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

No. 100

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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 CHAIR OF HPM*

Dear friends,

Welcome to Newsletter 100! As newsletter editors, Hélder, Luis, Snezana, and I are proud to present a special "milestone feature" in this newsletter (Hélder's wonderful idea!): a celebration of the former Chairs of the HPM Study Group. For this feature, we reached out to all of the living, former HPM Chairs, and asked them to respond to a set of interview questions (though, "interview" is used not in the traditional sense, here). Although some were not able to respond, what was especially nice is that several Chairs mentioned the life and contributions of the Chairs who have passed away; and, we were also able to reference other documentation that revealed details of their contributions to our HPM community. We hope that you will enjoy acquainting (or re-acquainting) yourself with the former Chairs, and what their work, efforts, and experiences have meant for our 40+-year-old community.

Beginning with NL 101 (July 2019), we will begin a regular feature we will call "Practitioner's Corner." Desiree van den Bogaart (the Netherlands) will help me bring this regular feature to life in the newsletter, and we will eventually be doing a "call for contributions" so that folks from around the world can participate. Please be on the lookout for details in NL 101.

Finally, activity surrounding the planning of both Topic Study Groups 27 and 55 at ICME-14 (12 – 19 July 2020; Shanghai, China) and the ICME Satellite Meeting (21 – 25 July 2020; Macao) is ramping up. You can find details as they are released for ICME-14 (icme14.org) and we will be announcing the HPM 2020: ICME Satellite Meeting website in the near future.

Until July,
*Kathy*
(kclark@fsu.edu)

## *FEATURE FOR HPM NL 100: HONORING THE FORMER CHAIRS OF THE HPM STUDY GROUP*

### HPM Chairs

(*deceased)

1976–1980
***Phillip S. Jones** (University of Michigan, USA) (co-chair) & **Roland Stowasser** (Technische Universität Berlin) (co-chair)

1980–1984
***Bruce Meserve** (University of Vermont, USA) (co-chair) & **Roland Stowasser** (University of Bielefeld, FRG) (co-chair)

1984–1988
**Ubiratan D'Ambrosio** (University of Campinas, Brazil) (co-chair) & **Christian Houzel** (University of Paris-Nord, France) (co-chair)

1988–1992
**Florence Fasanelli** (AAAS, USA)

1992–1996
***John Fauvel** (Open University, UK)

1996–2000
**Jan van Maanen** (University of Groningen, Netherlands)

2000–2004
**Fulvia Furinghetti** (University of Genova, Italy)

2004-2008
**Constantinos Tzanakis** (University of Crete, Greece)

2008–2012
**Évelyne Barbin** (Universite de Nantes, France)

2012–2016
**Luis Radford** (Université Laurentienne, Canada)

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## Phillip S. Jones

In addition to the references to Jones throughout this special feature, please see HPM Newsletter 64 (March 2007) for additional information: http://www.clab.edc.uoc.gr/hpm/HPM%20News%2064.pdf

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## Roland Stowasser

**My affiliation:**
1972-1981 Prof. Universität Bielefeld, Institut für Didaktik der Mathematik
1981-1996 Prof. Techn. Universität Berlin (em. 1996)

**My research interests:**
**Then:** My primary research interests were the history of mathematics as related to mathematics education, curriculum development in the light of microcomputer technology, problem solving, and artificial intelligence. Busy with these interests, I produced many attractive problem-solving sequences with roots in the history of science, exploiting computer graphics. During the period 1991-94 I was engaged in the European joint project "New Approaches to the Teaching of Engineering Mathematics" – and also in another New Forms and Contents of Math Education, paying special attention to low level

modelling and the art of visual problem posing.

**Now:** After a long philosophical period, my grandchildren brought me back to "Mathematical ideas." Now I place special emphasis on the role of aesthetics in learning. Some "Visual Miniatures" – old visualizations completely reworked with advanced digital instruments (above all www.Cinderella.de) – are available on request by mail: rstowasser@aol.com.

**My first HPM meeting:**
Exeter (ICME-2) Working Group 11 (1972) and in Karlsruhe (ICME-3) in 1976

**My first publication (full citation, please) in the HPM domain:**
(The Aftermath of the Karlsruhe Conference)
Historical Aspects for Math Education, organized and introduced by R. J. K. Stowasser, Bielefeld

A collection of papers by:
P. S. Jones, The History of Mathematics as a Teaching Tool, L. Rogers, The Philosophy of Mathematics and the Methodology of Mathematics Teaching, H. G. Flegg, Some Questions on the Teaching of the History of Mathematics, H. J. M. Bos, Was lehren uns historische Beispiele über Mathematik und Gesellschaft?, H. Freudenthal, Soll der Mathematiklehrer etwas von der Geschichte der Mathematik wissen? and R. J. K. Stowasser, Ransacking the History of Mathematics.
Published in: *ZDM Zentralblatt für Didaktik der Mathematik* 1978/2 pp. 57–81.

**My publication (full citation, please) in the HPM domain of which I am most proud:**
Stowasser, R., & Mohry, B. *Rekursive Verfahren. Ein problemorientierter Eingangskurs, 105 S.,* Hannover: Hermann Schroedel Verla. ISBN 3-507-83201-1

**My most recent publication (full citation, please) in the HPM field:**
Stowasser, R. J. K. (2016). Beauty Infecting Mathematics – Design. In Lasse Eronen & Bernd Zimmermann (Eds.), *Mathematics and Education, Learning, Technology, Assessment. Festschrift in Honour of Lenni Haapasalo* (pp. 179–185). Münster: WTM - Verlag für wissenschaftliche Texte und Medien. ISBN 978-3-95987-005-d

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why):**
In the History of Mathematics, I was looking out for *Ideas*

- influential in the development of mathematics;
- simple and useful, even powerful which at the same time could act as
- "centers of gravity" within the curriculum;
- knots in cognitive networks.

In that sense I call them *organizing ideas.*
In the course of history new central ideas developed by reorganization of the old stocks of knowledge allowing to draw a better general map from those "higher points of view."
Following some general comments on "organizing ideas," I presented two paradigms:

1. A problem-solving approach to one of Pascal's ideas (for organizing divisibility rules found in Arabic writing), suitable for 11-year-olds
2. A proposal of Leibniz to base geometry on distance and symmetry, adapted for the classroom.

More examples of this kind – primarily produced at the Technische Universität, West Berlin – are given in the references, especially on real numbers, similarity and recursion.

Stowasser, R. J. K. (1985). Organizing for the classroom ideas drawn from the history of mathematics. In I. Wirszup & R. Streit (Eds.), *Developments in school mathematics education around the world: Proceedings of the UCSMP International Conference on Mathematics Education*, (pp. 494–513). Reston, VA: National Council of Teachers of Mathematics. ISBN 0-87353-249-X

**The biggest challenge I faced when I was HPM Chair:**

To achieve the affiliation of the Exeter Working Group 11 under the title "International Study Group on Relations between History and Pedagogy of Mathematics cooperating with the ICMI."

**A few thoughts of mine on the future of the HPM domain are…**

Please see what I expressed in this regard in the HPM Newsletter No. 65 (July 2007). In that NL, Gert Schubring reported his conversation with me. NL 65 can be accessed here: http://www.clab.edc.uoc.gr/hpm/HPM%20News%2065.pdf

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## Bruce Meserve

(1917–14 November 2008; contributed by Florence Fasanelli)

**My academic background:**

Bates College, BA
Duke University, MA, PhD

**My affiliation (then and now):**

During his involvement with the development of HPM, Meserve was at the University of Vermont.

**My first HPM meeting:**

I am pretty sure it was ICME-1. He was a plenary speaker at ICME-2. "The History of Mathematics as a Pedagogical Tool," was his talk at ICME-4.

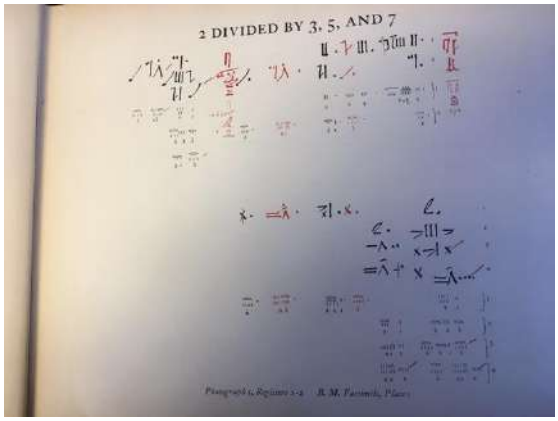
**My first publication (full citation, please) in the HPM domain:**

Among his 38 books, the ones on geometry contained the historical development of geometrical concepts. Many histories of mathematics and articles cite his books which are still in print.

**My publication (full citation, please) in the HPM domain of which I am most proud:**

Meserve bought a copy of the MAA's 1927 and 1929 edition of Arnold Buffon Chase' two volume edition – 1927 and 1929 – of the *Rhind Mathematical Papyrus* with its pictures of every page. Volume I is 8 in. by 11 in. size and 1929 is 11 in. by 14 in. and has translation and transliteration. Meserve had it taken apart and copied in parts and smaller. It was published by NCTM in 1979. Meserve then got it back and eventually gave it to Fred Rickey. Rickey has the volume. They (Jones and Meserve) told me they considered it their finest

achievement for NCTM because it made it accessible for teachers and students. Here is an image of the text (courtesy of Fred Rickey):




**The biggest challenge I faced when I was HPM Chair:**

Meserve suggested that the acronym for ISGHPM be shortened to HPM. He also suggested that affiliated groups of HPM be formed, specifically an Americas Section. This was approved at his final meeting as Co-chair in Adelaide. I cannot say if this was the biggest challenge.

**Note from Florence Fasanelli:**

Dave Roberts conducted an oral history interview of Bruce Meserve for NCTM. You can find information of the Oral History Project Records here: https://legacy.lib.utexas.edu/taro/utcah/00319/cah-00319.html

**Note from David L. Roberts (HPM – Americas Section), written by Bruce Meserve after the oral interview:**

I attended ICME-III in 1976 at Karlsruhe, Germany. At the 1980 ICME-IV at Berkeley, CA I organized a panel discussion on "The Use of History of Mathematics in Teaching Mathematics," presented a paper "The History of Mathematics as a Pedagogical Tool," and with Roland Stowasser of Bielefeld, Germany [and] became co-chairman of the International Study Group on the Relations between the History and the Pedagogy of Mathematics, ISGHPM, (a study group of the International Commission on Mathematical Education).

Phillip S. Jones was my mentor in ISGHPM as he had been for many years in NCTM. I compiled a mailing list of interested people; prepared and distributed newsletters to those in North America in February and October 1982. Copies were also sent to a network of leaders in other countries and many of them distributed copies to interested people in their areas. I planned a 2-hour ISGHPM-sponsored session at the NCTM meeting in Toronto, Canada on April 15, 1982 and participated in the development of a North American section of ISGHPM.

I collaborated in planning ISGHPM sessions at the August 1982 meeting of the International Congress of Mathematicians in Warsaw, Poland but did not attend that meeting. In 1983 Charles V. Jones of Ball State University, Muncie, IN became editor of the newsletter. On April 11-12, 1983, a "Workshop in the Preparation of Historical Materials for Classroom Use" was held at the University of Michigan, Ann Arbor under the leadership of Phillip S. Jones and Frederick Rickey. I organized the ISGHPM portion of the ICME-V program at Adelaide, Australia in 1984, presided at several sessions, and left the lectures for others who had more experience.

Victor Katz, Frederick Rickey, and others have dramatically extended their activities in the North American section of ISGHPM including participation in the formation in 2001 of HOMSIGMAA, the history of

mathematics special interest group of the MAA.

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## Ubiratan D'Ambrosio

**My academic background:**
"Licenciado" in Mathematics, University of São Paulo (1955); Doctor in Mathematics, University of São Paulo, with thesis on the Calculus of Variations (1963).

**My affiliation (then and now):**
University of São Paulo (1958-1963),
Brown University, Providence, RI (1964-1966),
State University of New York at Buffalo (1966 & 1968-1972),
Universidade Estadual de Campinas, SP Brazil (since 1972).
Now retired.

**My first HPM meeting:**
Third International Congress on Mathematical Education, Karlsruhe, 1976.

**My first publication in the HPM domain:**
D'Ambrosio, U. (1977). Overall goals and objectives for mathematical teaching. In H. Athen & H. Kunle (Eds.), *Proceedings of the Third International Congress on Mathematics Education* (pp. 221-227). Karlsruhe: ZDM. (Full text in ICMI. (1979). *New trends in mathematics teaching IV* (pp. 180-198). Paris: UNESCO.

**My publication in the HPM domain of which I am most proud:**
D'Ambrosio, U. (1985). Ethnomathematics and its place in history and pedagogy of mathematics. *For the Learning of Mathematics*, *5*(1), 44-48.

**My most recent publication in the HPM field:**
D'Ambrosio, U. (2019). Humanity moving since pre-historic times to the future with creative STEAM. In Z. Babaci-Wilhite (Ed.), *Promoting language and STEAM as human rights in education* (pp. 163-175). New York, NY: Springer.

**The biggest challenge I faced when I was HPM Chair:**
Promoting, in teaching the history of mathematics, more importance to the presence on mathematics in the religions, arts, sciences, treating mathematics as a humanistic discipline, and also giving much importance to the presence of a broader concept of mathematics in different cultural environments.

**My proudest achievements as HPM chair:**
Founding of the SBHMat/Sociedade Brasileira de História da Matemática, in 1999; Delivering a plenary lecture on "Ethnomathematiques dans l'histoire des idées" in the First European Summer University on History and Epistemology in Mathematics Education, in Montpellier, 1993; Organizing, in Florence, Italy, the Satellite Meeting of ICME-8, which took place in Budapest in 1988.

**Final remarks**
In my long journey, I realized that much of the unhappy and disgraceful state of the world can be traced back to our condition as individuals and as members of a social, planetary and cosmic reality. The major problem is that it lacks an ethics of respect, solidarity and cooperation in human behavior, both as individuals and as members of a society. This kind of moralist

discourse follows naturally from a broad look into history of ideas, particularly in the history of science and mathematics, which are the essence of the Western civilization. In studying history, we need to recognize and reflect on the fact that the goal has been the advancement of the disciplines and progress in general. The advances of systems of knowledge, particularly of science and mathematics, do not show concern about the ideal of a planetary civilization with equity, solidarity and dignity for all. I have been instilling these ideals in my behavior and also in my academic and pedagogical practices. My sporadic courses in the history of Mathematics, which fulfill my days as an educator, convey this message.

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## Christian Houzel

**My academic background:**
Former student of the *École Normale Supérieure*, *Docteur d'État* in mathematics.

**My affiliation (then and now):**
University of Nice (1966–1973)
University Paris XIII (1973–1991)
University Paris VII (1991–1999),
*Centre National de la Recherche Scientifique* (1999–2003)
Now pensioned

**My first HPM meeting:**
International Congress on Mathematical Education, Berkeley, California (USA), 1980

**My first publication in the HPM domain:**
Houzel, C. (1976). Euler et l'apparition du formalism. In C. Houzel, J.-L. Ovaert, P. Raymond, J.-J. Sansuc, *Philosophie et calcul de l'infini* (pp. 123–156) Paris: Maspero.

**My publication in the HPM domain of which I am most proud:**
Houzel, C. (1994). La préhistoire des conjectures de Weil. In J.-P. Pier (Ed.) *Developments of Mathematics 1900-1950* (pp. 385-414) Basel: Birkhäuser.

**My most recent publication in the HPM field:**
Houzel, C. (2017). Riemann's Memoir *Über das Verschwinden der ϑ-Functionen* In L. Ji, A. Papadopoulos and S. Yamada (Eds.) *From Riemann to Differential Geometry and Relativity* (pp. 125-134). Berlin: Springer.

**The biggest challenge I faced when I was HPM Chair:**
Struggle to introduce history of sciences in the French preparation to teaching mathematics and sciences

**My proudest achievement as HPM chair:**
Creation of a post graduate diploma in History of Sciences (*DEA*, Paris XIII and Paris VII).

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## Florence Fasanelli

**My academic background**:
PhD in Mathematics Education from American University (Washington, DC), Mathematics Department; Dissertation: *The Creation of Sheaf Theory*

**My affiliation (then and now):**
From 1986–1989, I was an Associate Program Director in Teacher Enhancement at the National Science Foundation. I was a team member there in gaining funding for the *first time* projects in the history of mathematics. Following this engagement, I was Director of Intervention Programs at the Mathematical Association of America for nine years, though I have continued to serve as Outreach Director of the Tensor Programs urging mathematicians to request funds for teaching the history of mathematics so students will persist in studying mathematics. I was Mathematician-in-Residence at the American Association for the Advancement of Science in beginning in 2002 and retiring in 2013 (remaining an active member of the organization).

**My first HPM meeting:**
I participated in the HPM nascent Working Group at ICME-2 in Exeter in 1972. Discussions with Polya on his thoughts about the philosophy of his countryman Michael Polanyi still affect my approach to mathematics and education teaching. Learning from Seymore Papert on how to use Logo and meeting with Phillip S. Jones (HPM Co-chair with Ronald Stowasser, 1976–1980) and Bruce Meserve (HPM Co-chair with Stowasser, 1980–1984) to discuss history of mathematics and its relation to pedagogy were highlights at a Working Group.
Both Meserve (1917–2008) and Jones (1912–2002), highly regarded mathematicians and mathematics educators, were excited about growing HPM. They recruited me to gain approval for an Americas Section Affiliate of HPM at ICME-5 in Adelaide. When I became Founding Chair of the affiliate, both men generously assisted and advised me in every step. The *Archives of American Mathematics* (AAM), located at the Dolph Briscoe Center for American History at the University of Texas at Austin, has asked to add the correspondence and printed material about these beginning to their collection. If anyone has saved such correspondence please write me at florencefasanelli@yahoo.com.

**My first publication in the HPM domain:**
"International Study Group on the Relations Between History and Pedagogy of Mathematics." In *American Perspectives on the Fifth International Congress on Mathematical Education*, edited by Warren Page, MAA Notes Number 5, 111–113. Washington, DC: Mathematical Association of America, 1985.

Editorials in the *HPM Americas' Section Newsletter* 1984–1986 when I was Founding Chair (1984–1985) of the America's Section and then Program Chair.

**My publication in the HPM domain of which I am most proud:**
"The Political Context." In *History in Mathematics Education*; *An ICMI Study*, edited by John Fauvel and Jan van Maanen, 1–38. Dordrecht: Kluwer, 2000. The material for this work was gathered at the Luminy Study Conference in April 1998 from a committee of 24 from 16 countries including the President of ICMI Jean-Pierre Kahane.

**My most recent publication in the HPM field:**
Audio Tapes: "Human Equations;" on the mathematical models from the Institut

Henri Poincaré in the Man Ray exhibition at the Phillips Collection, Washington, DC; February–May 2015.

"Mathematics and Art." In *The Princeton Companion to Mathematics*, edited by Timothy Gowers, June Barrow-Green, Imre Leader, 944–954. Princeton University Press, 2008.

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why).**

Ronald Calinger's *Classics of Mathematics*, Oak Park, Illinois: Moore Publishing Company, Inc., 1982, was the first opportunity my failing high-school students had to study original sources and, as a result, begin to understand mathematics and succeed. Their subsequent achievements—raising their SAT scores by as much as 150 points—convinced me with evidence that the human history of mathematics is vital to understanding and can, almost easily, make student's want to learn.

Similarly, using, using, and reusing Victor Katz' *A History of Mathematics*, New York: HarperCollins College Publishers, 1993, as a text for ten years of graduate classes for mathematics teachers at George Washington University and New York University broadened, and still broadens, my understanding of how to learn. Its pictures, charts, tables and hundreds of names of more material to read provides a new way to look at the educational enterprise and can reach all students no matter their skills and background.

**The biggest challenge I faced when I was HPM Chair:**

Recruit members of the Study Group to host meetings between those programmed every four years and to disseminate both success and failures in using the of history of mathematics in teaching mathematics courses. Success was swift in the Americas with meetings in the USA every year since then and Brazil in 1990. England (HIMED beginning in 1990) and France have held many sessions and Ubiritan D'Ambrosio organized sessions at international meetings.

**My proudest achievement as HPM chair:**

Success in firming the foundation for HPM's future after my tenure (1988–1992), including recruiting and convincing John Fauvel (1992–1996) to succeed me; presenting his name to the Secretary at ICME-7 in Quebec in 1992 as I stepped down as chair, and gaining assurance at that time from ICME Secretary, Mogens Niss, that our proposal for an ICMI Study was under consideration and would probably be funded with Fauvel leading the (initial) way forward together with Jan van Maanen (1996–2000) who accepted being Fauvel's successor and completing this excellent work in 2000.

**A few thoughts of mine on the future of the HPM domain are …**

The same agenda I put forward in 1988 for more annual meetings around the world holds today. Face-to-face encounters inevitably yield good will and good ideas. HPM has a unique spirit of equality, the sense that we are all in this together, and a lack of hierarchy which makes everyone feel welcome all the time. Meetings enable this enhancing spirit to grow. A predominant challenge in 2019 is the push

for all students to learn to code, despite having weak mathematics backgrounds. Promoting mathematics credit for history of mathematics courses could encourage these students to strengthen their knowledge.

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## Fulvia Furinghetti

**My academic background:**
"Laurea" in Mathematics

**My affiliation (then and now):**
University of Genoa, Department of Mathematics, now retired

**My first HPM meeting:**
HIMED

**My first publication (full citation, please) in the HPM domain:**
Furinghetti, F. (1992). The ancients and the approximated calculation: some examples and suggestions for the classroom. *The Mathematical Gazette, 76*(475), 139-142.

**My publication (full citation, please) in the HPM domain of which I am most proud:**
Furinghetti, F. & Somaglia, A. (1992). Giornalismo matematico 'a carattere elementare' nella seconda metà dell'Ottocento. *L'Insegnamento della Matematica e delle Scienze Integrate, 15,* 815-852. This is a paper (in Italian) on history OF mathematics education and I'm proud of it because I singled out a rather new theme (journals addressed to mathematics teaching) in research.

**My most recent publication (full citation, please) in the HPM field:**
Furinghetti, F. (2019, to appear). History and epistemology in mathematics education. *International Journal of Mathematical Education in Science and Technology*.
DOI:10.1080/0020739X.2019.1565454

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why).**
*The Mathematical Gazette, 76*(475). It contains articles that were first presented at HIMED 1992 by various authors (e.g., Abraham Arcavi, John Fauvel, Torkil Heiede, Peter Ransom) with focus on activities carried out in the classroom. This aspect convinced me that beyond the fascination of the history of mathematics as a general cultural issue there are potentialities for school practice and teacher education. I stress that, for shaping my understanding (or view) of the HPM domain, more than reading articles, it was important to have contacts with persons and attending workshops in ESUs, Satellite meetings, and HIMEDs.

**The biggest challenge I faced when I was HPM Chair:**
My first days as a chair of HPM were hard. I was reluctant in accepting the nomination because I felt that I lacked of experience, organizing abilities, and energies. John Fauvel encouraged me to accept and promised to help and guide me. Sadly, he died after few months and I was alone to face some problems with a little collaboration of the Advisory Board. Some members never answered my messages where I was asking for advices and suggestions. Luckily John left me a precious legacy because he had suggested

me Peter Ransom as a Newsletter editor and Peter accepted the appointment. My first task was to establish the regular the publication of the HPM Newsletter, since before, the publication was scattered or nonexistent, and with little information. Peter worked hard. He gave the present shape, layout and organization to the Newsletter, and updated the net of distributors. This was the first step towards the shaping of a real identity of the HPM Study Group. Afterwards I managed to have a website for the HPM Group. Initially Masami Isoda volunteered to maintain the website, and afterwards, Constantinos Tzanakis took the responsibility of the task and the Website became as it is now. For giving further visibility I launched a competition for having a logo for the group and the winner was the logo now in use.

After some years of silence (the last ESU was in 1996), I organized the Fourth European Summer University in Uppsala, jointly with the Satellite meeting. For the organization I relied on the experience of Évelyne Barbin and I had some preliminary meetings with her and the local organizer Sten Kaijser to plan the event.

Another aspect that I tried to care for was the contact with the world of education. At the beginning of my mandate with some colleagues I organized the celebration of the centenary of the journal *L'Enseignement Mathématique*, which was the crèche of ICMI. This was the beginning of a relationship with ICMI that had as a final result the celebration of ICMI's centenary in Rome. Also, to strengthen the relationship with the audience of ICMI, I managed to have the proceedings of the meetings dealing with topics related to HPM in the website of ICMI. At present the Proceedings of the Satellite meetings from 1996 onward (when published) are available at https://www.mathunion.org/icmi/digital-library/affiliate-organizations-conference-proceedings

In this line of interaction with the world of education I made an application for editing a Special Issue of the journal *Educational Studies in Mathematics* with some selected papers related to HPM. After some negotiations, I also succeeded in having historians as authors and the Special Issue appeared in 2007.

**My proudest achievement as HPM chair:**

In answering this question I realize that the things I regret to have missed are more numerous than the achievements of which I'm proud. Firstly, since I inherited from John the Advisory Board I understood to be obliged to keep it as it was. Only at the end of my four years I realized that I was allowed changing, and I did some timid additions of new people. Another of my concerns was to involve more teachers in the activities – who are the soul and the inspiration of the work in education. This has been difficult and one of the main reasons of difficulty is the lack of funds for supporting those who do not have the support from universities. The same problem existed as for young researchers, but in this case, later on things changed and in more recent years there were doctoral dissertations and publications in the field by new scholars. Thus, I have the illusion that the seed I sow is sprouting.

Coming to my proudest achievement, I feel that it was to have created the premises for having an efficient communication and information.

**A few thoughts of mine on the future of the HPM domain are …**

I experienced that money is a big problem. Therefore, I encourage people to submit projects for acquiring resources that allow them to carry out their studies. Moving forward, the HPM Group should work on the issues I have missed (involvement of teachers, young researchers, and new people).

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## Constantinos Tzanakis

**My academic background:**

Undergraduate studies: Mathematics, University of Athens, Greece; MSc: Astronomy, Sussex University, UK; PhD: Theoretical Physics, Université Libre de Bruxelles, Belgium.

**My affiliation (then and now):**

Since 1988, Department of Education, University of Crete, Greece, Professor of Mathematics and Physics (since 2004).

**My first HPM meeting:**

First ESU, Montpellier, France 1993.

**My first publication in the HPM domain:**

Though I published in Greek several papers in Greek journals before 1995, the following are the first two publications; both appeared in the same year:

C. Tzanakis (1995). Reversing the customary deductive teaching of mathematics by using its history: The case of abstract algebraic concepts" (workshop). In F. Lalande, F. Jaboeuf, & Y. Nouazé (Eds.), *Actes de la première Université d'Été Européenne sur l'Histoire et Épistémologie dans l'Éducation Mathématique*, (pp. 271–273). Montpellier: IREM de Montpellier, Université Montpellier II.

C. Tzanakis (1995). Rotations, complex numbers and quaternions. *International Journal of Mathematics Education in Science and Technology*, *26*, 45–60.

However, my interest and research on introducing a historical dimension into teaching had started much earlier, during my PhD studies (which were on theoretical physics (statistical mechanics)), and led to my first publication of this kind, though – strictly speaking – It was related to physics, namely:

Tzanakis, C., & Coutsomitros, C. (1988). A genetic approach to the presentation of physics: The case of quantum theory. *European Journal of Physics*, *9*(4), 276–282.

This paper got a distinction and as such it was published in the special section of the journal "Physics and Physics Education – Today and Tomorrow"

**My publication in the HPM domain of which I am most proud:**

I am not sure if I should be "proud" for any research achievements in the publications I have co-authored, or published alone. However, I really enjoyed my participation to the ICMI Study that led to the collective volume *History in Mathematics Education: The ICMI Study* and I am proud about the corresponding chapter in that book (Chapter 7; see below), in the sense that it was a really collective result based on a fascinating smooth, pleasant and effective collaboration of nine persons from nine different countries (and three different continents). I am also very grateful to Abraham Arcavi, who was the convenor of the working group that led to this chapter

and from whom I learned so much during that collaboration.

Tzanakis, C., Arcavi, A., de Sá, C. C., Isoda, M., Lit, C.-K., Niss, M., de Carvalho, J. P., Rodriguez, M. & Siu, M.-K. (2000). Integrating history of mathematics in the classroom: an analytic survey. In J. Fauvel & J. van Maanen (Eds.), *History in Mathematics Education: The ICMI Study*, New ICMI Study Series, vol. 6 (pp. 201–240). Dordrecht: Kluwer.

**My most recent publication in the HPM field:**

Clark, K. M., Kjeldsen, T. H., Schorcht, S., & Tzanakis, C. (Eds.). (2018). *Mathematics, education and history: Towards a harmonious partnership*. ICME-13 monograph series. Cham, Switzerland: Springer.

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why).**

Fauvel, J., & van Maanen, J. (1997). The role of the history of mathematics in the teaching and learning of mathematics: Discussion document for an ICMI Study (1997-2000). *Educational Studies in Mathematics*, *34*, 255–259.

This was a *Discussion document* that was a decisive first step towards the ICMI Study co-edited by the above two scholars and the Study conference (Luminy, France 1998) that preceded it as a necessary preparatory step.

The main reason for considering it crucial for me is that this document motivated me to co-organize (together with Y. Thomaidis and N. Kastanis) on a local level in Thessaloniki, Greece a colloquium on "History of Mathematics and Mathematics Education" in order to report in the Study Conference about the situation in Greece. This in turn led me to actively participate to this ICMI Study Conference and in this way to get a broad and deep overview of the various aspects of the HPM domain by closely collaborating with many people from several different countries, who influenced me much (especially, J. Fauvel, A. Arcavi, M.-K. Siu, É. Barbin, F. Furinghetti, J. van Maanen).

**The biggest challenge I faced when I was HPM Chair:**

The overlapping period during which I was organizing and was preparing the proceedings of ESU-5 (Prague, 2007) and HPM 2008 (Mexico City, 2008).

**My proudest achievement as HPM chair:**

I am not sure if I really achieved something worthwhile (this should be decided by the HPM community, not me). Maybe, extending the HPM Advisory Board from a body of less than ten scholars, to a more representative body of 23 scholars, could be considered as something worth mentioning, since in this way more people were perhaps motivated and stimulated to get involved more actively in this area. Along these lines, deciding to have the HPM Newsletter edited by a group of (three) co-editors instead of a single person, was an important step towards amending the content and appearance of this document (B. Smestad, N. Kastanis, and C. Weeks were very effectively and smoothly collaborated during that period; 2004-2008).

**A few thoughts of mine on the future of the HPM domain are …**

Perhaps, what should be kept, protected and taken care of is the spirit that permeates the community in this domain and has been so characteristic of the activities in its context all along its journey; humane and collaborative, friendly to the newcomers and the young, tolerant and supportive to what may seem "different" from what is "established." I think that this is due to the very nature of this domain; namely, the attempt to harmonize its three distinct but complementary to each other dimensions; **H**istory, **P**edagogy, **M**athematics, each one having its own qualities and virtue. Maybe, it is pertinent here to quote from what we have recently written in the above mentioned ICME-13 monograph:

- **History** points to the non-absolute nature of human knowledge: what is acceptable as knowledge is "time-dependent" and is potentially subject to changes; that is, *historicity* is one of its ontological characteristics.
- **Education [Pedagogy]** stresses the fact that humans are different in several respects depending on age, social conditions, cultural tradition, individual characteristics, etc. In this way education helps to understand these differences and to become more tolerant towards views, preconceptions, misconceptions and possibly idiosyncratic ways of self-expression held by the learners and/or the teachers.
- **Mathematics** – more strongly than any other science – emphasizes the need for logical, rational and intellectual rigor and consistency in the human endeavor to understand both the mental and empirical aspects of the world.

It is very pertinent in this connection to say that the late John Fauvel was one of those rare personalities who personified this spirit most. And I would like to add a few more words about John, perhaps one of the most influential personalities of the HPM Community, thoughtful as a scholar and charismatic as a person. His untimely death in 2001 was a great loss for this community and I want to quote what I wrote by email to many friends and colleagues when I heard about it. This message and others from his many friends were published in the HPM Newsletter (No. 47, July 2001).

Dear friends,

I feel the need to contact friends and colleagues of John all over the world. Unfortunately, I soon realized that it was impossible for me to find words to express my feelings about John's personality and the deep sorrow that his untimely death has caused to me. Please, consider this short message as an effort to share my feelings about this tragic event with some friends who came to know John and have certainly realized his quality of the highest rank, both as a scientist and as a man. I also apologize for my poor English that are certainly not enough to convey my feelings. When I learned about this tragic event, I had already prepared a letter to John together with a copy of the proceedings of the Colloquium on the Didactics of Mathematics of which I was the organizer last year in Crete, and in which John was an invited speaker together with others. The proceedings contain his thoughtful talk about history of mathematics as a resource for the mathematics teacher. Perhaps it is

the most recent (alas, the last) of his works that has been published while he was still alive. I decided to mail it in the form I had already prepared, with the letter sent personally to him, as if he were still alive. I felt that he is indeed alive in the heart of all those people everywhere in the world who were lucky enough to meet him and presumably work with him. I consider myself as one among them. At this moment this fact encourages me to try harder in the direction in which he, himself, has been living and working so unselfishly, unfortunately without his friendly presence and advice to help me.

*****

## Évelyne Barbin

**My academic background:**
IREM & Laboratory of mathematics LMJL

**My affiliation (then and now):**
University of Nantes (France)

**My first HPM meeting:**
Berkeley, California 1980 (ICME-4)

**My first publication in the HPM domain:**
Barbin, Évelyne, "Sur la géométrie de Descartes", in Barbin, Évelyne (Le Rest), Bkouche, Rudolf, Kaléka, Gérard, Le Rest, Michel, *La rigueur et le calcul*, Paris, CEDIC, 1982, pp. 80–101.

**My most recent publication in the HPM field:**
Barbin, Évelyne, Géométrie, algorithmes et combinatoire des carrés magiques, in *Mathématiques récréatives. Éclairages historiques et épistémologiques*. Grenoble: UGA Éditions, 2019, pp. 159–180.

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why).**
Barbin, Évelyne, Histoire et enseignement des mathématiques: pourquoi? comment?, *Bulletin de l'AMQ* (Association Mathématique du Québec), vol. XXXVII, 1, mars 1997, pp. 20–25.
This publication was important because in it I tried to explain the "why" and "how" of HPM.

**The biggest challenge I faced when I was HPM Chair:**
Organizing HPM in South Korea

**My proudest achievement as HPM chair:**
Organizing HPM in Daejeon, South Korea

**A few thoughts of mine on the future of the HPM domain are …**
HPM = H + P + M

*****

## Luis Radford

**My academic background:**
Undergraduate studies: Civil Engineering, Universidad de San Carlos (Guatamala) Graduate studies: *Licence* in Mathematics and Fundamental Applications, *Diplôme* of Advanced Studies in Mathematical Didactics, and *Doctorat de troisième cycle* in Mathematical Didactics, all from the University Louis Pasteur (Strasbourg, France)

**My affiliation (then and now):**
Faculty of Education, Laurentian University

**My first HPM meeting:**
1992 in Toronto

**My first publication (full citation, please) in the HPM domain:**
Radford, L. (1992). Diophante et l'algèbre pré-symbolique, *Bulletin de l'Association des Mathématiques du Québec*, *31/32*, 73–80. [PDF]

**My publication (full citation, please) in the HPM domain of which I am most proud:**
Radford, L. (1997). On psychology, historical epistemology and the teaching of mathematics: Towards a socio-cultural history of mathematics, *For the Learning of Mathematics*, *17*(1), 26–33. [PDF]

**My most recent publication (full citation, please) in the HPM field:**
Radford, L. (2017). Réflexions sur l'éthnomathématique. In J. Adihou, A. Giroux, D. Guillemette, C. Lajoie, & K. Mai Huy (Eds.), *Actes du colloque du groupe de didactique des mathématiques du Québec 2016* (pp. 168–177). Ottawa: GDM. [PDF]

**A publication that was crucial for shaping my understanding (or view) of the HPM domain is … (and also describe why).**
Høyrup, J. (1995). *In measure, number and weight. Studies in mathematics and culture.* Albany, NY: University of the State of New York.

This is an astonishing book. I was in particular greatly impressed by the chapter, "Mathematics and Early State Formation, or The Janus Face of Early Mesopotamian Mathematics: Bureaucratic Tool and Expression of Scribal Professional Autonomy." The chapter shows the historical, cultural, educational, and political substrate of mathematics.

**The biggest challenge I faced when I was HPM Chair:**
The organization of HPM 2016. I was fortunate to count on a dedicated Advisory Board, a formidable team of co-chairs, and a very enthusiastic and extremely committed local committee.

**My proudest achievements as HPM chair:**
The creation of an *Executive Committee* to help the chair in various crucial aspects of the organization of the group.
The creation of the HPM Digital Library, hosted by ICMI: https://www.mathunion.org/icmi/digital-library/affiliate-organizations-conference-proceedings

**A few thoughts of mine on the future of the HPM domain are …**
I hope that HPM will continue offering a stimulating intellectual space of exchange between mathematicians, historians of mathematics, mathematics educators, and teachers, as well as professionals of other disciplines —like linguistics, epistemology, and anthropology. I hope that HPM will continue to offer the welcoming academic space that has characterized this group since its beginning — a space where multiple perspectives meet to enter in a rich dialogue to deepen our understanding of mathematics and the human mind.

## *NOMINATIONS FOR THE 2019 FELIX KLEIN AND HANS FREUDENTHAL AWARDS*

Sent at the request of Jill Adler, President of the International Commission on Mathematical Instruction (ICMI)

# Announcement

**Call for Nominations for the 2019 Felix Klein and Hans Freudenthal Awards**

Dear Members of the International Mathematics Education Community,
It is at this time of the even-numbered years that calls for the ICMI Klein and Freudenthal Awards are being issued. The call for the current round, the 2019 awards, is presented below. Please read it carefully and consider coming up with a nomination. True, preparing submissions requires much thought and not a small amount of work, but such investment is not too much to ask when it comes to honoring a person whose work has had a substantial, valuable impact on us all. Within our flourishing field, there is quite a number of richly deserving candidates. Do remember, however, that without your help, they may not be honored. Indeed, ICMI Awards Committee can only choose recipients from officially submitted nominations for the current round, accompanied by full documentation, as specified in the call.

Thank you for considering this call seriously. We are looking forward to receiving your nominations.

Anna Sfard
(on behalf of the ICMI Klein and Freudenthal Awards Committee)

Since 2003, the International Commission on Mathematical Instruction (ICMI) awards biannually two medals to recognise outstanding accomplishments in mathematics education research:

• the Felix Klein Award, for lifelong achievement in mathematics education research,

• the Hans Freudenthal Award, for a major programme of research on mathematics education.

The **Felix Klein medal** is awarded for life-time achievement in mathematics education research. This award is aimed at acknowledging those excellent senior scholars who have made a field-defining contribution over their professional life. Past candidates have been influential and have had an impact both at the national level, within their own countries, and at the international level. We have valued in the past those candidates who not only have made substantial research contributions, but also have introduced new issues, ideas, perspectives, and critical reflections. Additional considerations have included leadership roles, mentoring, and peer recognition, as well as the actual or potential relationship between the research done and improvement of mathematics education at large, through connections between research and practice.

The **Hans Freudenthal medal** is aimed at acknowledging the outstanding contributions of an individual's theoretically robust and highly coherent research programme. It honours a scholar who has initiated a new research programme and has brought it to maturation over the past 10 years. The research programme is one that has had an impact on our community. Freudenthal awardees should also be researchers whose work is ongoing and who can be expected to continue contributing to the field.

In brief, the criteria for this award are depth, novelty, sustainability, and impact of the research program.

See http://www.mathunion.org/icmi/activities/awards/the-klein-and-freudenthal-medals/ for further information about the awards and for the names of past awardees (eight Freudenthal Medals and eight Klein Medals, to date).

The ICMI Klein and Freudenthal Awards Committee consists of a chair (Professor Anna Sfard) nominated by the President of ICMI, and five other members who remain anonymous until their terms have come to an end. The ICMI Klein and Freudenthal Awards Committee is at this time entering the 2019 cycle of selecting awardees and welcomes nominations for the two awards from individuals or groups of individuals in the mathematics education community.

Nominations for the **Felix Klein Award** should include the following:

1) a document (max. 8 pages) describing the achievements of the nominee (e.g., his or her theoretical contribution and/or empirical research, leadership roles, graduate supervision and mentoring, and peer recognition) and reasons for the nomination (including a description of the nominee's impact on the field);
2) a one-page summarizing statement;
3) a curriculum vitae of the nominee (max. 20 pages);
4) electronic copies of three of the nominee's key publications;
5) three letters of support (preferably from different countries); and
6) the names and e-mail addresses of two persons other than the nominee herself or himself who could provide further information, if needed.

Nominations for the **Hans Freudenthal Award** should include the following:

1) a document (max. 5 pages) describing the nominee's research program and reasons for the nomination (including a description of the nominee's impact on the field);
2) a one-page summarizing statement;
3) a curriculum vitae of the nominee (max. 10 pages);
4) electronic copies of three of the nominee's key publications;
5) three letters of support (from different countries, if possible); and
6) the names and e-mail addresses of two persons other than the nominee herself or himself who could provide further information, if needed.

**All nominations must be sent by e-mail to the Chair of the Committee (annasd@edu.haifa.ac.il, sfard@netvision.net.il) no later than 31 March 2019.**

Prof. Anna Sfard
Department of Mathematics Education,
The University of Haifa
Mount Carmel, Haifa 31905, Israel

## *Nominations for the 2019*

## *The Emma Castelnuovo Award*

# Announcement

The **Emma Castelnuovo Award** recognizes outstanding achievements in the practice of mathematics education in order to reflect a main aspect of the ICMI 'essence' not previously recognized in the form of an award. The award was named after Emma Castelnuovo, an Italian mathematics educator born in 1913, in celebration of her 100th birthday and honoring her pioneer work. The first Emma Castelnuovo medal was awarded to Hugh Burkhardt and Malcolm Swan in 2016 during the 13th International Congress on Mathematical Education (ICME-13) in Hamburg, Germany.

The Emma Castelnuovo Award for outstanding achievements in the practice of mathematics education honors persons, groups, projects, institutions or organizations engaged in the development and implementation of exceptionally excellent and influential work in the practice of mathematics education, such as: classroom teaching, curriculum development, instructional design (of materials or pedagogical models), teacher education programs and/or field projects with a demonstrated influence on schools, districts, regions or countries.

The Emma Castelnuovo Award seeks to recognize and to encourage efforts, ideas and their successful implementation in the field, as well as to showcase models and exemplars of inspirational practices from which to learn. The recipient of the award will be announced late in 2019 or early in 2020, and the award will be conferred at ICME-14 in July 2020 in Shanghai, China. The awardee (or its representative in the case of a group, institution, project, or organization) will be invited to present a special lecture at the Congress. The Emma Castelnuovo Award Committee consists of a Chair (Professor Konrad Krainer) nominated by the President of ICMI, and five other members who remain anonymous until their terms have come to an end.

The six members come from six different countries, representing different continents (Africa, Asia, Australia, Europe, North America and South America). The Committee is completely autonomous, its work and records will be kept internal and confidential, except for the obvious process of soliciting advice and information from the professional community, which is done by the Committee Chair. The Committee is at this time entering the 2020 cycle of selecting awardees and welcomes nominations for the award from persons, groups, projects, institutions or organizations in the mathematics education community.

**For information about the other ICMI awards and the names of past awardees, see https://www.mathunion.org/icmi/awards/icmi-awards**

Nominees for the award will be evaluated in light of the following criteria:

- the educational rationale for the candidate's work and what served as a catalyst for that work;
- the problems addressed by the candidate;
- the candidate's role in addressing the problems, whether they involve curriculum development, teacher education, professional development, design of instruction, or other areas of mathematics education practice;

• the conditions under which the work has taken place (the cultural and political context, infrastructure, funding, and people involved);
• the originality and creativity involved in how the candidate has addressed problems and overcome obstacles;
• the quality of networking with other key stakeholders (e.g., bridging theory and practice);
• external or internal evaluations of the work, if available;
• the extent of the influence of the work on educational practice, including quantitative or qualitative evidence of that influence; and
• the potential of the work to serve as a model (either for inspiring others addressing similar problems or because of taking an approach that could be applied elsewhere with appropriate modifications).

Nominations for the **Emma Castelnuovo Award** should include the following documents in the English language (exceptions for 4. – see below):

1. a document (max. 5 pages) describing the nominee's program and reasons for the nomination (including the nominee's impact on the field);
2. a one-page summary statement;
3. an account of the genesis and dissemination of the nominee's work and the roles of the people involved, with brief curricula vitae of the key persons (max. 10 pages);
4. electronic copies of three publications that reflect the nominee's work related to the practice of mathematics education (e.g., journal articles, textbooks, other instructional materials, or CD-ROMs); (if a publication is not written in English, an English translation of a key part – e.g. an abstract – and an independent statement on the publication's quality written in English – e.g. a review – should be provided)
5. three letters of support (from different stakeholders and, if possible, from different countries); and
6. the names and e-mail addresses of two persons who could provide further information, if needed.

**All nominations must be sent by e-mail to the Chair of the Committee (konrad.krainer@aau.at) no later than 31 March 31 2019.**

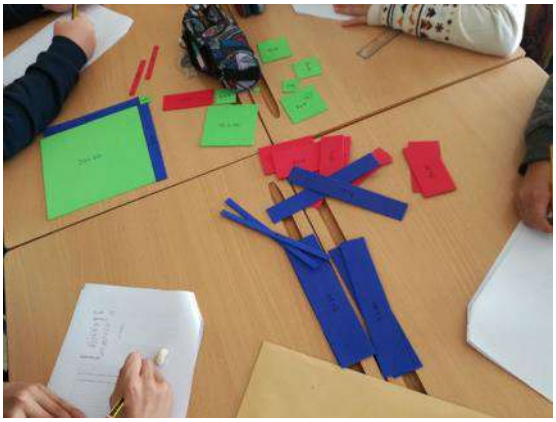
Konrad Krainer, Chair of the ICMI Emma Castelnuovo Award Committee
University of Klagenfurt, Department of Instructional and School Development
Sterneckstraße 15
9010 Klagenfurt, Austria

## *MAA Convergence* Offers Insights into Historical Texts

*MAA Convergence* is 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. Under the leadership of three well-known mathematics historians and educators, founding editors Victor Katz and Frank Swetz and their decade-long successor Janet Beery, *Convergence* has offered its readers high-quality scholarship and classroom resources since 2004. We highlight here some of our newest articles and resources for use in your classroom.

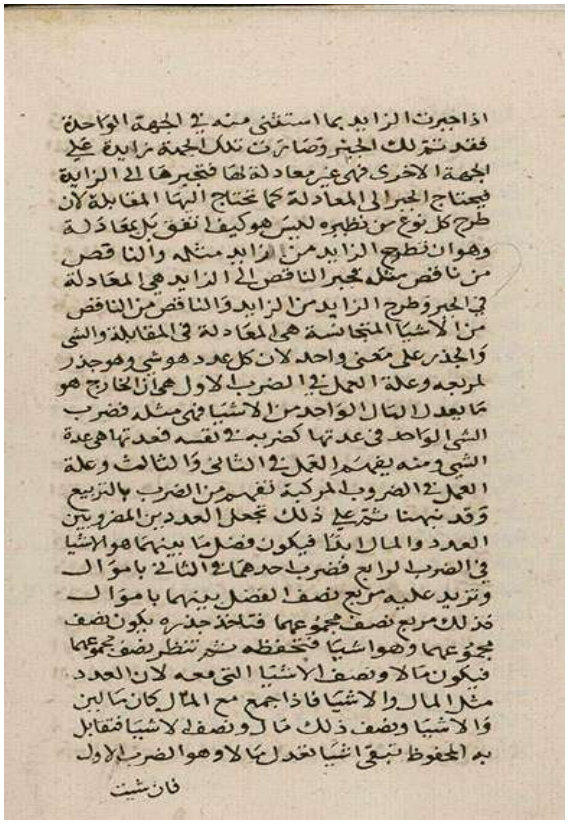
Richard Delaware's article, "**More than just a Grade: The HOM-SIGMAA Student Contest Fosters Writing Excellence at UMKC**," is a must-read for anyone who has students do some form of mathematical writing–or who does such writing themselves! Richard's advice on promoting excellent student research and writing about history of mathematics makes it clear why students in his History of Mathematics course have one of the longest and strongest records of winning papers in the History of Mathematics–Special Interest Group of the Mathematical Association of America (HOM-SIGMAA) Annual Student Paper Contest. (For details about this year's contest, visit http://sigmaa.maa.org/hom/contests/student/.)

Two articles provide examples for utilizing the landmark Chinese work, *Jiuzhang Suanshu* ("Nine Chapters on the Art of Calculation"). In "**A Classic from China: The Nine Chapters**," Randy K. Schwartz illustrates each of its chapters with problems that are accessible to most high school and college students. The authors of "**On Squares, Rectangles, and Square Roots**," María Burgos and Pablo Beltrán-Pellicer, describe how they used a particular algorithm from *Nine Chapters* with even younger students in a classroom activity that combines the use of manipulatives with the ancient Chinese *Kai fang* method for extraction of square roots.



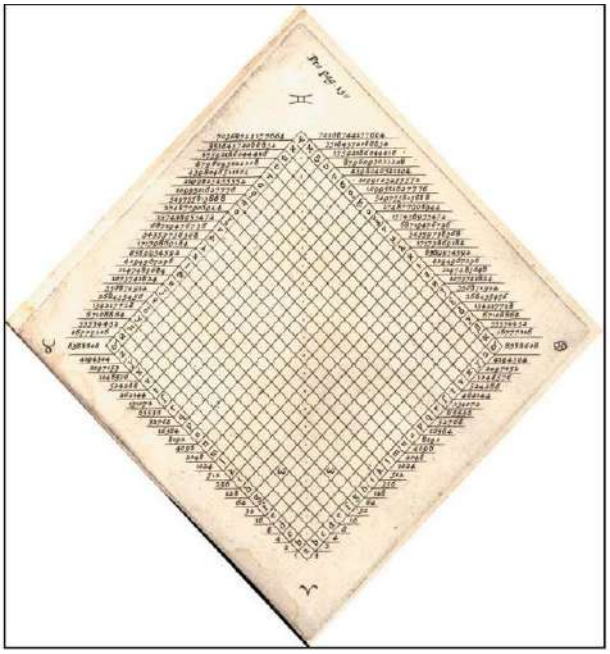
*Above: Kai Fang construction of the square root of 486.*

"**An Arabic Finger-reckoning Rule Appropriated for Proofs in Algebra**" by Jeffrey A. Oaks examines the lesser-known Arabic text *Listing the Veil* (1301), and illustrates how its author ibn al-Bannā employed a practical mental multiplication technique as the foundation for novel proofs in algebra.



*Above: Folio 51b from the Library of Congress manuscript of Ibn al-Bannā's Lifting the Veil.*

The article "**John Napier's Binary Chessboard Calculator**," by Sidney J. Kolpas and Erwin Tomash, takes a look at one of three calculation inventions described in Napier's slender volume *Rabdologiae* (1617): a method for using binary arithmetic on a chessboard as a 5-function calculator that can be brought into the classroom using bingo chips and cardboard checkerboards.



*Above: Napier's Chessboard Calculator from his 1617 Rabdologiae.*

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

- "Math Origins," in which author Erik Tou traces the historical development of concepts seen in today's undergraduate curriculum. The most recent article in the series examines the origins of eigenvectors and eigenvalues.

- "A Series of Mini-projects from **TR**ansforming **I**nstruction in **U**ndergraduate **M**athematics via **P**rimary **H**istorical **S**ources" which currently offers eight 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:
    - "How to Calculate π: Machin's Inverse Tangents" (by Dominic Klyve)
    - "Henri Lebesgue and the Development of the Integral Concept" (by Janet Heine Barnett)
    - "Seeing and Understanding Data" (by Charlotte Bolch and Beverly Woods)

- "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.

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

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

Join us at the *Convergence* of mathematics, history, and teaching!

***Janet Barnett***,
Colorado State University-Pueblo (USA)
and
***Amy Ackerberg-Hastings***,
Independent Scholar (USA)
Editors, *MAA Convergence*

## *Proceedings of ICMT-2*

The Proceedings of the ***II International Conference on Mathematics Textbook Research and Development*** are published, online, by the Mathematics Institute of the UFRJ (Rio de Janeiro, Brazil.

The Proceedings can be downloaded at two sites, in Brazil and in China:

- from the site of the SBEM (Sociedade Brasileira de Educação Matemática): http://www.sbembrasil.org.br/sbembrasil/index.php/93-biblioteca/115-biblioteca-em-educacao-matematica

http://www.sbembrasil.org.br/files/ICMT2017.pdf

- from the site of the new Asian Centre for Mathematics Education (Shanghai; director: Lianghuo Fan), in five parts: http://acme.ecnu.edu.cn/1a/3f/c17129a203327/page.htm

*Gert Schubring,*
*Lianghuo Fan,*
*Victor Geraldo*

## Have you read these?


Almira, J. M., Cid, J. A., & Ostalé, J. (2019). When did Hermann Weyl pass away? *British Journal for the History of Mathematics*, *34*(1), 60-63.

Caglayan, G. (2019). Theory of polygonal numbers with Cuisenaire rods manipulatives: Understanding Theon of Smyrna's arithmetic in a history of mathematics classroom. *British Journal for the History of Mathematics*, *34*(1), 12-22.

Carman, C., & Recio, G. (2019). Ptolemaic planetary models and Kepler's laws. *Archive for History of Exact Sciences*, *73*(1), 39-124.

Ehrhardt, C. (2018). A locus for transnational exchanges: European mathematical journals for students and teachers, 1860s–1914. *Historia Mathematica*, *45*(4), 376-394.

Enea, M. R. (2018). Circulation of an editorial model: The case-study of the short-lived *Le Matematiche Pure ed Applicate*. *Historia Mathematica*, *45*(4), 395-413.

Friedman, M. (2019). From modules to lattices: Insight into the genesis of Dedekind's *Dualgruppen*. *British Journal for the History of Mathematics*, *34*(1), 23-42.

Gispert, H. (2018). Une ambition éditoriale "universelle et confraternelle": le bulletin bibliographique de *L'Enseignement mathématique* (1899–1920). *Historia Mathematica*, *45*(4), 414-432.

Guerrero, L. (2018). Cycles, Mars, Moon and Maya numbers. *Journal of Mathematics and Culture*, *12*(1), 47-71.

Haffner, E. (2019). Mathematical formalization and diagrammatic reasoning: the case study of the braid group between 1925 and 1950. *British Journal for the History of Mathematics*, *34*(1), 43-59.

Jankvist, U. T., Clark, K. M., & Mosvold, R. (2019). Developing mathematical knowledge for teaching teachers: potentials of history of mathematics in teacher educator training. *Journal of Mathematics Teacher Education.* https://doi.org/10.1007/s10857-018-09424-x

Jong, T. (2019). A study of Babylonian planetary theory I. The outer planets. *Archive for History of Exact Sciences*, *73*(1), 1-37.

Luciano, E. (2018). Constructing an international library: The collections of journals in Turin's Special Mathematics Library. *Historia Mathematica*, *45*(4), 433-449.

Lützen, J. (2019). How mathematical impossibility changed welfare economics: A history of Arrow's impossibility theorem. *Historia Mathematica*, *46*(1), 56-87.

Maffia, A., (2019). Exploiting the potential of primary sources in primary school: a focus on teacher's actions. *International Journal of Mathematical Education in Science and Technology*, *50*(3), 354-368.

Moyon, M. (2019). The *Liber Restauracionis*: A newly discovered copy of a mediæval algebra in Florence. *Historia Mathematica*, *46*(1), 1-37.

Mozaffari, S. M. (2018). Astronomical observations at the Maragha observatory in the 1260s–1270s. *Archive for History of Exact Sciences*, *72*(6), 591-641.

Orlova, N., & Soloviev, S. (2019). Logic and logicians in Russia before 1917: Living in a wider world. *Historia Mathematica*, *46*(1), 38-55.

Siegmund-Schultze, R. (2018). The interplay of various Scandinavian mathematical journals (1859–1953) and the road towards internationalization. *Historia Mathematica*, *45*(4), 354-375.

Tazzioli, R. (2018). Interplay between local and international journals: The case of Sicily, 1880–1920. *Historia Mathematica*, *45*(4), 334-353.

Teather, A., Chamberlain, A., & Pearson, M. P. (2019). The chalk drums from Folkton and Lavant: Measuring devices from the time of Stonehenge. *British Journal for the History of Mathematics*, *34*(1), 1-11.

Yilmaz, M., & Tiryakioglu, I. (2018). The astronomical orientation of the historical Grand mosques in Anatolia (Turkey). *Archive for History of Exact Sciences*, *72*(6), 565-590.

## Announcements of Events

### *Forthcoming BSHM Meeting*

The British Society for the
History of Mathematics

http://www.bshm.ac.uk/#forthcoming

### *1. Hirst Lecture and London Mathematical Society Meeting*

21 March 2019
London

### *2. History of Recreational Mathematics*

18 May 2019
London

### *3. The Mathematics of Populations*

22 June 2019
Oxford

### *4. Stokes200 Symposium*

15-18 September 2019
Cambridge

### *23e COLLOQUE INTER-IREM ÉPISTÉMOLOGIE ET HISTOIRE DES MATHÉMATIQUES*

23-25 May 2019
Poitiers, France

**Géométries d'hier à demain: pratiques, méthodes, enseignement**

Université de Poitiers, site du Futuroscope

Le colloque a pour but de prendre du recul sur les éléments de géométrie actuellement enseignés de l'école jusqu'à l'université. Pourquoi et comment ces savoirs ont-ils été construits et pratiqués ? En quoi ont-ils été moteurs dans le développement des mathématiques ? Comment ont-ils été enseignés en différents temps et différents lieux ? Comment peut-on dégager, à partir de sources historiques authentiques, des situations géométriques pertinentes pour l'enseignement d'aujourd'hui et exploitables avec les nouveaux outils pédagogiques?

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## *ICHME-6*
## *Sixth International Conference on the History of Mathematics Education*

16-20 September 2019
Marseille, France

### *First Announcement*

We are calling for papers for this sixth conference, presenting original research on history of mathematics education.

The main thematic issues of the conference will be:

1- to compare recent research on the history of mathematics education at the international level;
2- to highlight and analyse the interrelations between the history of mathematics and the history of mathematics education;
3- to explore new methods of research, interpretation and evaluation of sources;
4- to enrich the history of education with a comparative approach to the mathematical contents taught;
5- to take into account the sociological context to analyze the educational and professional scope of mathematics education;
6- to analyze internationally the dissemination of conceptions and reforms in mathematical education.

Regarding the choice of topics for presentations there will be no restriction regarding time periods.

First becoming visible internationally at ICME 10 in 2004, in Copenhagen, as the TSG 29, the history of mathematics education has since become a well-established area of research. It has been a subject of interest in various international meetings, e.g. at the ICME, HPM, CERME and ESU conferences.

The first specialized research conference, entitled "Ongoing Research in the History of Mathematics Education," held in Garðabær near Reykjavík (Iceland) in 2009, led to a series of such specialised conferences. This will be the sixth international conference, this time held in Luminy, France, at the CIRM. It will be the continuation of the successful work of the first five conferences, in Iceland (2009), Portugal (2011), Sweden (2013), Italy (2015), and The Netherlands (2017).

Abstracts of proposed contributions **must be submitted before 15 March 2019**, using the pre-registration form at the website. The decision about acceptance of proposals will be communicated by 15 April 2019; then, registration will be open at the website.

Submission of abstracts is only possible via the conference website:
https://conferences.cirm-math.fr/2038.html

Abstracts should be in English and approximately one page (ca. 500 words), in Word. References must be included. The abstract must include an explanation, with references, of why your proposed presentation is a relevant addition to the body of knowledge of the History of

Mathematics Education. Regarding the choice of topics for presentations there will be no restriction regarding time periods.

Once submitted, there will be no possibility for a revision of abstract.

A publication of the Proceedings is planned. Submissions will be peer-reviewed.

**The Conference**

The *Centre International de Rencontres Mathématiques* (CIRM) was created in 1981 by the French mathematics community and has become an increasingly popular venue for conferences. Situated near Marseille, on the doorstep of the *calanques*, CIRM is in a unique location in the south of France. It is a quiet place, linking the charms of traditional Provence with all the facilities that researchers need for a successful conference. The work environment is comfortable and comprises seminar and meeting rooms of various sizes. The main building called the '*Bastide*' has kept the traditional look of *Provençal* houses with its pink walls. It contains a large number of bedrooms for the participants at events, as well as offices. Other bedrooms and studios, which have been recently updated, are situated in nearby buildings all a few minutes from each other. CIRM can therefore cater for 90 residents at any one time. The restaurant is one of the main features of CIRM and it is famous for its varied cuisine based on traditional French cooking and local products. The traditional Marseille *Bouillabaisse* served on Thursdays is THE gourmet *rendez-vous* for conference participants. Last but not least, the library is truly appreciated by all CIRM's residents and by the local and regional community of mathematicians.

**Registration and Conference Fee**

Registration will take place via the conference website.

Registration and conference fees: until 15 May 2019, the fee is € 75; thereafter the fee will be € 90. The fees will include publication of the Proceedings and participation at the excursion. Last day of registration and payment is 15 July 2019.

The bank account for the payment of the fees will be indicated later.

Payment of lodging and extras (coffee breaks & conference dinner: € 32,50) will be done upon arriving. See for information on lodging: https://www.fr-cirm-math.fr/tarifs.html

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**Local Committee:**

- Évelyne Barbin
- Guillaume Moussard

Further information about the conference and practical information is available on the conference website
https://conferences.cirm-math.fr/2038.html

Contact: evelyne.barbin@wanadoo.fr

**References**


Bjarnadóttir, Kristín; Fulvia Furinghetti & Gert Schubring (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.

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## *CONNECTING TAMAS VARGA'S LEGACY AND CURRENT RESEARCH IN MATHEMATICS EDUCATION*

6-8 November 2019
Budapest, Hungary

On the occasion of the 100th anniversary of the birth of the Hungarian mathematics educator, didactician and reform leader Tamás Varga, a conference on mathematics education will be held at the **Hungarian Academy of Science**.

The main aims of the conference are to

- *Celebrate the 100th anniversary of Varga situating his work in an international context and discussing its relevance for mathematics education today;*
- *Offer a forum to current international research on mathematics education in different domains;*
- *Foster the connections between Hungarian research on mathematics education and international research in the field.*

The conference will combine different forms of activity: plenary lectures, panels, communication and poster sessions, workshops, as well as presentation of didactic material and videos related to Tamás Varga's work. In order to stimulate dialogue between Varga's heritage and current research in mathematics education, a special emphasis will be laid on recent research developments on themes in the focus of Varga's interest. Especially:

***Teaching and learning of specific mathematical themes***

- *Logic and algorithmic thinking*
- *Discrete mathematics*
- *Probabilities and statistics*
- *Cross-cutting themes*
- *Inquiry Based Education and the development of learning trajectories*
- *Manipulatives and semiotic tools in the development of mathematical concepts*
- *Mathematics education from the early grades on*
- *Mathematics as playful and creative activity*
- *Differentiation and diversity in mathematics education*
- *Teachers' creativity and design capacity*

In addition, questions related to the history of mathematics education and to the comparison of different didactical approaches will be addressed.

### Call for papers

Prospective participants are invited to propose contributions on one or several of the themes listed above. Proposals should be submitted by the **30th April 2019**. Further information will be available soon on the website of the conference:

https://varga100.sciencesconf.org/

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| **101** | **12 June 2019** | **July 2019** |
| 102 | 12 October 2019 | November 2019 |
| 103 | 12 February 2020 | March 2020 |

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**A note from the Editors**

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