

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

N° 109

March 2022

This and earlier issues of the Newsletter can be downloaded from our website <u>http://www.clab.edc.uoc.gr/hpm/</u> These and other news of the HPM group are also available on the website <u>http://grouphpm.wordpress.com/</u> (the online and on time version of this newsletter).



NOTE FROM THE CHAIR

In the last couple of months we have slowly seen the reduction of the pandemic but were still confined to the online conferences. The ICME, at which we had representation, was successfully chaired by the HPM representatives Ysette Weiss and Desiree Agterberg, and the full report of this meeting will be given in the proceedings that are currently being finalised. I am very much looking forward, as I am sure you all are, to reading this report in due course – the link will be provided as soon as the proceedings are available, on our website.

In the summer later this year, I very much hope we will be able to resume our in-person communications during the ESU9 in Salerno. This meeting will give us all a chance not only to re-establish our various co-operations but, no less importantly, to renew our old friendships and establish new ones with colleagues from around the world. This will be of course the first time we have a much enlarged Advisory Board so I look forward to seeing you all there if at all possible.

I am very pleased to report on the number of projects that have either been completed, or are just beginning, that I have in some way have been involved with. Although I write from a personal perspective of involvement, there is a trend that has been emerging that I think is important to note. This trend shows a new and emerging focus on looking at the development of mathematics and mathematics education during the period that divided Europe and the world after the WWII, the Cold War and its aftermath. This, an incredibly important development in my view, is especially pertinent as it

HPM webpage: http://www.clab.edc.uoc.gr/hpm/ HPM Newsletter webpage: http://grouphpm.wordpress.com/

lends a voice to the more recent historical sources from this period that are often unheard and hence liable to misinterpretation. So let me name some of these developments.

In September 2021, there appeared online (first, later in print too) a ZDM special issue dedicated to the Mathematics education in Eastern Europe: the changes and developments in recent decades. edited Alexander by Karp (https://link.springer.com/journal/11858/v olumes-and-issues/53-7). [See the contents list on p. 10 of this Newsletter.] The issue covers the general as much as some particular developments, and probably most importantly for me, what the colonisation of knowledge and mathematics knowledge in particular has meant during the era of the Cold War and after, to the peoples of Eastern Europe.

In November last year, there was a conference also organised about the work (and life) of Judita Cofman, a Yugoslavian mathematician who worked tirelessly on mathematics education in Yugoslavia, Germany, and England. Ysette Weiss and Martina R. Schneider, both from Mainz, and I, are looking for further details about Cofman's work and her contribution to mathematics education. Cofman was that rare individual from this period who was able to transcend Cold War boundaries, and around whom scholars and students congregated for many interesting lessons in the four different countries in which she worked and lived: Yugoslavia, Germany, England, and finally (and briefly) Hungary. A full report on this conference will soon appear in the British Journal for the History of Mathematics.

Soon we will also see the volume edited by Dirk De Bock on *Modern mathematics: An international movement? Some issues* (to be published by Springer), on comparisons and countries in this era of division. There will be members of our network contributing to this volume, and many points of interest that will further enlighten how and why communication and cooperation between mathematicians and mathematics educators was possible (or not) during this era.

Last, but certainly not least, I'd like to mention the project I have been very lucky to begin working on with Helena Durnová - Principal Investigator (Masaryk University, Brno, Czech Republic) and Danny J. Beckers (Vrije Universiteit Amsterdam) on a project focusing on Foreign influences on mathematics education in Czechoslovakia in the Cold War era. Our programme is ambitious so look out for further reports on the developments and what we unearth during the coming months and years.

Finally, I wish to note that, despite the human tragedy that is developing in Ukraine as we enter March 2022, we perhaps still all have the hope that cooperation, learning, and research will help people overcome the animosities and divisions in the months to come. As we face the many difficulties that seem to be progressing beyond all our fears. helplessly watching as hundreds of thousands of people have to flee their homes in what overnight became a war zone, I hope we will all do everything possible as a group and in our individual contexts to support and engage them in our communities. As a friend and

colleague remarked today, we are passing another watershed moment in the world history. Let us hope that the majority who wish cooperation and understanding between peoples proves to be stronger this time than those wishing otherwise, and we remain united in our pursuit of that most simple dream: friendship and peace.

Snezana Lawrence





ESU 9 9th EUROPEAN SUMMER UNIVERSITY ON THE HISTORY AND EPISTEMOLOGY IN MATHEMATICS EDUCATION

18-22 July 2022

University of Salerno (Department of Mathematics) Fisciano (SA), Italy

Website: https://esu9.unisa.it

General Activities

A Summer University (SU) on the History and Epistemology in Mathematics Education began as an initiative of the French Mathematics Education community in the early 1980's. From those meetings emerged the organization of a SU on a European scale and became the European Summer University (ESU) on the History and Epistemology in Mathematics Education. The first ESU was organized in Montpellier (France), 1993. The principal aims of the ESU are:

- to provide a forum for presenting research in mathematics education and innovative teaching methods based on a historical, epistemological and cultural approach to mathematics and their teaching, with emphasis on actual implementation;

- to offer an opportunity for mathematics teachers, educators and researchers to share their historical knowledge, their teaching ideas and classroom experience related to this perspective; - in this way, to motivate further collaboration along these lines, among members of the mathematics education community in Europe and beyond.

Scientific Activities

The ESU is more a collection of intensive courses than a conference for researchers. It is a place where teachers and researchers meet and work together. It is also a place where beginners, more experienced researchers and teachers present their teaching experience to the benefit of the participants and get a constructive feedback from them—and it refers to all levels of education, from primary school to tertiary education, including in-service teachers' training. The programme and activities of ESU-9 are structured around the following main themes:

Theme 1: Theoretical and/or conceptual frameworks for integrating history and epistemology of mathematics in mathematics education;

Theme 2: History and epistemology in students and teachers mathematics education: Curricula, courses, textbooks, and didactical material of all kinds - their design, implementation and evaluation;

Theme 3: Original historical sources in teaching and learning of and about mathematics;

Theme 4: Mathematics and its relation to science, technology, and the arts: Historical issues and socio-cultural aspects in relation to interdisciplinary teaching and learning;

Theme 5: Topics in the history of mathematics education;

Theme 6: History of mathematics in Italy.

Scientific program will be structured along these themes, consisting of a few plenary lectures & a panel, as well as, parallel sessions of oral presentations, short communications and posters, for participants, who want to speak about their own experience, or research. A major part of the programme, however, consists of workshops.

Please note the information about the fees:

Late registration (from 1 March to 31 May 2022): 270 Euro (220 Euro for students and school teachers)

The pre-registration form at

https://forms.gle/YKYaw8eG8opMiToN Please note:

ESU-9 is open to European participants and participants coming from other countries.

Registration will be closed on 31 may, 2022.

Participants who wish to register later should contact esu9.sa@gmail.com

The plenary talks:

THEME 1

ABRAHAM ARCAVI, Weizmann Institute of Science, Israel "Roles of the history of mathematics in the mathematical knowledge for teaching"

THEME 2

DOMINIQUE TOURNÈS, Université de la Réunion, France "What history training for future mathematics teachers? Personal experiences and reflections"

THEME 3

MARIA ROSA MASSA-ESTEVE, Universitat Politècnica de Catalunya – Barcelona Tech (Spain) "The Use of Original Sources in the Classroom for Learning Mathematics"

THEME 4

MICHEL ROELENS, UCLL Hogeschool, Campus Diepenbeek, Belgium "Algorithms before computers"

THEME 5

ANA MILAN GASCA, Università di Roma 3, Italy "A hidden thread: ideas and proposals on children's mathematics education in history"

THEME 6

MARIA TERESA BORGATO, Università degli Studi di Ferrara, Italy "The History of Mathematics in Italy through the ages: sources, correspondences, and editions".

THEME 7

Special lecture PEDRO MANUEL BAPTISTA PALHARES, University of Minho, Portugal Ethno + mathema + tics: The legacy of Ubiratan D'Ambrosio

The official languages of ESU-9 are English, French and Italian.

1) *Workshops* consist in studying a specific subject and having a follow-up discussion. The workshop organizer prepares, presents and distributes the historical/epistemological or pedagogical/didactical material, which

motivates and orients the exchange of ideas and the discussion among the participants. Participants read and work on the basis of this material (e.g. original historical texts. didactical material, students' worksheets etc). Workshops will be scheduled in parallel sessions and will vary in duration (1.5 hours for workshops based on didactical – pedagogical material; 2 hours for workshops based on and/or historical epistemological *material*). It is preferable to organize Workshops in English. Nevertheless, workshop organizers who intend to organize their workshop in another official language are advised and encouraged to prepare copies in English of the material to be distributed to the participants (e.g. slides, worksheets etc).

2) Oral presentations will be allocated a 30-minute time slot each (25 minutes for presentation and 5 minutes for discussion), scheduled in parallel sessions. It is an activity in the spirit of a conventional research conference. Oral presentations can be delivered in any of the official languages. However, for presentations not in English, presenters will be asked to use two sets of slides; one set in the language they are going to give their presentation, and one set in English.

Further information: About the venue:

The *Campus of Fisciano* is located in the periphery of Salerno (<u>https://web.unisa.it/vivere-il-</u>campus/unisa-experience/campus-map).

Accommodation is possible near the Campus or in the centre of Salerno (in this case a shuttle service will be available).

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You find Hotel information on the web site.

The area includes several UNESCO heritages, such as the *Amalfi coast* and *Paestum*, which will be destinations for excursions

(https://web.unisa.it/en/campuslife/surroundings).

About COVID (february): more than 85% of the Italian population is vaccinated (88% of the population over 12). The risk of infection is very low.

Prevention measures are still active, so at the moment to enter closed places, and to travel with busses, trains and planes it is necessary to have a "Green – Pass" and a mask.



MAA CONVERGENCE Storytelling and More for the Mathematics Classroom from Convergence

Since 2004, MAA *Convergence* has been an online journal on the history of mathematics and its use in teaching as well as an ever-expanding collection of online resources to help readers teach mathematics using its history. We highlight here some of our newest articles offering a variety of resources for use in your classroom.

In "E. G. Ziegenbalg's Danish Translation of Euclid's Elements," editorial board member Toke Knudsen provides historical background on the first person to translate Euclid's Elements of Geometry into Danish, Ernest Gotlieb Ziegenbalg (1716-1758). The book is placed into context with respect to Latin editions of Euclid by fellow Dane Joachim Frederik Ramus and by André Tacquet and the Greek edition by David Gregory. Knudsen also takes readers on a tour of the distinctive features pedagogical introduced bv Ziegenbalg and suggests how his approach could be used to initiate conversations with today's students.



A view of the copy of Ziegenbalg's 1744 Danish translation of Euclid's *Elements* owned by Toke Knudsen.

Another article accessible to a broad range of audiences is "<u>Building a Book:</u> <u>HathiTrust, Ancestry.com, Serendipity,</u> and Lifetime Interests," in which David Lindsay Roberts tells stories about the twists and turns his research paths followed as he prepared his 2019 book, *Republic of Numbers: Unexpected Stories of Mathematical Americans.*

The vignettes he unfolds introduce students and instructors to the dramatic changes in historical research methods that have taken place over the past three decades; offer ideas for gathering historical information; and consider the broad range of activities encompassed by labels such as "American mathematics". Roberts also shares his experiences with using this material in an undergraduate history of mathematics class.



The individuals profiled in David L. Roberts's Republic of Numbers. Collage created by the author.

Convergence associate editors continue to help develop new finding aids for the journal. For instance, Mike Molinsky is providing ways to view *Convergence*'s popular "Problems from Another Time" feature chronologically, geographically, or by subject, while Laura Turner has organized an alphabetical list of book, web, and audiovisual reviews published in the journal from 2004 to 2016.

Daniel E. Otero has completed his series of curricular units based on primary source texts for use in teaching and learning trigonometry with the sixth and final episode, "<u>Regiomontanus and the</u> <u>Beginnings of Modern Trigonometry</u>."

Using examples of solving triangles from Regiomontanus' *De triangulis omnimodis*, students are prompted to familiarize themselves with calculator functions for inverse trigonometric functions and to make connections between the work of Regiomontanus and the modern practice of defining trigonometric quantities as ratios of side lengths in a right triangle.



The image of Regiomontanus found in *Convergence*'s <u>Portrait Gallery</u>.

The collection of mini-Primary Source Projects from the TRIUMPHS team, "<u>A</u> <u>Series of Mini-projects from</u> <u>TRansforming Instruction in</u> <u>Undergraduate Mathematics via Primary</u> <u>Historical Sources</u>," offers two new entries:

- "<u>Gaussian Guesswork: Three</u> <u>Mini-Primary Source Projects for</u> <u>Calculus 2 Students</u>," by Janet Heine Barnett.
- "Fourier's Heat Equation and the Birth of Climate Science: A Mini-Primary Source Project for Differential Equations and Multivariable Calculus Students," by Kenneth M Monks.

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

http://www.maa.org/press/periodicals/con vergence

Have you used a primary source project or other classroom materials informed by the history of mathematics with your own students? *Convergence* **publishes classroom testimonials** describing instructors' experiences using a particular teaching aid, article, book, or website in the classroom. Testimonials may range from informal to formal evaluation, and the outcome may be adoption, adaptation, or rejection.

Visit our <u>Guidelines for Authors</u> for more details on Convergence's submission and refereeing process.

Convergence also publishes expository articles on the history of topics in the grades 8–16 mathematics curriculum; translations of primary sources suitable for classroom use; classroom activities, projects, or modules for using history to teach mathematics; and classroom testimonials after applications of such activities, projects, or modules.

Interested in contributing or need help getting your ideas ready for submission? We'd love to hear from you at convergence@maa.org!

Amy Ackerberg-Hastings, Independent Scholar, USA

Janet Barnett, Colorado State University – Pueblo, USA Editors, *MAA Convergence*





Aldrich, J. (2021). Mathematical women in the British Isles 1878–1940: using the Davis archive. *British Journal for the History of Mathematics*, *36*(3), 210-218.

Bair, J., Błaszczyk, P., Ely, R., Katz, M. & Kuhlemann, K. (2021). Procedures of Leibnizian infinitesimal calculus: an account in three modern frameworks. *British Journal for the History of Mathematics*, 36(3), 170-209.

Briend, J.-Y. (2021). Mathématiques en perspective: Desargues, la Hire, le Poîvre. *Archive for History of Exact Sciences*, 75(6), 699–736.

Cogliati, A. (2022). Vitali's generalized absolute differential calculus. *Archive for History of Exact Sciences*, 76(1), 15–43.

Del Centina, A. (2022). Carnot's theory of transversals and its applications by Servois and Brianchon: the awakening of synthetic geometry in France. *Archive for History of Exact Sciences*, 76(1), 45–128.

Esquisabel, O. M. & Quintana, F. R. (2021). Fiction, possibility and impossibility: three kinds of mathematical fictions in Leibniz's work. *Archive for History of Exact Sciences*, 75(6), 613–647.

Friedman, M. (2021). On Mascheroni's La geometria del compasso at the beginning of the 19th century. *Historia Mathematica*, *57*, 55–79.

Giovannini, E. N. (2021). David Hilbert and the foundations of the theory of plane area. *Archive for History of Exact Sciences*, 75(6), 649–698.

Guillén, E. F & Crippa, D. (2021). The 1804 examination for the chair of Elementary Mathematics at the University of Prague. *Historia Mathematica*, *57*, 24–54.

Recio, G. (2021). Kepler's derivation of the bisection of the earth's orbit in *Astronomia Nova. British Journal for the History of Mathematics*, *36*(3), 151-169.

Steele, J. (2022). An alternative interpretation of BM 76829: astrological schemes for length of life and parts of the body. *Archive for History of Exact Sciences*, 76(1), 1–14.

Verburgt, L. (2021). The Works of Francis Bacon: A Victorian Classic in the History of Science. *Isis*, *36*(3), 717-736.

Zhou, X. (2021). Two problems in the **筹**數書 Suanshu shu (Book of Mathematics): Geometric relations between circles and squares and methods for determining their mutual relations. *Historia Mathematica*, 57, 1–23.



ZDM - Mathematics Education, 53(7), 2021

Mathematics education in Eastern Europe: changes and developments in recent decades

Issue editor: Alexander Karp

Karp, A. (2021). <u>A time of changes in</u> <u>Eastern Europe: what is its interest for the</u> <u>mathematics educator?</u> ZDM— Mathematics Education, 53(7), 1447-1454.

Schubring, G. (2021). <u>On processes of</u> <u>coloniality and decoloniality of</u> <u>knowledge: notions for analysing the</u> <u>international history of mathematics</u> <u>teaching</u>. *ZDM*—*Mathematics Education*, *53*(7), 1455-1469.

Karp, A. (2021). <u>The Russian experience:</u> <u>national curricula, national standards,</u> <u>textbooks</u>. *ZDM—Mathematics Education*, *53*(7), 1471-1483.

Lyublinskaya, I., & Petrova, E. (2021). <u>Mathematics learning in physics</u> <u>classrooms of Russian schools: a changing</u> <u>landscape from the Soviet period to the</u> <u>present</u>. *ZDM*—*Mathematics Education*, *53*(7), 1485-1498.

Pozdniakov, S.,& Freiman, V. (2021). <u>Technology-supported innovations in</u> <u>mathematics education during the last</u> <u>30 years: Russian perspective</u>. *ZDM— Mathematics Education*, *53*(7), 1499-1513. Bruder, R. (2021). <u>Comparison of the</u> <u>Abitur examination in mathematics in</u> <u>Germany before and after reunification in</u> <u>1990</u>. *ZDM—Mathematics Education*, *53*(7), 1515-1527.

Karp, A., & Shkolnyi, O. (2021). Assessment during a time of change: secondary school final examinations in <u>Russia and Ukraine</u>, *ZDM*—*Mathematics Education*, *53*(7), 1529-1540.

Novotná, J., Gosztonyi, K., Hošpesová, A., Fried, K., Moraová, H, & Gordon Győri, J. (2021). <u>Mathematics teacher</u> <u>education in the Czech Republic and</u> <u>Hungary: commonalities and differences</u>. *ZDM—Mathematics Education*, 53(7), 1541-1553.

Lawrence, S. (2021). <u>Serbian mathematics</u> education periodicals for the New <u>Millennium</u>. *ZDM—Mathematics Education*, 53(7), 1555-1564.

Swoboda,E., Karpiński, M., & Zambrowska, M. (2021). <u>Polish</u> <u>mathematics education periodicals in</u> <u>times of educational reform after the</u> <u>collapse of the Warsaw Pact</u>. *ZDM*— *Mathematics Education*, *53*(7), 1565-1578.

Leikin, R. (2021). When practice needs more research: the nature and nurture of mathematical giftedness. ZDM— Mathematics Education, 53(7), 1579-1589.

Marushina, A. (2021). <u>Mathematics</u> competitions: what has changed in recent decades. *ZDM*—*Mathematics Education*, *53*(7), 1591-1603.

Saul, M. (2021). <u>Russian influences on</u> <u>American mathematics education after</u> <u>1991: historical roots of changes in</u> <u>extracurricular programs</u>. *ZDM*— *Mathematics Education*, *53*(7), 1605-1616.



Book Reviews

British Journal for the History of Mathematics

William Morgan, Eighteenth-century actuary, mathematician and radical

Nicola Bruton Bennetts, University of Wales Press, 2020, xxix+258 pp., £16.99, ISBN 978-1-78683-618-2 Norman Biggs Pages: 1-2 | DOI: 10.1080/26375451.2021.2009720

Educational Studies in Mathematics

Furinghetti, F. (2022).

A common ground of mathematics and mathematics education for the classroom and for researchers. Erich Christian Wittmann (2021)

Connecting mathematics and mathematics education. Collected papers on mathematics education as a design science







ICHME 7 Seventh International Conference on the History of Mathematics Education

19-23 September 2022 Mainz, Germany

First Announcement

We are calling for papers for this seventh Conference, presenting original research on the 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 analyse the educational and professional scope of mathematics education;

6 - to analyse the dissemination of conceptions and reforms in mathematical education internationally.

The history of mathematics education is now a well-established area of research. The major moment in its modern development was the creation and work of TSG 29, the history of mathematics teaching and learning, at ICME 10 in 2004, in Copenhagen. Since then, it has been a subject of interest in various international meetings, e.g., at the ICME, HPM, CERME, and ESU conferences and and an object of many studies publications.

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 specialized conferences. This will be the seventh international conference, this time held in Mainz. Germany. It will be the continuation of the successful work of the first six conferences, in Iceland (2009), Portugal (2011), Sweden (2013), Italy (2015), The Netherlands (2017) and France (2019).

Abstracts of proposed contributions must be submitted before February 1, 2022.

To register to ICHME7 send an Email to Natalia Poleacova (npoleaco(at)unimainz.de) with the subject "ICHME7_registration_Name" and the completed form, which can be found on the homepage:

https://ichme7.uni-mainz.de/fb-08ichme7/registration/

To submit the abstract one should send it attached to an Email to Natalia Poleacova (npoleaco(at)uni-mainz.de) with the subject "ICHME7_abstract_Name", as described at <u>https://ichme7.uni-mainz.de/fb-08-</u> <u>ichme7/abstracts/</u>

The decision about the acceptance of proposals will be communicated by April 1, 2022.

Abstracts should be in English and about one page (ca. 500 words), in word. References must be included. The abstract needs to 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 in terms of time periods.

There will be no possibility for a revision of abstracts, once submitted.

A publication of the Proceedings is planned. Submissions will be peerreviewed.

Jörg Zender and Ysette Weiss

(local chairs)





Forthcoming BSHM Meetings

The British Society for the History of Mathematics

http://www.bshm.ac.uk/events

1. Meeting in Memory of Peter Neumann

9 April, 2022 Oxford, UK

A day of talks that either touch upon aspects of Peter Neumann's work, or that are on topics that would have interested him.

Peter M. Neumann O.B.E., was a former President and longstanding contributor to the BSHM.

Speakers:

Raymond Flood (Oxford) Cheryl E. Prager (University of Western Australia) Tony Mann (Greenwich) Christopher Hollings (Oxford) Philip Beeley (Oxford) Benjamin Wardhaugh (Oxford) Brigitte Stenhouse (Oxford & Open University) Adrian Rice (Randolph-Macon College) Karen Parshall (University of Virginia) Ciara Kennefick (Oxford) Peter Cameron (St Andrews & Queen Mary, University of London)

2. History of Analysis

14 May, 2022 London, UK

This event is organised by the British Society for the History of Mathematics (BSHM), and supported by the Department of Economics, Mathematics and Statistics at Birkbeck.

The 2022 event will look at the history of mathematical analysis. There will be speakers on a range of topics from the "prehistory" of analysis through to the 20th century. Speakers include Jeremy Gray, Niccolò Guicciardini, Bridget Stenhouse, and Kenneth Falconer.

HMTM 2022 History of Mathematics and Teaching of Mathematics

18-21 May 2022 Miskolc (online only), Hungary

Coronavirus and HMTM Conference Miskolc

Given the current situation with the coronavirus, both in Hungary and in other countries, we have no option other than organise a virtual conference and publish Proceedings.

The aim of the conference is to present aspects of the History of Mathematics, including its impact on the Teaching of Mathematics, to provide a forum to meet each other, and to give an opportunity for young researchers to present their results on the history of mathematics. We invite our colleagues, students, graduate students and other researchers to take part in the meeting.

The meeting will be hosted by the servers of the University of Miskolc

The scientific programme of the conference will be scheduled between 18th and 21st of May. 2022.

Cooperating partners

School of Mathematics of the University of St Andrews,

University of Miskolc,

Mathematics Education Centre of the Eötvös University Budapest,

Institute of Mathematics, and Institute of Informatics of the University of Debrecen, Borsod Brach of the János Bolyai Mathematical Society, Hungary.

Organizing and Scientific Committee

Edmund F. Robertson, University of St Andrews (efr(at)st-andrews.ac.uk) John O'Connor, University of St Andrews (joc(at)st-andrews.ac.uk)

Péter Körtesi, Miskolc University (matkp(at)uni-miskolc.hu)

Katalin Munkácsy, Eötvös University, Budapest

(katalin.munkacsy(at)gmail.com)

Tünde Kántor, University of Debrecen (tkantor(at)science.unideb.hu)

Lajos Klukovits, Bolyai Institute of the University of Szeged (klukovits(at)math.uszeged.hu)

Ágnes Tuska, California State University, Fresno, California

(agnest(at)mail.fresnostate.edu)

Ödön Vancsó, Mathematics Education Centre, Eötvös University, Budapest (vancso.odon(at)gmail.com)

Dénes Nagy, International Symmetry Society (Melbourne and Budapest) (snagydenes(at)gmail.com)

Contributions

The programme of the conference is planned to include invited lectures, talks, and posters.

Each participant will be given the possibility of presenting his/her contribution as a short (15-20 minutes) talk. Refereed papers will be published in the post-conference volume.

Call for papers

Authors are invited to submit an abstract to the Organisers via the Easy chair system.

The abstract must be written in English.

Deadline for submission: May 5th 2022. **Notification of acceptance:** May 10th 2022, or within 5 days for early registrations.

Upon the acceptance of the abstract (-s) the authors are invited to submit/upload their full paper as well via the same way, the HMTM 2022 page of the EasyChair system:

https://easychair.org/conferences/?conf=h mtm2022

You can change and replace several times your paper, the last version should be uploaded by 30th July 2022, closing data for the conference volume. Papers will be published in the on-line version of the conference volume, to be available of the website of the conference.

Registration

Due to the special conditions the conference is organized there will be no registration fee.

Participants can register on the conference page of the EasyChair system, uploading their abstract:

https://easychair.org/conferences/?conf=h mtm2022

alternatively, by e-mail to the local organizer pkortesi(at)gmail.com

All times of the events are given as Budapest time UTC+1, formerly GMT+1.

Conference materials

- Program booklet
- Abstracts
- Booklet with the invited lectures/and or the conference volume

Conference volume

The refereed contributed papers will be published in a conference volume. The authors of accepted contributions are requested to send in an editable Word version, before the end of July 2022 to pkortesi(at)gmail.com, sample file will be sent to participants during the conference, and to upload a pdf version to the EasyChair page of HMTM 2022.

More information

Péter Körtesi University of Miskolc Hungary. e-mail: pkortesi(at)gmail.com

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HPM Administrative Structure

Chair:

Lawrence, Snezana Middlesex University, London, England, UK

Executive Committee:

Barbin, Évelyne *	Universite de Nantes, IREM-Laboratory LMJL, France	
Fried, Michael N.	Program for Science and Technology Education, Ben-Gurion University of the Negev, Israel	
Łakoma, Ewa	Institute of Mathematics Military University of Technology Warsaw, Poland	
Métin, Frédéric	University of Burgundy / INSPE, Dijon, France	
Puig, Luis	Departamento de Didáctica de las Matemáticas, Universitat de València Estudi General, Spain	

Advisory Board:

Agterberg, Desiree	CARE, Amsterdam University of Applied Sciences, The Netherlands	
Arboleda, Luis Carlos	Instituto de Educación y Pedagogía, Universidad del Valle, Cali, Colombia	
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Items for the Newsletter should be sent to the editors, preferably by email (see addresses below).

The Newsletter appears three times a year with the following deadlines for next year.

No.	Deadline for material	Sent to distributors
110	12 June 2022	July 2022
111	12 October 2022	November 2022
112	12 February 2022	March 2022

The Newsletter is the communication of the International Study Group on the Relations between the History and Pedagogy of Mathematics, an affiliate of the International Commission on Mathematical Instruction.

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A note from the Editors

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