



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

No. 76

March 2011

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).

Something new...

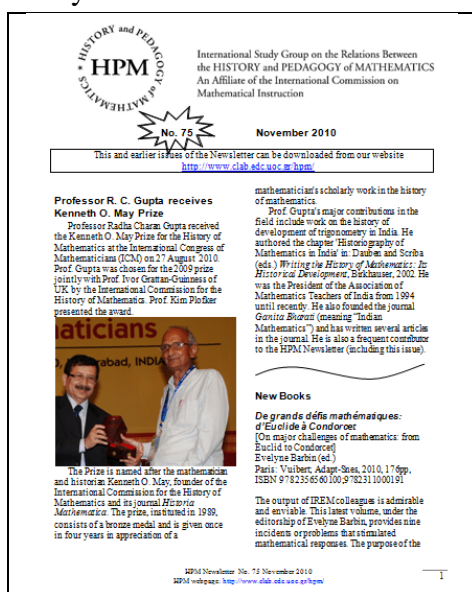
There are a few important changes to the HPM Newsletter now.

Chris Weeks is stepping down as co-editor after working on the newsletter since 2004. With his knowledge of the field and the group, he has been essential to the newsletter for more than six years. He is being replaced by no less than three new co-editors, which is a clear suggestion of his value to the HPM community.

The new newsletter co-editors are Kathy Clark, Snezana Lawrence and Helder Pinto, whom will be presented more fully in time.

The other important change is that from today forward we are publishing the newsletter online (<http://grouphpm.wordpress.com/>) as a supplement to the paper version. There will be new articles online every month, and these articles will go into the issues that will be published three times a year as before.

The online version offers opportunities for publishing content more quickly and to have feedback on articles – as well as making it even simpler for new people to find the HPM group. All suggestions and input are welcome.



Mathematical Treasures

One of the major features in the MAA's online magazine in the history of mathematics

Loci: Convergence

(<http://mathdl.maa.org/mathDL/46/>) is the article entitled "Mathematical Treasures". This article contains annotated copies of various book pages chosen from the George Arthur Plimpton and David Eugene Smith collections at Columbia University, one of the best collections of rare books and manuscripts in the country.

During the first half of the twentieth century, David Eugene Smith (1860-1944) was a moving force in the world of mathematics education. As the chairman of the mathematics education department at Columbia University's Teachers College, Smith led the way in teaching reforms attuned to the Progressive Education Movement. He firmly believed that the teaching of mathematics should be closely associated with the history of the subject. As an historian of mathematics, he wrote and lectured widely on the subject and also collected historical mathematical materials: texts, documents and artifacts. Smith befriended the wealthy New York lawyer and publisher, George Arthur Plimpton (1855-1936), who was also a bibliophile and avid collector. Under Smith's influence, Plimpton enriched his collection with mathematical manuscripts and many early Renaissance texts on arithmetic. When Plimpton died in 1936, he bequeathed his collection to Columbia University. Similarly, beginning in 1931, David Eugene Smith began donating his extensive collection of mathematical memorabilia: historical texts; correspondence; portraits of famous mathematicians; signatures and concrete artifacts to the Columbia University Library.

Although this entire collection is available to researchers through the Rare Books and

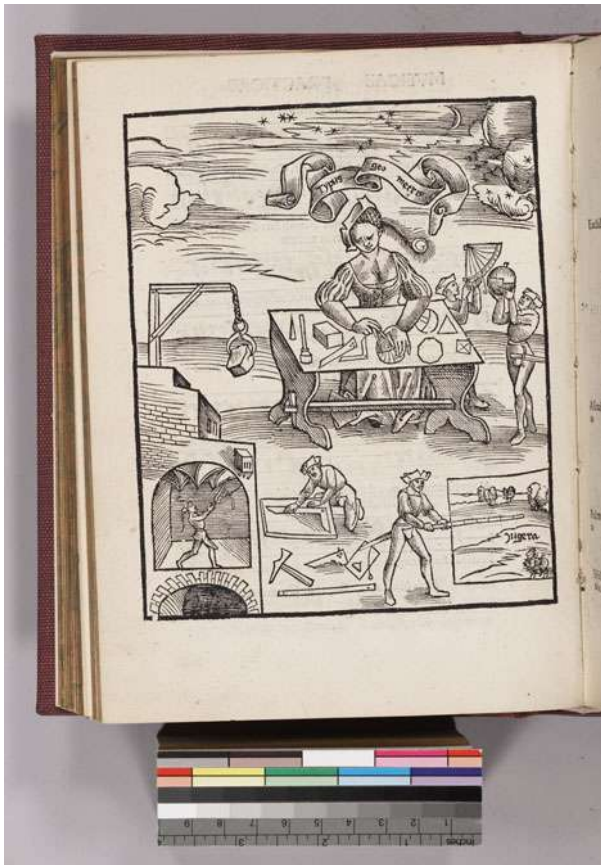
Manuscript Collection at Columbia University, one must travel to that library to access it. Yet Smith believed that it was extremely important for teachers at all levels to be able to use the materials that he collected. Thus, it is fitting that the Mathematical Association of America is able to display selected pages from this huge collection of books and manuscripts to its membership with the hope that many will make use of these documents in their teaching. The Mathematical Treasures article has an index on its second page, with the authors of the documents listed alphabetically. Each page image is annotated and, if you click on the name of the page, you can download a high resolution version (150-200 dpi), which is sufficient for most teaching purposes.

The documents have been selected by the founding editors of *Convergence*, Victor Katz and Frank Swetz, who would like to particularly thank Dr. Michael Ryan, Director of Rare Books and Manuscripts and Jennifer Lee, Librarian for Public Service and Programs, for their assistance in making this display possible. The current editors of *Convergence*, Janet Beery and Kathleen Clark, hope to continue and expand this section.

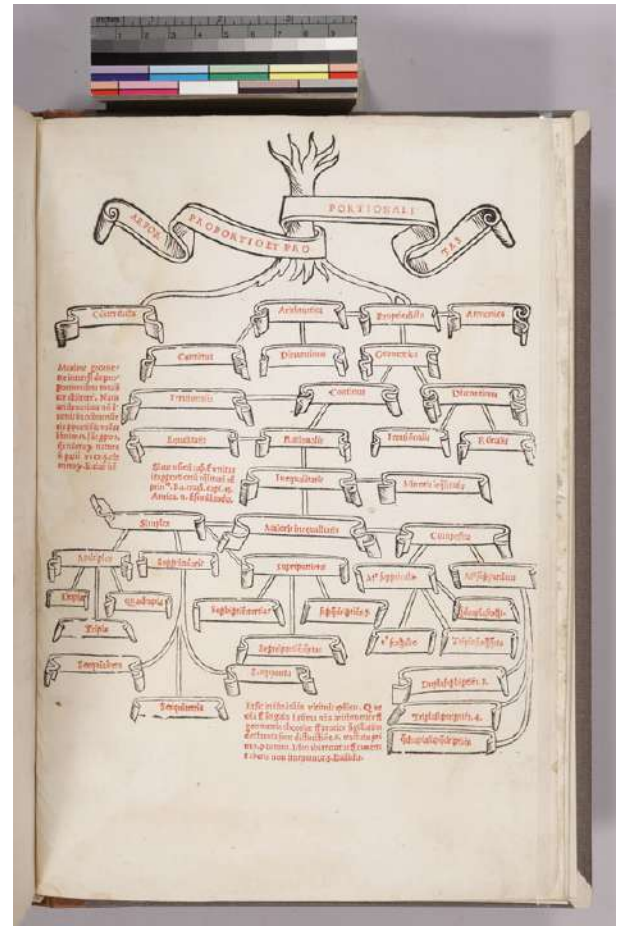
We have included here a selection of three images from the Mathematical Treasures article. To see the rest, go to

<http://mathdl.maa.org/mathDL/46/?pa=content&sa=viewDocument&nodeId=2591>.

Victor J. Katz and Frank Swetz



1. This is an illustration from the geometry chapter (Allegory of Geometry) of the *Margarita philosophica* (*Pearl of Wisdom*) of Gregor Reisch (1467 - 1525). The first edition was published in 1503. This work was used as a university textbook in the early sixteenth century. Among its twelve chapters are seven dealing with the seven liberal arts commonly taught at the universities: the trivium of logic, rhetoric, grammar and the quadrivium of arithmetic, music, geometry, and astronomy.



2. This is the Tree of Proportions and Proportionality from the *De Divina Proportione* of Luca Pacioli (1445 - 1509), published in 1509. Some of the terms in Pacioli's tree are familiar today; some are taken originally from the study of proportions by Nicomachus in his *Arithmetic*; but the meaning of some other terms are not generally known.



3. This is the title page of the *Nova Scientia* (1570) of Niccolo Tartaglia (1499-1557). In this work, Tartaglia discussed the mathematics of artillery and developed methods for determining the range of a cannon. The caption below the illustration reads, "The Mathematical sciences speak: Who wishes to know the various causes of things, learn about us. The way is open to all." The illustration itself depicts a walled compound, the compound of knowledge. The high wall keeps out the man who attempts to scale it and enter improperly. Entrance into the compound is through a single door opened by Euclid. In the first courtyard, a crowd comprised of Tartaglia and the muses of the seven liberal arts watch a demonstration of Tartaglia's new knowledge, a theory of trajectories. Beyond the first courtyard is a second smaller, more exclusive and highly elevated one. Its entrance is manned by Aristotle and Plato. Plato holds a

banner proclaiming, "No one can enter who does not know geometry." Enthroned at the rear of this compound, in the highest position of all, is philosophy.

More on the Kenneth O. May prize

In the last issue, we mentioned that Professor R. C. Gupta received Kenneth O. May Prize at the ICM in August 2010. His co-recipient, Ivor Grattan-Guinness, received his prize at the 23rd International Congress of History of Science and Technology in Budapest in 2009. We would like to note the 2006 interview with Ivor Grattan-Guinness in the HPM Newsletter 63.

Book reports

BSHM Bulletin Volume 25 Number 3 (2010)

The aims of the British Society for the History of Mathematics (BSHM) are 'to promote research into the history of mathematics and to encourage its use at all levels of mathematics education.' While BSHM encourages a wide range of research, there has always been a place for the use of history in mathematics teaching and in the 1990s especially the society ran a series of very successful conferences on the theme of history in mathematics education (HIMED). In 2004 the society's *Newsletter* metamorphosed into a more professional journal, the *Bulletin* and from 2006 was published by Taylor & Francis, with Jacque Stedall as editor. The

first Taylor & Francis issue (volume 21, number 1) contained feature articles on mathematical textbooks and thus exemplified the society's interest in the teaching of mathematics. The range of articles in the *Bulletin* is quite astonishing as much in wide historical periods and civilisations as in the spread of mathematical topics. The articles in the most recent issue, volume 25, number 3, all written by teachers, will give a flavour of what the *Bulletin* has to offer.

Kathleen M Clark's article *Connecting local history, ancient history and mathematics* is both an example of how local history can inspire classroom mathematics and an example of producing usable classroom material from ancient mathematics, here using Babylonian cuneiform tablets. The link with the past is intriguing and described in more detail in an earlier article by Clark and Eleanor Robson (BSHM 23-3, 2008). Twenty-five clay tablets, mostly Ur III administrative records (late third millennium BCE), are held at Florida State University. They came into the possession of the university's forerunner, Florida State College for Women, in 1922 having been purchased from a dealer. Nothing seems to have been done with the collection and Clark happened to notice one of the tablets displayed in a cabinet. Eleanor Robson agreed to examine the texts and a catalogue of all twenty-five tablets appears in Clark & Robson (BSHM 23-3, 2008). There is also a full transcription by Robson of FSU 22, which is an account of agricultural labour, as well as a description of the context. Clark has since worked with elementary school teachers to prepare classroom materials based on the FSU tablets. In the BSHM *Bulletin* 25-3 she describes some mathematics lessons where the teachers and their students used the information from the tablets to work on problems such as: 'A field is 2 bur and it must be harrowed three times. When one eshe is

ploughed per day, how many days of work will it to complete the harrowing?' This was a pilot study on the use of historical texts. Clark describes the project and some the results.

Concern about the contents of the mathematical curriculum are by no means new. Jenneke Krüger from the Netherlands tells of curriculum development in the Netherlands in the early seventeenth century. The newly emerging Dutch republic between 1600 and 1650 faced new challenges to security and defences and a growing skilled artisan class. Mathematics training, particularly in geometry, needed a focus on practicality and new text books of the time, such as *Practijck des Lantmetens* (Practice of surveying) and *Van het gebruyck der Geometrische instrumenten* (On the use of geometrical instruments) by Johan Sems and Jan Pitzers Dou published in 1600 remained in use for much of the seventeenth century. Jenneke Krüger's informative article is illustrated by many pages from text books and students' copy books. We seem to be continually revisiting the question of what the curriculum should contain (a lively debate here in Britain). Today it is less clear what skills are needed than in 17th century Netherlands.

Whatever the future mathematical needs of our students, statistics is certain to be among them. A subject that did not start to be taught in schools before the middle of the 20th century is now an essential component of even elementary mathematics courses. The need for intelligent interpretation of data is evident but standard deviation, the most common, and very useful, measure of spread, is little understood by students. Kourkoulos and Tzanakis report a study of four tertiary institutions in the USA where students who had just completed an introductory statistics course were examined. All students had gained top grades but their understanding of

SD was slender. In fact they had not formed the simple idea that SD is a kind of average distance from the mean. The real problem for any teacher at an elementary level is to try to justify why the squares of distances should be used. The authors turned to the history of using the mean of the squares of deviations and found the idea used in moments of inertia of systems of masses and in the dispersion energy of a physical system. Here using squares of distances arises naturally from the physical problem and makes sense. Kourkoulos and Tzanakis tried out using physical models in introductory statistics classes with two groups of students and say that the majority understood the interpretation of variance in these physical contexts. The historical background described by the authors is detailed and the article is a very nice example of how historical research may inform current teaching.



Khwarizimi, Frida Kahlo by Jessica Portman

The fourth article in BSHM 25-3 is by Garrod Musto, a secondary school mathematics teacher from Bath, who worked with a colleague teaching art. The stimulus was to brighten the walls of the corridors leading to the mathematics rooms. The solution was to get the art students to paint pictures of mathematicians. The mathematicians were chosen from those which appear in the four part BBC television series *The story of maths*, created by Marcus de Sautoy. In the mathematics class, the students were given a mathematician to research and had to write a short biography. In the art class, each student was assigned a mathematician and asked to produce a portrait in the style of one of the artists they had been studying. Musto quotes G. H. Hardy's remark that: a mathematician like a painter or a poet is a maker of patterns... Four of the portraits, in the styles of Frida Kahlo, Picasso (blue period), Stanley Spencer and Chuck Close illustrate Musto's article.

The *Bulletin* also carries reviews, brief reports of meetings and usually a useful list of recent publications (not present in issue 25-3). The *Bulletin* comes with membership of BSHM and individual copies can be bought from Taylor & Francis. You can also ask for a free sample copy from the publishers. The relevant websites are:

<http://www.dcs.warwick.ac.uk/bshm>

<http://www.tandf.co.uk/journals/titles/17498430.asp>

Chris Weeks

Special issue of Mathematics in School

The May 2010 issue of Mathematics in School was devoted to history of mathematics, edited by Leo Rogers. It contained a rich collection of articles, specifically chosen to help teachers widen “students’ horizons and linking mathematics with other aspects of their life”. The list of authors includes Elisabeth Boag, Jackie Fairchild, David Kaye, Eileen Magnello, Sue Pope, Chris Pritchard, Jenny Ramsden, Peter Ransom, Leo Rogers, Madeleine Shiers and Chris Weeks, many of whom are frequent contributors to the HPM conferences as well.

In a short review, I can only mention a few of the articles. In “Mediaeval Mathematics in the Modern Classroom”, Leo Rogers and Jackie Fairchild gives a brief introduction to connections between equations and geometry may motivate teachers to explore these connections further. Eileen Magnello’s article on Florence Nightingale hopefully makes teachers more aware of her mathematical accomplishments. Peter Ransom and Madeleine Sheir’s article called “Yo ho ho-ratio: Some mathematics of Trafalgar. Or: How Lord Nelson inspired curriculum development in mathematics” gives a rich example of how history of mathematics can be the basis of cross-curricular lessons – a two-week module, in fact. Chris Weeks’ article “Can a voting system ever be fair?” shows the importance of mathematics to understand society, while Jenny Ramsden’s article on measuring shows, among other things, mathematics’ contributions to navigation.

There is always the problem of how careful we should be when recommending literature to teachers. How many or big inaccuracies do we accept before we stop listing a certain work? Considering the controversy surrounding

Georges Ifrah’s The Universal History of Numbers From Prehistory to the Invention of the Computer (see Joseph Dauben’s review in the AMS), it is a bit surprising to see it included in a list of recommended books for teachers. But there are many other resources mentioned, both books and websites, that will be helpful to teachers trying the navigate the area of history of mathematics.

This special issue is likely to make more teachers interested in the history of mathematics and how the history can enhance their teaching. Sadly, it does not seem to be easily available outside Britain. A simple way of obtaining it for teachers abroad would make its effect even better.

Bjørn Smestad, Norway

Reports on new books are welcome.

Conference reports

Novembertagung 2010: A conference for History of Mathematics Ph.D. students



Novembertagung is an annual conference for and organized by History of Mathematics Ph.D. students. It is a peculiar type of conference, being very laid-back, and consisting of yet un-established scientists. The first conference was held in Wuppertal in Germany in 1990.

Despite the name, countries like the Netherlands, Denmark, Czech Republic, France, Austria, and Great Britain, in addition to Germany, have hosted Novembertagung.

The latest Novembertagung was held in Mainz, Germany and organized by Eva Kaufholz and Philipp Kranz from the Johann Gutenberg University. Novembertagung is a conference that provides an arena for students to share their research, as well as providing an invited speaker. This year's invited speaker was "Novembertagung old timer" Henrik Kragh Sørensen from Aarhus University.

The theme for this year's Novembertagung was "Lost in Translation: Writing the History of Mathematics in Languages and Notations of the 21th Century"; however all contributions within history and philosophy of mathematics were welcome.

Due to a moderate number of participants, there were no parallel sessions and each speaker was given 30 minutes for presentation, followed by 15 minutes for questions and comments. The presentations were roughly grouped as mathematical, historical, philosophical, and history of mathematics education, and they were either connected to the works of one specific mathematician – Laurent Schwartz, Descartes, Frans van Schooten, Elie Cartan, Paul Dirac, Felix Klein, Louis Poincot, and Leopold Krohnecker – or they had a more thematic angle like history of symplectic geometry, the concepts of 19th century analysis, mathematics education in the 19th century, beauty and mathematics, and how to make use of history of mathematics in mathematics education.

Henrik Kragh Sørensen gave two presentations, in the first he asked what is Abelian about Abelian groups, and in the other he addressed the theme of the conference, "Lost in Translation". As Henrik noted, there are several types of translation, such as ideological, contextual, conceptual, notational, and each type has its problems and challenges. Fundamental questions in this context may, for instance, include if we shall accept an algebraic understanding of Euclid, and is it always possible to adapt mathematical notations?

The closing discussion ended by agreeing that Novembertagung 2011 will be in Paris, with the preliminary theme "Collectives in mathematical practice" and with Anne-Sandrine Paumier, Jenny Boucard and Jemma Lorenat as organizers.

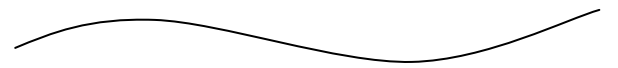
Andreas Christiansen,
Stord/Haugesund University College

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.





Have you read these?

Despeaux, S. E. (2010). SMURCHOM: Providing Opportunities for Undergraduate Research in the History of Mathematics. *Loci* (August 2010).

Hughes, B. (2010). An early abridgement of Fibonacci's *De practica geometrie*. *Historia Mathematica*, 37(4), 615-640.

Kainzinger, A. (2011). The mathematics in the structures of Stonehenge. *Archive for History of Exact Sciences*, 65(1), 67-97.

Khrushchev, S. (2010). Two Great Theorems of Lord Brouncker and His Formula. *The Mathematical Intelligencer* 32(4): 19-31.

Laubenbacher, R.; Pengelley, D. (2010). "Voici ce que j'ai trouvé:" Sophie Germain's grand plan to prove Fermat's Last Theorem. *Historia Mathematica*, 37(4), 641-692.

Masià-Fornos, R. (2010). A "lacuna" in Proposition 9 of Archimedes' *On the Sphere and the Cylinder*, Book I. *Historia Mathematica*, 37(4), 568-578.

McLarty, C. (2011). Emmy Noether's first great mathematics and the culmination of first-phase logicism, formalism, and intuitism. *Archive for History of Exact Sciences*, 65(1), 99-117.

Saito, K.; Sidoli, N. (2010). The function of diorism in ancient Greek analysis. *Historia Mathematica*, 37(4), 579-614.

Swetz, F. J.; Katz, V. J. (2010). *Mathematical Treasures*. *Loci* («This article is still "under construction."»).

Yadav, B. S.; Mohan, M (Eds.) (2011). *Ancient Indian Leaps into Mathematics*. Birkhauser.

Announcements of events

Colloque « L'enseignement des mathématiques, des mathématiques du quotidien à la théorie en l'honneur de Nicolas Rouche »

March 16-18, 2011

Mons, Belgium (March 16th),
Lille, France (March 17th-18th)

This symposium in honor of Nicolas Rouche will be in French, so the information is also given in French:

Quels qu'ils soient et quels que soient les systèmes éducatifs dont ils sont des maillons, les enseignants de mathématiques sont obligés à un moment ou un autre de s'interroger sur le sens de leur enseignement en terme éducatif et politique, en terme de rapport à la réalité (celle des problèmes pratiques qui se posent à toute société). Cette réalité s'invite aussi par le biais des étonnements ou questions, venant de jeunes enfants comme d'étudiants en thèse ; elle s'hybride à la symbolisation, elle se transforme dans des réseaux de techniques et de théorisations. S'agit-il d'aménager la construction, avec les meilleurs procédés, d'une science déductive déjà faite ou s'agit-il d'enseigner à penser mathématiquement ? A chaque niveau de rigueur et d'exigence, comment la pensée mathématique s'ancre-t-elle dans les perceptions, les actions, les mouvements ? Quel part peut y prendre le jeu, l'expérimentation ? Comment se construisent définitions et concepts dans leurs rapports à l'intuition, aux problèmes et aux démonstrations ? L'histoire des mathématiques et l'histoire de l'enseignement informent sur toutes ces questions, quelles ressources offrent-elles aux enseignants ?

De l'école élémentaire à l'université, chercheur-e-s et/ou enseignant-e-s apporteront des éléments pour travailler ces questions dans tous les champs de la discipline (algèbre, géométrie, analyse...) par des conférences plénières, des exposés ou des ateliers de 1h30.

Conférences invitées : Erich Wiitmann, Rudolf Bkouche, Jean Mawhin, Christine Decoq, Christiane Hauchart, Evelyne Barbin, Thérèse Gilbert, Luc Sinègre.

Ce colloque est organisé à l'initiative de la Régionale Pays-Bas, (Groupe d'Enseignement Mathématique de Louvain la Neuve, Groupe de Leuven, Freudenthal Institute et IREM de Lille), du CREM (Centre de Recherche sur l'Enseignement des Mathématiques, Nivelles), et des deux Commissions Inter-IREM "Histoire et Epistémologie" et "Géométrie".

Informations et appels à contributions à partir du 1^{er} décembre 2010:

<http://irem.univ-lille1.fr/>

11th International Conference of The Mathematics Education into the 21st Century Project: Turning Dreams into Reality: Transformations and Paradigm Shifts in Mathematics Education

September 10–16, 2011

Rhodes University,
Grahamstown, South Africa

The Mathematics Education into the 21st Century Project has just completed its tenth successful international conference in Dresden, Germany, following conferences in Egypt, Jordan, Poland, Australia, Sicily, Czech Republic, Malaysia and the USA. Our project was founded in 1986 and is dedicated to the planning, writing and disseminating of innovative ideas and materials in Mathematics, Statistics, Science and Computer Education. The next conference is planned for September

10–16, 2011 in Grahamstown, South Africa. The chairman of the Local Organising Committee is Professor Marc Schafer of Rhodes University. The conference will open with an evening welcome reception on Sunday, Sep 10th and will close with lunch on Saturday, Sep 16th.

The title of the conference is "*Turning Dreams into Reality: Transformations and Paradigm Shifts in Mathematics Education*". Paper proposals are now invited on all innovative aspects of mathematics, statistics, science and computer education. Our conferences are renowned for their friendly and productive working atmosphere. They are attended by innovative teachers and mathematics educators from all over the world, 44 countries were represented at our last conference for example.

Plenary speakers: Prof. Dr. Ludwig Paditz from Germany and Professor Ubiratan D'Ambrosio from Brazil.

There will be an additional full social programme for accompanying persons.

For ALL further conference details please email Alan Rogerson, Chairman of the International Programme Committee, at alan@rogerson.pol.pl

Second International Conference on the History of Mathematics Education

October 2-5, 2011

Faculdade de Ciências e Tecnologia,
Universidade Nova de Lisboa,
Lisbon, Portugal

Organizers:

- Kristín Bjarnadóttir
- Fulvia Furinghetti
- José Matos
- Gert Schubring

We are calling for papers for this Second Conference continuing the successful works initiated in Iceland (June 2009). Abstracts of proposed contributions (length: about one page) should be submitted to José Manuel Matos (jmm@fct.unl.pt), by April 30, 2011. The decision about acceptance will be communicated by June 15, 2011.

Further information are in the conference website

<http://www.uied.fct.unl.pt/moodle/course/view.php?id=27>

The conference

History of mathematics teaching, see (Schubring, 1983; 1984), and learning is relatively new as a subject of international attention and research, but it is developing actively and dynamically. It first became visible at ICME 10, in 2004, at Copenhagen, as the TSG 29. The success and dynamics of these activities lead to the launching of the first international journal devoted to this field of study, the *International Journal for the History of Mathematics Education*, published since 2006. History of mathematics education became then 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).

The first specialized international research conference entitled “On-going Research in the History of Mathematics Education” took place, in Garðabær, a town close to Reykjavík, the capital of Iceland, from June 20 to 24, 2009, see the report by Furinghetti (2009). The conference was organized by the Centre of Research in Mathematics Education at the School of Education of the University of Iceland. The themes treated in the conference were (see also the Proceedings):

- Geometry teaching;
- Interdisciplinarity and contexts;

- Method;
- Modern mathematics;
- Movements in the development of mathematics education in specific countries;
- Practice;
- The internationalization of education with particular reference to the ICMI;
- Transmission.

References

- Bjarnadóttir, Kristín, Furinghetti, Fulvia, & Schubring, Gert (Eds.) (2009). “Dig where you stand”. Proceedings of the conference on On-going research in the History of Mathematics Education. Reykjavik: University of Iceland – School of Education.
- Furinghetti, Fulvia (2009). On-going research in the history of mathematics education. *International Journal for the History of Mathematics Education*, 4(2), 103-108.
- Schubring, Gert (1983). Introduction à la chronique historique sur l’enseignement des mathématiques. *Recherches en Didactique de Mathématiques*, 4, 325–344.
- Schubring, Gert (1984). Essais sur l’histoire de l’enseignement des mathématiques, particulièrement en France et en Prusse”, *Recherches en Didactique des Mathématiques*, 5, 343-385.



ICME 12

July 8–15, 2012
Seoul, South Korea

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

First Announcement now available from
http://www.icme12.org/eng/announ_first_welcome.html



First announcement HPM 2012

July 16–20, 2012
Daejeon, South Korea

1. Aim and focus

The HPM 2012 is the eighth quadrennial meeting of the International Study Group on the Relations between the History and Pedagogy of Mathematics (the HPM Group), affiliated to ICMI. It is a satellite meeting of the corresponding ICME (International Congress on Mathematical Education) and is scheduled close to ICME. These quadrennial meetings are a major activity of HPM, to bring those together who are interested in the relation between the history of mathematics and mathematics education such as:

- Researchers in mathematics education, and its relation to the history of mathematics;
- Mathematics teachers at all levels who are eager to get insights on how the history of mathematics may be integrated into teaching and help students to learn mathematics;
- Historians of mathematics, who wish to talk about their research;
- Mathematicians, who want to learn about new possibilities to teach their discipline;
- All those with an interest in the history of mathematics and pedagogy.

2. Main themes

The HPM 2012 is a place where mathematicians, educators, historians, researchers and students can make presentations and participate in discussions.

The programme and activities are structured around the following main seven themes:

1. Theoretical and/or conceptual frameworks for integrating history in mathematics education;
2. History and epistemology implemented in mathematics education: classroom experiments & teaching materials;
3. Original sources in the classroom, and their educational effects;
4. Mathematics and its relation to science, technology and the arts: historical issues and educational implications;
5. Cultures and mathematics;
6. Topics in the history of mathematics education;
7. Mathematics from Eastern Asia.

3. Activities during HPM 2012

During HPM 2012 there will be

- one-hour plenary lectures on each of the seven main themes
- two one-hour panel discussions
- parallel sessions of 25-minute oral presentations, followed by 5-minute discussions
- poster exhibitions with discussion sessions
- exhibitions of books and other didactical material

A limited number of 1-hour workshops may be included in the program upon special request to be further considered by the Organizers. In such cases, participants are actively participating 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, or 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).

4. Invited speakers

- Tinne Hoff Kjeldsen (Denmark): "Uses of history for the learning of and about mathematics: towards a theoretical framework for integrating history of mathematics in mathematics education."
- Tsang-Yi Lin (Taiwan): "Using History of Mathematics in High School Classroom: Some Experiments in Taiwan."
- Janet Barnett (USA): "Bottled at the Source: The Design and Implementation of Classroom Projects for Learning Mathematics via Primary Historical Sources."
- Dominique Tournès (France): "Mathematics of the 19th century engineers: methods and instruments."
- Ubiratan d'Ambrosio (Brazil): "Mind and Hand: the complexity and diversity of mathematics in different cultural environments."
- Johan Prytz (Sweden): "Social structures in mathematics education. Researching the history of mathematics education with theories and methods from sociology of education."
- Sung Sa Hong (Korea): "Theory of Equations in the history of Chosun Mathematics."

5. Time and place

HPM 2012 will be held from Monday 16 July to Friday 20 July 2012 in Daejeon, Korea. Sessions will be held on Monday, Tuesday,

Thursday and Friday with a cultural tour on Wednesday.

ICME-12 will be held from Monday 9 July to Sunday 15 July 2012 in Seoul, Korea. Its scientific program includes oral presentations and activities on the history and pedagogy on mathematics and on the history of mathematical teaching. It is planned that these activities will take place in the end of this meeting and that a special price for inscriptions will be granted to those who will participate to both ICME-12 and HPM 2012.



6. Official Languages

The official languages are English and Korean.

More specifically:

- All plenary talks and panel discussions will be in English with simultaneous translation if possible.

- Oral presentations will be given in either English, or Korean. For presentations in Korean a second set of transparencies should be, utilizing either two projectors and screens, or two power point computers.

7. Submission of proposals

ABSTRACTS

30 June 2011: deadline for submitting Abstracts of proposals for all types of activities.

31 August 2011: notification of acceptance or not of the submitted proposals.

Important: Please, use the Application Form and send it in electronic form both to

Evelyne BARBIN, Chair of HPM 2012
email: evelyne.barbin@wanadoo.fr

Sunwook HWANG, Co-chair
e-mail: shwang@ssu.ac.kr

Constantinos TZANAKIS, Co-chair
e-mail: tzanakis@edc.uoc.gr.

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 HPM 2012 Scientific Programme. It is planned to have the proceedings ready at the meeting. For more details, see Proceedings.

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

- Abraham Arcavi, Weizmann Institute of Science, Israel
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9. The web site

Making known the HPM 2012 in various countries is a major task to be realized by the SPC. To this end, a web site is available at <http://www.hpm2012.org>.

This is going to be a very efficient tool to make known the HPM 2012 worldwide, allowing online registration etc.

10. Proceedings

Publishing the Proceedings of HPM 2012 is also a major task, and will be available in the meeting.

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

More details on the size of the texts, the format guidelines will be announced in due course from the HPM 2012 and HPM websites, respectively;

<http://www.hpm2012.org>

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

FULL TEXTS

30 November 2011: deadline for submitting full texts for all types of activities.

31 January 2012: Notification of acceptance or not of the submitted texts.

11. Registration fee

Early registration (before 5 February 2012): 180\$ (students 90\$)

Late registration (From 6 February until 31 May 2012): 230\$ (students 130\$)

Registration after 31 may 2012, or on the spot: 270\$ (students 160\$)

12. Contact

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Photo from a meeting of some of the people responsible for the HPM 2012 (from left to right): Sunwook Hwang (chair of the Local Organising Committee (LOC), president of KSME), Jinho Kim (secretary of LOC), Evelyne Barbin (HPM AdB), Pamela Chae (Daejeon Convention Center), Sung Sook Kim (vice-president of KSME and member of LOC), Masami Isoda (HPM AdB), Chang Kyoon Park (president of KSHM and member of LOC), Sangki Choi (vice-chair of LOC).

ESU7

2014

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.

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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/>

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

<http://groupphm.wordpress.com/>

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

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