the Islamic Countries in the Middle Ages. *International Journal for the History of Mathematics Education*, Vol. 7 (1).

Abdeljaouad, M. M. (2012). Teaching European mathematics in the Ottoman Empire during the eighteenth and nineteenth centuries: between admiration and rejection. *ZDM*, Volume 44, Number 4/August, 483-498.

Ambrosi, G. M. (2012). Pre-Euclidean geometry and Aeginetan coin design: some further remarks. *Archive for History of Exact Sciences*, Vol. 66 (5), 557-583.

Andre, N. R.; Engdahl, S. M.; Parker, A. E. (2012). An Analysis of the First Proofs of the Heine-Borel Theorem. *Loci Convergence* (July 2012).

Bailey, D. H.; Borwein, J. M. (2012). Ancient Indian Square Roots: An Exercise in Forensic Paleo-Mathematics. *The American Mathematical Monthly*, October.

Blåsjö, V. (2012). The rectification of quadratures as a central foundational problem

for the early Leibnizian calculus. *Historia Mathematica*, 39 (4), 405-431.

Bradley, R. E. (2013). De l'Hôpital, Bernoulli, and the genesis of *Analyse des infiniment petits*. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (1), 16-24.

Centina, A.; Fiocca, A. (2012). The correspondence between Sophie Germain and Carl Friedrich Gauss. *Archive for History of Exact Sciences*, Vol. 66 (6), 585-700.

Chan, Y.-C.; Siu, M. K. (2012). Facing the change and meeting the challenge: mathematics curriculum of *Tongwen Guan* in China in the second half of the nineteenth century. *ZDM*, Volume 44, Number 4/August, 461-472.

D'Enfert, R. (2012). Mathematics teaching in French *écoles normales primaires*, 1830–1848: social and cultural challenges to the training of primary school teachers. *ZDM*, Volume 44, Number 4/August, 513-524.

Dumbaugh, D.; Schwermer, J. (2012). The collaboration of Emil Artin and George Whaples: Artin's mathematical circle extends to America. *Archive for History of Exact Sciences*, Vol. 66 (5), 465-484.

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.

Eminger, S. (2012). *Viribus unitis! shall be our watchword*: the first International Congress of Mathematicians, held 9–11

August 1897 in Zurich. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 27 (3), 155-168.

Frejd, P. (2013). Old algebra textbooks: a resource for modern teaching. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (1), 25-36.

Furinghetti, F.; Giacardi, L. (2012). Secondary school mathematics teachers and their training in pre- and post-unity Italy (1810–1920). *ZDM*, Volume 44, Number 4/August, 537-550.

Ginoux, J.-M.; Lozi, R. (2012). Blondel et les oscillations auto-entretenues. *Archive for History of Exact Sciences*, Vol. 66 (5), 485-530.

Gray, J. (2012). Poincaré Replies to Hilbert: On the Future of Mathematics ca. 1908. *The Mathematical Intelligencer* 34(3), 15-29.

Gray, S. B.; Rice Z. (2012). December 21, 2012: A Date of Opportunity. *Mathematics Teacher*, 106 (5), 338.

Hodgson, B. R.; Rogers, L. F. (2012). On International Organizations in Mathematics Education. *International Journal for the History of Mathematics Education*, Vol. 7 (1).

Karp, A. (2012). Interview with Alan Schoenfeld. *International Journal for the History of Mathematics Education*, Vol. 7 (1).

Karp, A. (2012). Soviet mathematics education between 1918 and 1931: a time of radical reforms. *ZDM*, Volume 44, Number 4/August, 551-561.

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

Kilpatrick, J. (2012). The new math as an international phenomenon. *ZDM*, Volume 44, Number 4/August, 563-571.

Lee, A. (2013). Goals and scope of the Archimedes Palimpsest transcriptions. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (1), 1-15.

Lewis, E. F. (2012). P G Tait's schoolboy introduction to complex numbers. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 27 (3), 141-154.

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.

Lorenat, J. (2012). Not set in stone: nineteenth-century geometrical constructions and the Malfatti Problem. *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 27 (3), 169-180.

Loyd, D. R. (2012). How old are the Platonic Solids? *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 27 (3), 131-140.

Marx, C. (2012). Investigations of the coordinates in Ptolemy's *Geographike Hyphegesis* Book 8. *Archive for History of Exact Sciences*, Vol. 66 (5), 531-555.

Murray, D. R. (2012). David Eugene Smith's Adventures in Collecting. *International Journal for the History of Mathematics Education*, Vol. 7 (1).

Petrie, B. J. (2012). Leonhard Euler's use and understanding of mathematical transcendence. *Historia Mathematica*, 39 (3), 280-291.

Pitombeira de Carvalho, J. B.; Dassie, B. A. (2012). The history of mathematics education in Brazil. *ZDM*, Volume 44, Number 4/August, 499-511.

Radford, L. (2012). *Cognição Matemática: História, Antropologia e Epistemologia*. São Paulo, Editora Livraria da Física.



Rideout, B. (2008). *Pappus reborn. Pappus of Alexandria and the changing face of analysis and synthesis in late antiquity*. Master of Arts in History and Philosophy of Science: University of Canterbury. (http://ir.canterbury.ac.nz/bitstream/10092/2329/1/Thesis_fulltext.pdf)

Rowe, D. E. (2012). Mathematics in Wartime: Private Reflections of Clifford Truesdell. *The Mathematical Intelligencer* 34(4), 29-39.

Schubring, G. (2012). Antagonisms between German states regarding the status of mathematics teaching during the 19th century: processes of reconciling them. *ZDM*, Volume 44, Number 4/August, 525-535.

Schubring, G.; Furinghetti, F.; Siu, M. K. (2012). Introduction: the history of mathematics teaching. Indicators for modernization processes in societies. *ZDM*, Volume 44, Number 4/August (Turning Points in the History of Mathematics Teaching – Studies on National Policies), 457-459.

Schwartz, R. K. (2012). 'He Advanced Him 200 Lambs of Gold': The Pamiers Manuscript. *Loci Convergence* (July 2012).

Sørensen, H. K. (2013). What's Abelian about abelian groups? *BSHM Bulletin: Journal of the British Society for the History of Mathematics*, Vol. 28 (1), 37-51.

Stedall, J. (2012). John Wallis and the French: his quarrels with Fermat, Pascal, Dulaurens, and Descartes. *Historia Mathematica*, 39 (3), 265-279.

Turner, L. E. (2013). The Mittag-Leffler Theorem: The origin, evolution, and reception of a mathematical result, 1876–1884. *Historia Mathematica*, 40 (1), 36-83.

Ueno, K. (2012). Mathematics teaching before and after the Meiji Restoration. *ZDM*, Volume 44, Number 4/August, 473-481.

Wardhaugh, B. (2012). Learning Geometry in Georgian England. *Loci Convergence* (August 2012).



Announcements of events

IHoM 2: Irish Conference on History of Mathematics

May 17, 2013
Dublin, Ireland



Dear Friends in the HPM Community,

I am pleased to announce that the second Irish Conference on the History of Mathematics will take place at St Patrick's College, Drumcondra, Dublin on 17th May. The first conference in the series took place on 12th May 2011 in NUI Maynooth, see: <http://www.maths.nuim.ie/historyofmathsconf>

It is expected that IHoM 2 will build on the high standards set on that occasion. Abstracts are invited for presentations in any area of History of Mathematics, including 'HPM'.

Those interested should contact me directly. It promises to be an enjoyable and stimulation day!

Maurice O'Reilly
maurice.oreilly@spd.dcu.ie



24th International Congress of History of Science, Technology and Medicine

July 22-28, 2013

Manchester, UK

Information from

<http://www.ichstm2013.com/>

The International Congress of History of Science, Technology and Medicine takes place every four years. Recent meetings have been held in Mexico City (2001), Beijing (2005) and Budapest (2009). The 2013 International Congress theme is **Knowledge at Work**.

Disciplines:

- Mathematics
 - S005. Mathematics and machines: explorations of machine-assisted mathematics since 1800
 - S010. The introduction of mathematics in Iberoamerica (part II)
 - S011. Les sciences mathématiques 1750-1850: continuités et ruptures
 - S045. Mathematical facets of measurement, measuring units, measured quantities and their uses
 - S107. Poincaré's *Méthodes nouvelles de la mécanique céleste* in historical context: bridging the frontiers of knowledge in mathematics, astronomy and wireless tech
 - S114. Mathematics and patronage
 - S115. Mathematical knowledge at work in Ancient China
 - S116. The history and philosophy of mathematical optimization

S117. The institutionalization of mathematics and the founding of national societies

- Astronomy
 - S092. Astronomy and its applications in ancient and medieval societies
 - S095. Using modern computing power to analyse and explicate ancient astronomical sources: opportunities and challenges
 - S107. Poincaré's *Méthodes nouvelles de la mécanique céleste* in historical context: bridging the frontiers of knowledge in mathematics, astronomy and wireless tech
 - S129. Islamic astronomy in its cultural context
- Technology and communications
- Systems, data, automation, computation
- Measurement
- Physics and natural philosophy
- Chemistry and alchemy
- Earth, geology, climate, oceans
- Life sciences and natural history
- Medical and human sciences
- Ecology and environment
- Social sciences
- Philosophy and logic

For the complete programme, see:

<http://www.ichstm2013.com/programme/guide/#a0>

**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. For further details, see the conference web page.

Although MEI 5 does not specialise 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 O'Reilly

**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**. Submission of abstracts, and later on papers, is done via the conference website:

<http://www.blasenus.uu.se/3ICHME>



The conference

History of mathematics education, since it became first 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, is 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 more recently also 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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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.