



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

**N° 102**

**November 2019**

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 CHAIR OF HPM**

Dear friends,

*Welcome to Newsletter 102!*

Things have been a bit busy in the HPM community during the last several months! In recognition of the “busy-ness” I would like to:

- ...thank the scholars who have submitted proposals for the **ICME-14 TSGs 27 & 55**. Papers are under review now, with notifications on acceptance scheduled for 30 November.
- ...also thank the numerous scholars who have submitted proposals for **HPM 2020**. As you may have heard, **we extended the abstract submission deadline for HPM 2020 until 10 November 2019**. After that

date, we will head into a period of review of the many abstracts submitted. Because of this, I also thank (in advance!) the HPM Advisory Board members and the HPM 2020 LOC, who will serve as the reviewers of the almost 80 submissions received thus far.

- ...recognize the extensive and effortful work of the editors of the Proceedings of the *8<sup>th</sup> European Summer University on the History and Epistemology in Mathematics Education (ESU-8)*. You can access the Proceedings from:
  - the Oslo Metropolitan University website at <https://skriftserien.hioa.no/index.php/skriftserien/articel/view/664>,
  - the ESU-8 website at <https://esu8.edc.uoc.gr/proceedings-forthcoming-events-further-information/>,

- either the HPM Group website,  
at <http://www.clab.edc.uoc.gr/hpm/about%20HPM.htm>
- or <http://www.clab.edc.uoc.gr/hpm/Meetings.htm>

*Thank you to: Évelyne Barbin, Uffe Thomas Jankvist, Tinne Hoff Kjeldsen, Bjørn Smestad, and Costas Tzanakis for completing this important task!*

I would also like to:

- ◇ ...direct your attention to the second “episode” of the (still new) recurring feature of the HPM Newsletter, **Practitioner’s Corner**. In this episode, Desiree van den Bogaart brings us the human conchoid. *If you’d like to react to Desiree’s contribution*, please send her an email. If you have an idea for a future **Practitioner’s Corner** episode, please contact me, or Desiree, or both of us. We would love to hear from you!

Enjoy NL 102 and be on the lookout for NL 103, which will communicate further details about the programs of ICME-14 (TSGs 27 & 55) and HPM 2020.

I wish you a safe, happy, and calm close to 2019 and an even happier start to 2020.

*Kathy*

([kclark@fsu.edu](mailto:kclark@fsu.edu))

## **HPM 2020**

### **History and Pedagogy of Mathematics (HPM) 2020 – Satellite Meeting of ICME-14**

**21–25 July 2020**  
**University of Macau**

As we described in Newsletter 101 (July 2019), HPM 2020 will take place from **21–25 July 2020**, at the **University of Macau**, in Macao, China. The deadline for proposal submissions has been **extended until 10 November 2019**, and proposals can be submitted via the submission link on the **HPM 2020 website** (<https://www.um.edu.mo/fed/HPM2020>) or directly through the CMT online platform:

<https://cmt3.research.microsoft.com/>

The *First Announcement* can be found here: [https://www.um.edu.mo/fed/HPM2020/doc/HPM2020\\_First\\_Announcement\\_Final\\_18Sept2019.pdf](https://www.um.edu.mo/fed/HPM2020/doc/HPM2020_First_Announcement_Final_18Sept2019.pdf); however, for convenience we summarize a few key details below.

#### **Important Deadlines**

**Submission of abstracts: extended to 10 November 2019**

Notification of acceptance or not of the submitted abstracts (for presentation only): **30 December 2019**

#### **Registration Fees**

- *Early registration before 1 April 2020: 180 €* (students and K-12 teachers in mainland China, Taiwan, and Hong Kong: 90 €)

- **Regular registration before 1 June 2020: 230 €** (students and K-12 teachers in mainland China, Taiwan, and Hong Kong: 130 €)
- **Late Registration from 1 June 2020, or at the conference: 270 €** (students and K-12 teachers in mainland China, Taiwan, and Hong Kong: 160 €)

(Note: The conference fee includes 5 lunches, 8 coffee breaks, as well as the gala dinner on the seaside and an excursion.)

### **Main Theme and Topics**

The program and activities are structured around the following topics:

1. Theoretical and/or conceptual frameworks for integrating history in mathematics education.
2. History and epistemology in students' and teachers' mathematics education: Classroom experiments and 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 interdisciplinary teaching and learning.
5. Cultures and mathematics fruitfully interwoven.
6. Topics in the history of mathematics education.
7. History of Mathematics in China and Eastern Asia.

### **Invited Speakers** (and associated themes)

**Michael Fried (Israel)**, Theme 1

**Marc Moyon (France)**, Theme 2

**Mary Flagg (USA)**, Theme 3

**Man Keung Siu (China)**, Theme 4

**Johanna Pejlare (Sweden)**, Theme 6

**Luis Saraiva (Portugal)**, Theme 7

**Yiwen Zhu, (China)**, Coordinator for a panel focused on Themes 5 & 7

**Panel members:** Shuyuan Pan (China), Shirong Guo (China), Alexei Volkov (Taiwan)

We look forward to receiving your abstract submissions and/or seeing you in Macao in July 2020!

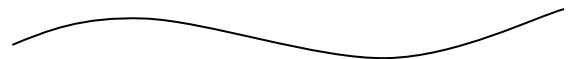
**Kathleen Clark**, Florida State University (USA), Chair

Email: [hpm2020conference@gmail.com](mailto:hpm2020conference@gmail.com)

**Chuang Wang**, University of Macau (Macau), Co-Chair

**Xu Hua Sun**, University of Macau (Macau), Co-Chair

Email: [hpm2020macao@gmail.com](mailto:hpm2020macao@gmail.com)



## PRACTITIONER'S CORNER

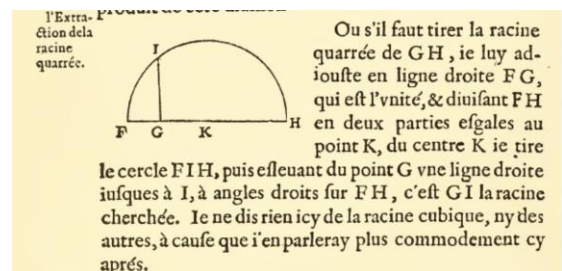
### Episode 2

#### History of Geometry

This is the second posting in a series in which mathematics teacher educators share experiences with teaching history of mathematics, within the context of teacher education for both lower (aged 12–15) and upper secondary levels (aged 16–18). Let me start by briefly introducing myself and the context I work in. I am a mathematics teacher educator at the Amsterdam University of Applied Sciences. I've been working at this university for the past eight years, after working as a mathematics teacher in secondary school for ten years. I teach a variety of classes on mathematics, but also on teaching methodology and professional development as a teacher.

At my university, the amount of time I have with my students is limited to seven 90-minute sessions in a single semester. In my pre-service lower secondary level teacher group we rapidly go through the history of mathematics up until Descartes' analytical geometry and in my in-service upper secondary level teacher group I address the history of mathematics roughly from the emergence of calculus in the seventeenth century to the Millennium Problems in the year 2000. In this post, I describe some activities on the history of geometry. They use primary sources, GeoGebra, and end up with cat litter.

In the first session of history of mathematics to my in-service upper secondary group, I try to bridge the gap between early history and modern history. We focus on the seventeenth century and about half of the session is spent on Descartes. My students read some of his *Discours de la Méthode* (in the original language) and try to make sense of his geometric form of multiplication, division and taking the square root.

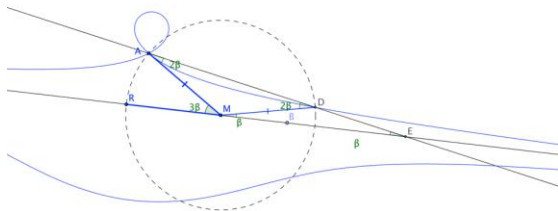


To test if my students really understand the constructions that Descartes is proposing, I ask them to hand in a GeoGebra file in which they show how Descartes constructs  $\sqrt{a^2 + b}$ , with  $a$  and  $b$  of variable lengths (parameters). It is relatively easy to understand the proof of the different parts of this construction, using similarity as a main geometric argument, but to program GeoGebra performing this procedure in full requires that little bit extra. As a teacher, I can check fairly quickly if they did it correctly.

After discussing the principles of Descartes shifting between geometry and algebra, we turn to the *conchoid of Nicomedes*. The intensive study of curves is also a typical feature of seventeenth century mathematics. And although Descartes was clearly not the first to study the conchoid, it fits rather naturally in this session. Most of the students haven't heard of this curve

before and when they have, it can be captured by “some curve that has something to do with trisecting an angle.” If you need more information on the conchoid, see for instance [https://en.wikipedia.org/wiki/Conchoid\\_\(mathematics\)](https://en.wikipedia.org/wiki/Conchoid_(mathematics))

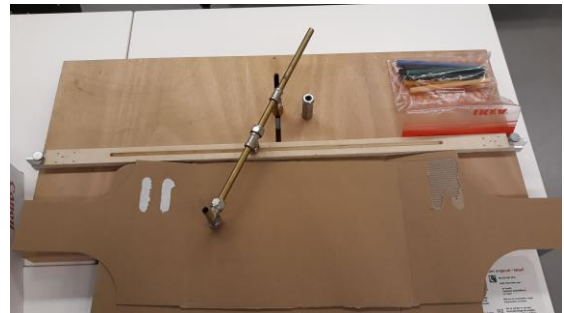
I have taught this class a couple of times and I’ve noticed my students find it difficult to grasp the construction of the conchoid. One thing that helps them to understand the conchoid is the proof of the trisection of the angle. Once my students have seen through different similar triangles that the angle you end up with at the intersection with the curve is actually one third of the angle you start constructing the conchoid with, they can understand the meaning of several parts of the construction better.



But, to understand the proof, one does need to understand the construction. I use (again) GeoGebra to visualize it, but I have noticed with my students that other tools for demonstrating how the construction works have way more impact in this case. I use two alternatives for GeoGebra.

First I use a wood and iron construction made by a colleague from another university (Figure 1). With a large piece of cardboard and some markers, the curve is partially drawn in front of the class. I usually let some students assist me while

I’m doing this. I show the wooden plate with trench and metal attachments and build the construction piece by piece, until finally a student draws one part of the conchoid on the piece of cardboard.

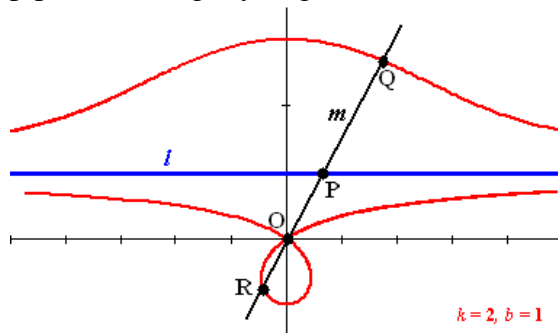


**Figure 1.** Wood and iron construction to draw the conchoid.

But the second visualization is much more spectacular, and much more fun. I have the students form a *human conchoid*. When we (part of the credit for the human conchoid goes to my husband Theo, who also happens to be a mathematics teacher educator with an interest in history) came up with this idea, it was late in the evening. All the materials I needed for the actual construction, such as a large piece of electricity pipe and a connection piece, could easily be attained at our local home improvement store. But how was I going to leave a visual trace on the floor, that could also be easily cleaned up afterwards? Colleagues who have subsequently done the human conchoid themselves in their classes have informed me they did it outside, on sandy ground, so they could use water to leave the trace. But I was supposed to do this mid-winter inside a school building, so water was not an option. After experimenting with both sugar and rice (both too small to leave a good trace; it spread all over the place) I desperately searched my house for alternatives and ended up in the basement where we keep the

(clean) cat litter. The grains were the perfect size. An empty soda bottle filled with these grains was the final part of the construction.

When I present the human conchoid to my students, I ask for volunteers, based on human characteristics. **Line  $l$**  (see Figure 2) is drawn on the floor with tape. The first volunteer needs to be a very stubborn person, one who will not move an inch once they have chosen their position. This person has to stand still the whole time, at a small distance from **the tape**, and serves as the origin  $O$  of the conchoid. They will have to guide a piece of electric pipe (**line  $m$** ), conducted by volunteer  $P$ . In the search for person  $P$ , I ask for someone who has “walked the line” successfully.  $P$  has to walk carefully down the taped **line  $l$** , while holding **line  $m$**  (piece of pipe) on a fixed position in the middle. To be precise:  $O$  doesn’t hold  $m$  at a fixed spot, but lets it slide down his/her hands (using a piece of pipe with a slightly larger diameter).



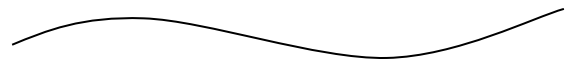
**Figure 2.** Image to accompany the construction for the human conchoid.

Thirdly,  $Q$  has to be a very flexible person. He/she holds the soda bottle with grains in one hand, and therefore makes **the trace**. But  $Q$  can’t move independently.  $Q$  has to hold in the other hand the physical **line  $m$**  at a fixed point, while the line is being moved

by  $P$ . So  $Q$  keeps the line at a fixed position, but has to correct their own position while  $P$  walks along **line  $l$** . And then **the upper curve of the conchoid** takes shape, in cat litter, on the floor.

According to the famous anecdote, Descartes was lying in his bed and saw a fly on the ceiling, which led him to develop his coordinate system. With this contemporary teaching discovery, it was actually a cat that led to the development of the human conchoid.

**Desiree van den Bogaart**  
 Amsterdam University of Applied  
 Sciences (The Netherlands)  
[d.a.van.den.bogaart@hva.nl](mailto:d.a.van.den.bogaart@hva.nl)



## MAA Convergence Provides Classroom Activities

Since 2004, *MAA Convergence* has been both an online journal on the history of mathematics and its use in teaching, and an ever-expanding collection of online resources to help its readers teach mathematics using its history. Its high-quality scholarship and classroom resources have appeared thanks to the leadership of three well-known mathematics historians and educators, founding editors [Victor Katz](#) and [Frank Swetz](#) and their decade-long successor [Janet Beery](#). In Spring 2019, we celebrated the journal's "sweet sixteenth" year of online publication with profiles of its previous editors, a [brief history of Convergence](#), and Swetz's new essay on the justifications for using history to teach mathematics, "[Do We Teach Too Much Mathematics . . . ?](#)"



**Above:** Detail from Peter Apian, *Quadrans Apiani astronomicus* (1532), a historical illustration that can be used to stimulate student questions about mathematics.

Another new article with classroom resources is "[To Simplify, or Not To Simplify? A Lesson from Medieval Iraq](#)," in which authors Valerio De Angelis and Jeffrey A. Oaks present an example for which leaving a fraction in non-simplified form suggests a curious rule for computing cube roots.

*Convergence* also continues to feature several ongoing series and collections, including:

- "[A Series of Mini-projects from TRansforming Instruction in Undergraduate Mathematics via Primary Historical Sources](#)" which currently offers ten mini-Primary Source Projects (PSPs) from the TRIUMPHS team for use in a variety of courses. The most recent PSPs to join the series are:
  - "[Euler's Calculation of the Sum of the Reciprocals of the Squares: A Mini-Primary Source Project for Calculus II Students](#)" (by Kenneth M Monks)
  - "[Completing the Square: From the Roots of Algebra, A Mini-Primary Source Project for Students of Algebra and Their Teachers](#)" (by Daniel E. Otero)
- Our ever-growing "[Index to Mathematical Treasures](#)," which includes hundreds of images for use in your classroom from dozens of libraries and archives. Our chief "treasure hunter" is *Convergence* founding editor Frank Swetz.

- Our new [index of mathematical objects](#), focusing on all of the images of historical mathematical instruments, devices, and other three-dimensional objects that have appeared in *Convergence*. The list is divided into devices for teaching and representing mathematics; devices for counting, calculating, and computing; devices for measuring, drawing, and observing; and miscellaneous objects.



**Above:** Amsler Type 2 Polar Planimeter, Sold by Crosby Steam Gage & Valve, 1880s. Courtesy of the Smithsonian Institution's National Museum of American History.

See all of these articles and more at *MAA Convergence*:

<http://www.maa.org/press/periodicals/convergence>.

Interested in contributing? We'd love to hear from you at our new email address, [convergence@maa.org](mailto:convergence@maa.org)!

*Convergence* publishes expository articles on the history of topics in the grades 8–16 mathematics curriculum; translations of primary sources; classroom activities, projects, or modules for using history to teach mathematics; and classroom testimonials after applications of such activities, projects, or modules. For more details, see our Guidelines for Authors at <https://www.maa.org/press/periodicals/convergence/guidelines-for-convergence-authors>

**Amy Ackerberg-Hastings,**  
Independent Scholar (USA)

and

**Janet Barnett,**  
Colorado State University-Pueblo (USA)

Editors, *MAA Convergence*





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## **PROCEEDINGS OF ESU-8 (OSLO)**

The Proceedings of the 8th European Summer University on the History and Epistemology in Mathematics Education (ESU-8) are now available online for direct download from either the Oslo Metropolitan University website at <https://skriftserien.hioa.no/index.php/skriftserien/article/view/664>,

or from the ESU-8 website at <https://esu8.edc.uoc.gr/proceedings-forthcoming-events-further-information/>,

or from the HPM Group website at either <http://www.clab.edc.uoc.gr/hpm/aboutHPM.htm>  
or <http://www.clab.edc.uoc.gr/hpm/Meetings.htm>



Moreover, a printed version of the proceedings can be prepared on demand, by writing to [kristinl@oslomet.no](mailto:kristinl@oslomet.no)

This volume should be cited as follows:

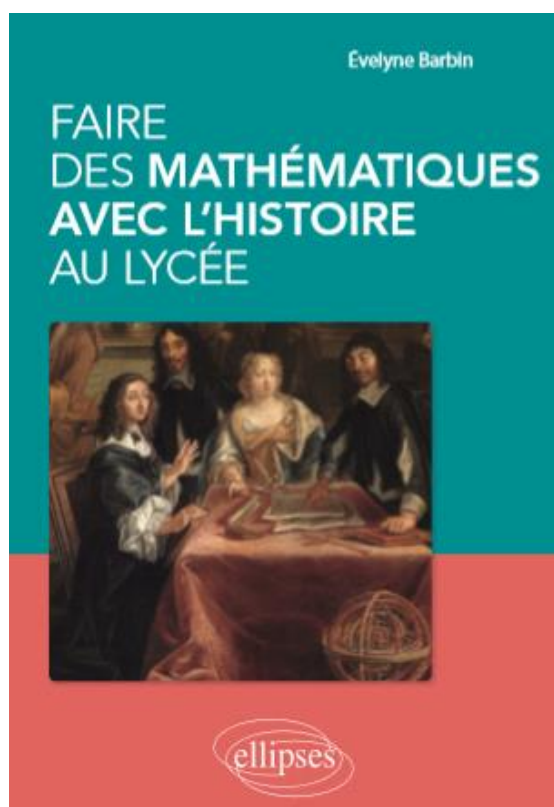
É. Barbin, U. T. Jankvist, T. H. Kjeldsen, B. Smestad, & C. Tzanakis (Eds.). (2019). *Proceedings of the Eighth European Summer University on History and Epistemology in Mathematics Education (ESU-8)* (Skriftserie 2019, nr 11). Oslo: Oslo Metropolitan University. (ISBN 978-82-8364-211-7 (printed version), ISBN 978-82-8364-212-4 (online version))

**Constantinos Tzanakis**  
Chair of ESU-8

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## ***To do Mathematics with History in Lycées***

In France and for the first time, new curriculum of Lycées (students 15-18 years old) contain history of mathematics explicitly, for each part of the curriculum and with precise historical references of mathematicians and themes.



The textbook, *Faire des mathématiques avec l'histoire au Lycée*, is intended for teachers of mathematics in secondary teaching. It is not a classical “history of mathematics” but a textbook that supplies tracks to integrate history in teaching. It gives texts to do mathematics with those

who thought, invented or improved them to answer to questions or to solve problems. The textbook gathers 80 episodes arranged in five parts: numbers and calculations, magnitudes and figures, unknown and equations, curves and functions, chances and laws.

Website to know more, to see titles of the 80 episodes or to read a part of the textbook:

<https://www.editions-ellipses.fr/faire-mathematiques-avec-lhistoire-lyce-p-13505.html>

Évelyne Barbin, *Faire des mathématiques avec l'histoire au Lycée*, Ellipses (Paris).

The number of pages is 288 and the price is 18 euros.

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## Have you read these?

- Biggs, N. (2019). John Reynolds of the Mint: A mathematician in the service of king and commonwealth. *Historia Mathematica*, 48, 1–28.
- Bjarnadóttir, K., Furinghetti, F., Krüger, J., Prytz, J., Schubring, G., & Smid, H. (Eds.). (2019). *Dig where you stand 5: Proceedings of the Fifth International Conference on the History of Mathematics Education, 2017*. Utrecht: Utrecht University.
- Camúñez-Ruiz, J., & Pérez-Hidalgo, M. (2019). Juan Caramuel (1606–1682) and the Spanish version of the Passedix game. *British Journal for the History of Mathematics*, 34(3), 143–154.
- Durnová, H., & Sauer, T. (2019). Václav Hlavatý on intuition in Riemannian space. *Historia Mathematica*, 49, 60–79.
- Evans, J., & Carman, C. (2019). Babylonian solar theory on the Antikythera mechanism. *Archive for History of Exact Sciences*, 73(5), 619–659.
- Gauthier, S., & Lê, F. (2019). On the youthful writings of Louis J. Mordell on the Diophantine equation  $y^2 - k = x^3$ . *Archive for History of Exact Sciences*, 73(4), 427–468.
- Iversen, P., & Jones, A. (2019). The Back Plate Inscription and eclipse scheme of the Antikythera Mechanism revisited. *Archive for History of Exact Sciences*, 73(4), 469–516.
- Jaëck, F. (2019). Calcul différentiel et intégral adapté aux substitutions par Volterra. *Historia Mathematica*, 48, 29–68.
- Jóźwik, I., Maligranda, L., & Terepeta, M. (2019). Stefan Kempisty (1892–1940). *Historia Mathematica*, 48, 69–86.
- Lamandé, P. (2019). Sur la conception des objets et des méthodes mathématiques dans les textes philosophiques de d'Alembert. *Historia Mathematica*, 49, 20–59.
- Maidment, A., & McCartney, M. (2019). 'A man who has infinite capacity for making things go': Sir Edmund Taylor Whittaker (1873–1956). *British Journal for the History of Mathematics*, 34(3), 179–193.
- Mozaffari, M. (2019). Ibn al-Fahhād and the Great Conjunction of 1166 AD. *Archive for History of Exact Sciences*, 73(4), 517–549.
- Raugh, M., & Probst, S. (2019). The Leibniz catenary and approximation of  $e$  – an analysis of his unpublished calculations. *Historia Mathematica*, 49, 1–19.
- Raynaud, D., Gessner, S., & Mota, B. (2019). Andalò di Negro's *De compositione astrolabii*: a critical edition

with English translation and notes. *Archive for History of Exact Sciences*, 73(5), 551–617.

Schubring, G. (2018). *Die Geschichte des IDM Bielefeld als Lehrstück. Ein Forschungsinstitut in einer Universität*. Aachen: Shaker Verlag.

(A study on aspects of sociology of science: rise and fall of an institution which had a decisive impact upon the emergence of mathematics education as a scientific discipline.)

Schubring, G. (2018). Computation devices in 19th century mathematics instruction. In A. Volkov & V. Freiman (Eds.), *Computations and computing devices in mathematics education before the advent of electronic calculators* (pp. 365–384). New York, NY: Springer.

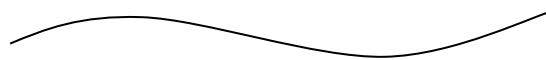
Schubring, G. (Ed.) (2019). *Interfaces between mathematical practices and mathematical education. International studies in the history of mathematics and its yeaching*. Cham: Springer.

(with chapters by Christine Proust, Jens Høyrup, Jorge Alberto Molina, Jemma Lorenat, Gert Schubring, Tinne Hoff Kjeldsen, and Carlos Tomei)

Schubring, G. (2018). Conflits sur les pratiques des mathématiques entre professionnels et amateurs: les cas des “quarreurs du cercle” et des “Fermatistes”. In J. Auvinet, G. Moussard, & X. S. Raymond (Eds.), *Circulation: mathématiques, histoire, enseignement* (pp. 199–219). Limoges: PresJornal Internacional de Estudos em Educação Matemáticas universitaires de Limoges.

Weigand, H.-G., McCallum, W., Menghini, M., Neubrand, M., & Schubring, G. (Eds.). (2019). *The legacy of Felix Klein*. New York, NY: Springer.

Zelbo, S. (2019). The recreational mathematics activities of ordinary nineteenth century Americans: A case study of two mathematics puzzle columns and their contributors. *British Journal for the History of Mathematics*, 34(3), 155–178.



## Announcements of Events

### **14<sup>TH</sup> INTERNATIONAL CONGRESS ON MATHEMATICAL EDUCATION (ICME-14)**

**July 12–19, 2020  
Shanghai, China**

<https://www.icme14.org>

For details on the complete scientific programme of ICME-14 and its structure and time-schedule, as well as on practical details, the registration process, the venue and social events, visit the official ICME-14 website <https://www.icme14.org>.

A major part of the scientific program of the ICMEs consists of Topic Study Groups (TSG). These are mini conferences designed to gather a group of the Congress participants who are interested in a particular area of Mathematics Education. During ICME-14, there will be 62 TSGs in total.

#### **Summary of deadlines:**

Please notice the following deadlines for submitting contributions to TSGs:

June 1 – September 30, 2019: Submission of papers & poster abstracts.

December 1, 2019 – February 29, 2020: Submission of the extended papers if applicable.

December 1, 2019 – February 29, 2020: Second-round submission of posters (submissions in this round have no chance to apply for a solidarity fund).

All proposals for paper and poster presentations will be submitted via the ICME 14 website. For more details visit the webpage for Topic Study Groups.

Two of ICME 14 TSGs are directly related to the HPM perspective, constituting an important activity of the HPM Group, namely:

#### **TSG 27: The role of the history of mathematics in mathematics education**

Chair: K. M. Clark (USA),  
kclark@fsu.edu

Co-Chair: C. Tzanakis (Greece),  
tzanakis@edc.uoc.gr

TSG 27 aims to provide a forum for participants to share their research interests and results, as well as their teaching ideas and classroom experience in connection with the integration of the history of mathematics in mathematics education. Special care is taken to present and promote ideas and research results of an as broad as possible international interest, while still focusing due attention to the national aspects of research and teaching experience in this area. Every effort will be made to allow researchers to present their work, get fruitful feedback from the discussion, and stimulate the interest of newcomers by giving them the opportunity to get a broad overview on the state-of-the-art in this area. This TSG refers to all levels of education – from primary school to tertiary education, including in-service teachers' training – preferably on work and conclusions based on actual classroom experiments and/or produced teaching and learning materials. The program of TSG 27 will be structured around the following main themes:

1. Theoretical and/or conceptual frameworks – in particular from general mathematics education research – for integrating history in mathematics education;
2. History and epistemology implemented in mathematics education: Classroom experiments and teaching materials, considered from various perspectives; e.g., cognitive, didactical, pedagogical, affective, etc.;
3. Surveys on the history of mathematics as it appears in curriculum and/or textbooks;
4. Original sources in the classroom, and their educational effects;
5. The role of history of mathematics in relation to the use of digital technologies in the teaching and learning of mathematics;
6. History and epistemology as a tool for an interdisciplinary approach in the teaching and learning of mathematics and the sciences by unfolding their productive interrelations; and
7. Cultures and mathematics fruitfully interwoven.

**TSG 55: The history of the teaching and learning of Mathematics**

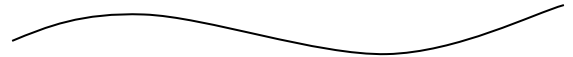
Chair: W. Rodrigues Valente (Brazil),  
 wagner.valente@unifesp.br  
 Co-Chair: A. Karp (USA),  
 apk16@columbia.edu

TSG 55 is designed to bring together scholars interested in research on the history of mathematics education. The aim of the TSG is to provide a forum for the discussion of findings and unsolved problems in the history of mathematics education as well as of issues in methodology of research in this field. During the last years research in the history

of mathematics education has been actively developed – important books and articles, specialized conferences, specialized journals, and special issues of some major serials have been devoted to the relevant topics. Still, it is very clear that many themes are not explored sufficiently and sometimes almost nothing is known about some periods and regions. Additionally, the history of mathematics education is often explored from a local (or national) point of view only. Often connections with similar processes happening elsewhere need to be revealed and understood. This TSG is supposed to help researchers in identifying new topics and new techniques for studies and in establishing fruitful collaboration in their work.

Meetings of the TSG will offer presentations on a variety of topics including the following (but not limited to them):

- History of reforms in mathematics education
- History of teaching different mathematical subjects (Algebra, Geometry, Calculus, Probability, etc.)
- History of tools in mathematics education (including textbooks, manipulatives, calculators, etc.)
- Mathematics teachers: history of professionalization
- Local, national, and international dimensions in the history of mathematics education
- History of mathematics education journals and conferences
- Heroes and actors in mathematics education: lives and contributions
- Research methodology in the history of mathematics education.





## **Forthcoming BSHM Meeting**

The British Society for the  
History of Mathematics  
<http://www.bshm.ac.uk/events>

### **1. Savilian Professors of Geometry: The first 400 years**

23 November 2019  
Oxford

2019 marks the 400th anniversary of the founding of Oxford University's Savilian Professors of Geometry. This one-day meeting comprises seven lectures about the Savilian professors and their life, labours and legacy. It coincides with a small exhibition in the Treasury related to the Savilian Professors of Geometry.

The programme:

- 10.15: William Poole: Sir Henry Savile & the early professors
- 10.55: Benjamin Wardhaugh: John Wallis
- 11.35: Allan Chapman: A century of astronomers: from Halley to Rigaud
- 12.15: Steven Balbus: The Halley observatory
- 12.30: Lunch break (including some managed visits to the observatory)
- 14.00: Keith Hannabuss: Baden Powell & Henry Smith
- 14.40: Karen Parshall: J. J. Sylvester
- 15.20: Robin Wilson: G. H. Hardy & E. C. Titchmarsh
- 16.00: Frances Kirwan: Michael Atiyah and after

### **2. BSHM Christmas Meeting**

7 December 2019  
University of Warwick

This will be A 'History of Mathematics' Day: a potpourri of interesting historical mathematical issues.

The programme:

- 09.55 Welcome (Mark McCartney, President)
- 10.00 Helen Ross: Dicuil and triangular numbers
- 10.40 Steve Russ: Visions in the Night: Bolzano's Anticipations of Continuity
- 11.40 Jane Wess: From Newton to Newcomen: Mathematics and Technology 1687–1800
- 12.20 BSHM AGM and lunch
- 13.50 Short member talk: Troy Astarte: On the Difficulty of Describing Difficult Things
- 14.10 Short member talk: Catalin Iorga: Known and Unknown In Al-Kashi's Mathematics
- 14.30 Alex Aylward: Between Authority and Obscurity: Responses to the Mathematization of Evolution
- 15.30 Chris Pritchard: From collecting coins to searching the archives: Personal reflections on becoming a historian of mathematics
- 16.10 Martin Campbell-Kelly: Victorian Data Processing

### **3. Research in Progress**

29 February 2020  
Oxford

The annual “Research in Progress” meeting, where postgraduate students present their latest work.

### **4. History of Decision Mathematics**

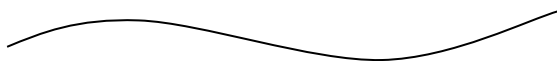
16 May 2020  
London

### **5. People, Places, Practices: Joint BSHM-CSHPM/SCHPM conference**

6–8 July 2020  
University of St Andrews

### **6. History of Mathematics and Flight**

12 September 2020  
Manchester Airport





**PEOPLE, PLACES,  
PRACTICES: JOINT  
BSHM-CSHPM/SCHPM  
CONFERENCE 2020**

**July 6 – 8, 2020**

**University of St. Andrews, UK**

<http://www.mcs.st-andrews.ac.uk/bshm-cshpm/index.shtml>

People, Places, Practices, is the 5-yearly joint conference of the British Society for the History of Mathematics and Canadian Society for History and Philosophy of Mathematics / La Société Canadienne d'Histoire et de Philosophie des Mathématiques, in collaboration with HOM-SIGMAA, the History of Mathematics Special Interest Group of the MAA.

People, Places, Practices, will showcase a broad range of approaches to the history of mathematics:

- People allows discussion of the cultural roles of mathematical biography, the historiographic and technical challenges of writing mathematical biography, as well as more straightforward biographical approaches
  - Places provides for the influence of location, geographical, spatial, conceptual or cultural, on mathematics and mathematicians
  - Practices encompasses the ways in which mathematicians and mathematical practitioners work or have worked, along with the materials, devices, and ideas used
- The conference will have a couple of days dedicated also to the pedagogical remit of

the history of mathematics and we therefore invite submissions for short presentations (20 mins presentation + 10 mins questions), or for symposia or workshops (60 mins or 90 mins), on topics related to the main themes of the conference. Topics from any historical period or geographical focus are welcome. Other session formats are encouraged; if you would like to propose one, please contact Isobel Falconer [ijf3@st-andrews.ac.uk](mailto:ijf3@st-andrews.ac.uk).

To submit **abstracts** of up to 500 words (individual papers), or 1000 words (symposia or workshops) by **30 November**, please use easychair online service, but state clearly at the top of your proposal whether you wish to present on the education days. This can be done at <https://easychair.org/conferences/?conf=bshmeshpm2020>. Individual paper abstracts should include a short biography of the speaker. Symposia/workshop abstracts should give brief details of the chair and presenters, their topics and what the symposium/workshop as a whole will contribute to the conference.

We expect to have reached decisions on papers by 15 January 2020. Early-bird conference registration will close on 31 March 2020.

For further details of the conference and venue, see

<http://www.mcs.st-andrews.ac.uk/bshm-cshpm/index.shtml>

For additional details related to **funding for young (early career) scholars**, please see next page.

The **International Commission for the History of Mathematics** (ICHM) is able to provide funding to support young scholars organizing symposia at the [Joint BSHM-CSHPM/SCHPM Conference](#) to be held at St Andrews, 6–8 July 2020. **Funding of up to 1500 Euros** is available for **each** symposium that fulfils the following criteria:

- The symposium has been accepted by the Conference Programme Committee.
- The organizer of the symposium and a large majority of the other speakers in the symposium must be either doctoral or master's students or within five (5) years of having received a doctorate.
- The symposium must include at least three speakers, two of which must be from different countries, and one of the speakers must be the organizer.
- The funding must be spent on travel and/or accommodation for the speakers of the symposium who are doctoral or master's students or within five (5) years of having received a doctorate, and receipts must be supplied.

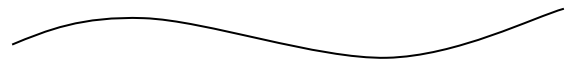
Applications for funding, **which should come from the organizer of the symposium**, should include the offer of acceptance of the symposium from the Conference Programme Committee, the details of the symposium (including the names and affiliations of the speakers), and an approximate budget, and it should be sent to June Barrow-Green ([June.barrow-green@open.ac.uk](mailto:June.barrow-green@open.ac.uk)), Chair of the Executive Committee of the ICHM. Successful

applicants will be notified within one month of receipt of the application.

Payment will be made in Euros after the conference. Under no circumstances will any symposium be awarded more than 1500 Euros.

Note that the closing date for proposing a symposium to the Conference Programme Committee is **30 November 2019**. For details of how to submit, see <http://www.mcs.st-andrews.ac.uk/bshm-cshpm/cfp.shtml>.

If you have any questions concerning the above, please contact June Barrow-Green ([june.barrow-green@open.ac.uk](mailto:june.barrow-green@open.ac.uk)).



# HPM Administrative Structure

## Chair:

<b>Clark, Kathleen</b>	Florida State University, Tallahassee, Florida, USA
------------------------	---

## Executive Committee:

<b>Barbin, Évelyne *</b>	Universite de Nantes, IREM-Centre Francois Viete, France
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<b>Jankvist, Uffe Thomas</b>	Aarhus University, Department of Education, Denmark
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## Honorary Advisory Board:

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<b>Fried, Michael N.</b>	Program for Science and Technology Education, Ben-Gurion University of the Negev, Israel
<b>Hornig, Wann-Sheng</b>	Department of Mathematics, National Taiwan Normal University, Taiwan
<b>Hwang, Sunwook</b>	Department of Mathematics, Soongsil University, Seoul, Korea
<b>Isoda, Masami</b>	Graduate School of Comprehensive Human Science, University of Tsukuba, Japan
<b>Katz, Victor</b>	University of the District of Columbia, Washington, DC, USA
<b>Lakoma, Ewa</b>	Institute of Mathematics Military University of Technology Warsaw, Poland
<b>Lawrence, Snezana</b>	Middlesex University, London, England, UK
<b>Massa-Esteve, Maria Rosa</b>	Centre de Recerca per a la Història de la Tècnica, Matemàtica Aplicada I, ETSEIB, Universitat Politècnica de Catalunya, Barcelona, Spain
<b>Pengelly, David</b>	Department of Mathematical Sciences, New Mexico State University, Las Cruces, USA
<b>Pinto, Hélder</b>	ESE – Instituto Piaget, V. N. Gaia and CIDMA – University of Aveiro, Aveiro, Portugal
<b>Puig, Luis</b>	Departamento de Didáctica de las Matemáticas, Universitat de València Estudi General, Spain
<b>Radford, Luis *</b>	École des sciences de l'éducation, Université Laurentienne, Sudbury, Ontario, Canada
<b>Rogers, Leo</b>	Independent Researcher, Oxford, UK
<b>Qu, Anjing</b>	Department of Mathematics at Northwest University, Xian, China
<b>Schubring, Gert</b>	IDM, Universität Bielefeld, Bielefeld, Germany
<b>Siu, Man-Keung</b>	Department of Mathematics, University of Hong Kong, Hong Kong SAR, China
<b>Smestad, Bjørn</b>	Faculty of Education, Oslo University College, Norway
<b>Stein, Robert</b>	California State University, San Bernardino, USA
<b>Winicki-Landman, Greisy</b>	Department of Mathematics and Statistics, California State Polytechnic University, USA

\* Former Chair of HPM

## Newsletter Editors:

<b>Clark, Kathleen</b>	Florida State University, Tallahassee, Florida, USA
<b>Lawrence, Snezana</b>	Middlesex University, London, England, UK
<b>Pinto, Helder</b>	ESE – Piaget Institute, V. N. Gaia and CIDMA – University of Aveiro, Aveiro, Portugal
<b>Puig, Luis</b>	Departamento de Didáctica de las Matemáticas, Universitat de València Estudi General, Spain

## Newsletter Distributors:

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

<b>Area</b>	<b>Name and address</b>	<b>Email address</b>
<b>Argentina</b>	Juan E. Nápoles Valdés, Lamadrid 549, (3400) Corrientes, ARGENTINA	<a href="mailto:napoles4369@gmail.com">napoles4369@gmail.com</a>
<b>Australia</b>	Gail FitzSimons, 68 Bradleys Lane, Warrandyte, Victoria 3113, AUSTRALIA	<a href="mailto:gfi@unimelb.edu.au">gfi@unimelb.edu.au</a>
<b>Austria</b>	Manfred Kronfellner, Institute of Discrete Mathematics and Geometry, Vienna University of Technology, Wiedner Haupstr. 8-10, A-1040 Wien, AUSTRIA	<a href="mailto:m.kronfellner@tuwien.ac.at">m.kronfellner@tuwien.ac.at</a>
<b>Belgium and The Netherlands</b>	Steven Wepster, Mathematical Institute, Utrecht University, Budapestlaan 6, P.O. Box 80010, 3508 TA Utrecht, NL	<a href="mailto:S.A.Wepster@uu.nl">S.A.Wepster@uu.nl</a>
<b>Canada</b>	Thomas Archibald, Mathematics Department, Acadia University, Wolfville, NS B0P1X0, CANADA	<a href="mailto:Tom.Archibald@acadiau.ca">Tom.Archibald@acadiau.ca</a>
<b>China</b>	Ma Li, Linköping University, ITN, SE - 601 74 Norrköping, SWEDEN	<a href="mailto:ma_li@mac.com">ma_li@mac.com</a>
<b>Colombia</b>	Edgar Alberto Guacaneme, Facultad de ciencia y tecnología, Universidad Pedagógica Nacional – Bogotá, COLOMBIA	<a href="mailto:guacaneme@pedagogica.edu.co">guacaneme@pedagogica.edu.co</a>
<b>Denmark</b>	Tinne Hoff Kjeldsen, Department of Mathematical Sciences, University of Copenhagen. Universitetsparken 5, 2100 Copenhagen Ø, DENMARK	<a href="mailto:thk@math.ku.dk">thk@math.ku.dk</a>
<b>France</b>	Evelyne Barbin, Centre François Viète, Faculté des sciences et des techniques, 2 Chemin de la Houssinière, BP 92208, 44322 Nantes cedex, FRANCE	<a href="mailto:evelyne.barbin@wanadoo.fr">evelyne.barbin@wanadoo.fr</a>
<b>Germany</b>	Gert Schubring, Inst. f. Didaktik der Math., Universitaet Bielefeld, Postfach 100 131, D-33501, Bielefeld, GERMANY	<a href="mailto:gert.schubring@uni-bielefeld.de">gert.schubring@uni-bielefeld.de</a>
<b>Hungary</b>	Kati Munkácsy, Eötvös Loránd University, Centre of Mathematics Education, Budapest, street Pázmány 1/c, HUNGARY	<a href="mailto:katalin.munkacsy@gmail.com">katalin.munkacsy@gmail.com</a>
<b>Iceland</b>	Kristín Bjarnadóttir, University of Iceland, School of Education, v. Stakkahlid 105 Reykjavík, ICELAND	<a href="mailto:krisbj@hi.is">krisbj@hi.is</a>
<b>Iran</b>	Mohammad Bagheri, P.O.Box 13145-1785, Tehran, IRAN	<a href="mailto:sut5@sina.sharif.edu">sut5@sina.sharif.edu</a>
<b>Israel</b>	Ted Eisenberg, Mathematics Department, Ben Gurion University of the Negev, Beer-Sheva 84105, ISRAEL	<a href="mailto:eisen@math.bgu.ac.il">eisen@math.bgu.ac.il</a> <a href="mailto:eisenbt@barak-online.net">eisenbt@barak-online.net</a>
<b>Italy</b>	Marta Menghini, Dipartimento di Matematica (Università La Sapienza), Piazzale A. Moro 5, 00185 Roma ITALY	<a href="mailto:marta.menghini@uniroma1.it">marta.menghini@uniroma1.it</a>
<b>Japan</b>	Osamu Kota, 3-8-3 Kajiwara, Kamakura Kanagawa-ken, 247-0063 JAPAN	<a href="mailto:kota@asa.email.ne.jp">kota@asa.email.ne.jp</a>
<b>Malaysia</b>	Mohamed Mohini, Department of Science and Mathematical Education, Universiti Teknologi Malaysia, 81310 Johor, MALAYSIA	<a href="mailto:mohini@fp.utm.my">mohini@fp.utm.my</a>
<b>Mexico</b>	Alejandro R. Garciadiego, Caravaggio 24, Col. Nonoalco Mixcoac Del. Benito Juárez 03700 México, D. F. MÉXICO	<a href="mailto:gardan@servidor.unam.mx">gardan@servidor.unam.mx</a>
<b>Morocco</b>	Abdellah El Idrissi, E.N.S. B.P: 2400 Marrakech, 40 000, MOROCCO	<a href="mailto:a_elidrissi@hotmail.com">a_elidrissi@hotmail.com</a>
<b>New Zealand</b>	Brenda Bicknell, Faculty of Education, University of Waikato, Private Bag 3105, Hamilton 3240, NEW ZEALAND	<a href="mailto:bicknell@waikato.ac.nz">bicknell@waikato.ac.nz</a>

<b>Area</b>	<b>Name and address</b>	<b>Email address</b>
<b><i>Other East Asia</i></b>	Gloria Benigno, Department of Education, Culture and Sports, Region X, Division of Misamis Occidental, Oroquieta City, PHILLIPINES	<a href="mailto:glorya4444@yahoo.com">glorya4444@yahoo.com</a>
<b><i>Peru</i></b>	María del Carmen Bonilla, Calle Reni 272, San Borja, Lima 41. Lima, PERU.	<a href="mailto:mc_bonilla@hotmail.com">mc_bonilla@hotmail.com</a>
<b><i>Poland</i></b>	Ewa Lakoma, Institute of Mathematics Military University of Technology Warsaw, POLAND	<a href="mailto:ewa.lakoma@wat.edu.pl">ewa.lakoma@wat.edu.pl</a>
<b><i>Russia</i></b>	Vasilii Mikhailovich Busev RUSSIA	<a href="mailto:vbusev@yandex.ru">vbusev@yandex.ru</a>
<b><i>Scandinavia</i></b>	Sten Kaijser, Department of Mathematics, P.O. Box 480, SE- 751 06 Uppsala, SWEDEN	<a href="mailto:sten@math.uu.se">sten@math.uu.se</a>
<b><i>South America</i></b>	Marcos Vieira Teixeira, Departamento de Matemática, IGCE – UNESP, Postal 178, 13 500 - 230 Rio Claro, SP BRAZIL	<a href="mailto:marti@rc.unesp.br">marti@rc.unesp.br</a>
<b><i>South Asia</i></b>	Prof. R. C. Gupta, Ganita Bharati Academy, R-20, Ras Bahar Colony, Jhansi-284003, U.P. INDIA	
<b><i>South East Europe</i></b>	Nikos Kastanis, Department of Mathematics, Aristotle University of Thessaloniki, Thessaloniki 54006, GREECE	<a href="mailto:nioka@auth.gr">nioka@auth.gr</a>
<b><i>Southern Africa</i></b>	Marcos Cherinda, Universidade Pedagógica, Campus de Lhanguene, Faculdade de Ciências Naturais e Matemática, CP 4040, Maputo, MOZAMBIQUE	<a href="mailto:mCherinda@up.ac.mz">mCherinda@up.ac.mz</a>
<b><i>Spain and Portugal</i></b>	Carlos Correia de Sá, Dep. Matemática Pura; Faculdade de Ciências da U. do Porto; Rua do Campo Alegre, 687 P - 4169 - 007 Porto, PORTUGAL	<a href="mailto:csa@fc.up.pt">csa@fc.up.pt</a>
<b><i>Taiwan</i></b>	Wann-sheng Horng, Math Dept NTNU, 88 Sec.4, Tingchou Rd., Taipei, TAIWAN	<a href="mailto:horng@math.ntnu.edu.tw">horng@math.ntnu.edu.tw</a>
<b><i>Turkey</i></b>	- still vacant -	
<b><i>United Kingdom</i></b>	Snezana Lawrence, Middlesex University, London, England, UK	<a href="mailto:snezana@mathsisgoodforyou.com">snezana@mathsisgoodforyou.com</a>
<b><i>United States of America</i></b>	David L. Roberts, Prince George's Community College, Largo, Maryland, USA	<a href="mailto:robertsdl@aol.com">robertsdl@aol.com</a>

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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://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).

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<b>103</b>	<b>12 February 2020</b>	<b>March 2020</b>
104	12 June 2020	July 2020
105	12 October 2020	November 2020

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Editors:

**Kathleen Clark**, [kclark@fsu.edu](mailto:kclark@fsu.edu)

**Snezana Lawrence**, [snezana@mathsisgoodforyou.com](mailto:snezana@mathsisgoodforyou.com)

**Helder Pinto**, [hmpinto1981@gmail.com](mailto:hmpinto1981@gmail.com)

**Luis Puig**, [luis.puig@uv.es](mailto:luis.puig@uv.es)

## 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.