#### Arbeitskreis der GDM Mathematikgeschichte und Unterricht

Besonderheit des Arbeitskreises:

Enge Zusammenarbeit mit der Fachsektion Mathematikgeschichte der DMV

#### 8th EUROPEAN SUMMER UNIVERSITY ON HISTORY AND EPISTEMOLOGY IN MATHEMATICS EDUCATION

#### ESU-8



#### 20-24 July 2018

OsloMet – Oslo Metropolitan University \* Oslo, Norway



6 Hauptvorträge 1 Podiumsdiskussionen 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 the Nordic countries.

**Hans Niels Jahnke**: Hermeneutics, and the Question of "How is Science Possible?"(1)

**Snezana Lawrence:** The art and architecture of mathematics education – a study in metaphors (4)

**Frédéric Métin:** Implementing history in the math class, from kindergarten to teacher training: words and artifacts (3)

**Ingo Witzke**: Epistemological beliefs about mathematics – Challenges and chances for mathematical learning: Back to the future (2)

**Marta Menghini:** The fusion of plane and solid geometry in the teaching of geometry: textbooks, aims, discussions (5)

**Christiansen, Andreas** The first Norwegian textbooks in mathematics — A story of independence and controversy (6)

Weitere Aktivitäten:

#### Workshops (zwei-stündig und 90-minutig) Kurzvorträge Poster Ausstellungen



Nothing left to be desired? The Naming of Complex Numbers

Gavin. Hitchcock SACEMA, University of Stellenbosch

JOHN WALLIS (16161703) A Treatise of Algebra (1685) [Peter Ransom]

AUGUSTIN-LOUIS CAUCHY (1789/1857) Various writings between 1821 and 1847 [Frederic Metin]

CARL FRIEDRICH GAUSS (17771855) Theoria residuorum biquadraticorum, commentatio secunda , 1831 [Gero Stoels] Kurze Wiedergabe der Hauptvorträge in



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

No. 98

July 2018

This and earlier issues of the Newsletter can be downloaded from website http://www.clab.edc.uoc.gr/hpm/



## February 6-10, 2019 Utrecht Niederlande



#### Hauptvortrag

History and pedagogy of mathematics in mathematics education: History of the field, the potential of current examples, and directions for the future



Kathleen M. Clark, Florida State University, Tallahassee, Florida, USA

#### Hauptvortrag

#### Extensions of number systems: continuities and discontinuities revisited



Sebastian Rezat, Paderborn Thematic Working Group 12

History in Mathematics Education

17 Vorträge

Lesen der Beiträge im Vorfeld, kurze Vorstellung und Diskussion (30 min),

thematische Diskussion

- Historical Tasks to Foster Problematization
- Generalizing a 16th century arithmetic problem with prospective Secondary education teachers
- History of mathematics in Dutch teacher training
- History of mathematics and current developments in Education
- I Spy with my Little Eye Teachers' Associations about Historical Snippets in Textboots
- On the historical development of algorithms hidden in technical devices?
- Justifying a calculation technique in years 3 and 6
- On the didactical function of some items from the history of calculus
- Semiotic potential of a tractional machine: a first analysis
- From Euclid's Elements to methodology of mathematics. Two ways of viewing mathematical theory

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- ICT and original sources can complement each other
- The development of Thales theorem throughout history
- Rizanesander's Recknekonsten or "The art of arithmetic" the oldest known textbook of mathematics in Swedish
- Relevance of mathematics journals for Dutch teachers in the 18th and 19th century
- Primary school exams in calculations/mathematics in Norway 1946-2017 – content and form
- Lucas Bunt and the rise of statistics education in the Netherlands
- New Math at primary schools in West Germany a theoretical framework for the description of educational reforms

## Die nächsten Konferenzen zur Mathematikgeschichte und Unterricht und Geschichte des Mathematikunterrichts

## **Gemeinsame Jahrestagung**

der Fachsektion "Mathematikgeschichte" der DMV



GDM

und des AK "Mathematikgeschichte und Unterricht" der GDM

29.05.2.06. 2019 in der Erbacher Hof Akademie in Mainz







Fotos von https://akademie.bistummainz.de/seiten/index.html

#### **History of Mathematics Conference 2019**

There will be a joint Irish History of Mathematics (IHoM5) and British Society for the History of Mathematics (BSHM) Conference at Maynooth University on August 1st and 2nd 2019.

Location:

Maynooth University

Dates:

1st & 2nd August 2019

**Day 1** will focus on invited talks on mathematical texts from the Russell Library, and will also feature a visit to the Russell Library to view their collections, which include works of Galileo, Copernicus, Fermat, and Newton, to name but a few. There will be a conference dinner in the evening.

**Day 2** will follow a format similar to previous IHoM conferences, and will allow for a combination of longer and shorter talks. The topics will include

General topics from the History of Mathematics

Significant people and or texts in the History of Mathematics

# Rheinisch= Westfälisches Seminar zur Beschichte und Philosophie der Mathematil

#### http://www.uni-siegen.de/fb6/phima/rhewese/

18. RheWeSe am Freitag, dem 5.7.,

am

#### Zentrum für Wissenschaftstheorie in Münster

SieB - Siegener Beiträge zur Geschichte und Philosophie der Mathematik



## Toeplitz Kolloquium

Alternational Andreas and Asset du ale flache Kasae frantister Wie überne br Im Zentran als Endlee

#### WINTERSEMESTER 2018/19 Didaktik und Geschichte der Mathematik

Organisatoren: Rainer Kaenders, Walter Purkert und Marc Sauerwein

#### Zeit Montags 16.30 Uhr, Tee und Kaffee ab 16 Uhr

Ort Mathematikzentrum, Lipschitz-Saal, Endenicher Allee 60, 53115 Born

#### 19. November 2018 Otto Blumenthal und der Kampf um die Mathematischen Annalen David E. Rowe (Mainz)

#### 03. Dezember 2018

Mathematik und gesunder Menschenverstand Peter Bender (Paderborn)

#### 07. Januar 2019

"Mal und Plus machen Verdruss" – Zahl und Form in lyrischen Spiegeln Alfred Schreiber (Flensburg)



## The sixth International Conference on the History of Mathematics Education (ICHME-6)

- September 16-20, 2019,
- CIRM, Marseille (France).
- Wichtige Termine:
- Einreichung der Zusammenfassung des Beitrags bis 15.3.2019
- Entscheidung bzgl.Annahme bis **15.4.2019**

Weitere Informationen zur ICHME-6 (https://conferences.cirm-math.fr/2038.html)



## 16.-19. September 2019 Paderborn

#### Neu: Thematische Gruppe zur Analyse historischer Texte



# 1. Rundbrief



### "Die Entwicklung der Mathematik in der frühen Neuzeit" vom 24.–26. April 2020 in der

Berg- und Adam-Ries-Stadt Annaberg-Buchholz

# HPM 2020: University of Macao

- 21 25 July 2020
- Wichtige Fristen:
  - Einreichung der Zusammenfassungen: 31 October 2019
  - Rückmeldung Annahme: 30 November 2019
- "First Announcement" und conference website werden Ende März 2019 erwartet.
- Fragen?

Email an Kathleen Clark: hpm2020conference@gmail.com

# ICME-14: Shanghai, China

- 12 19 July 2020
- Website: http://www.icme14.org
- Of particular interest to TWG 12:
  - Topic Study Group 27 (TSG 27) The role of the history of mathematics in mathematics education
  - **Topic Study Group 55 (TSG 55)** The history of the teaching and the learning of mathematics
- TSG descriptions now available on the website; information regarding submission deadlines, etc. are coming soon

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 professional scope of mathematics education;

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

# Sources of Information: The HPM Newsletter

- Details:
  - March, July, November
  - Available through country/regional distributors
  - Available online
- If you would like to submit something for inclusion in the newsletter, please contact one of the NL editors:
  - Kathleen Clark, kclark@fsu.edu
  - Snezana Lawrence, snezana@mathsisgoodforyou.com
  - Helder Pinto, hbmpinto1981@gmail.com
  - Luis Puig, luis.puig@uv.es
- Submissions might include:
  - Short communication (research summary, classroom module or intervention, etc.)
  - Publication (or review of a publication), resource, website, etc., that you would like to share/announce
  - Conference announcement



## Eine andere Informationsquelle: *Convergence*

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

#### **Mathematical Treasures**

Mathematical Treasures Collection: Index of hundreds of images of historical objects and texts from libraries, museums, and individuals around the world. Highlights:

The Quipu: A collection of images of Inca quipus, with references to their earliest descriptions.

Counting Boards: Two photos of a rare and fine example of a counting table the author found in a French museum.

Leonardo Da Vinci's Geometric Sketches: Da Vinci illustrated Luca Pacioli's 1509 De divina proportione. Several of his illustrations are shown here.

Johannes Kepler's Astronomia Nova: Images from Kepler's 1609 New Astronomy.

The Geometryof Rene Descartes: Images from a 1659 Latin edition of Descartes' Geometria, originally published in 1637 in French as La géométrie.



### Mathematical Treasures -Euclid's Elements in a 14th century manuscript

Author(s): Frank J. Swetz and Victor J. Katz

#### http://www-history.mcs.st-and.ac.uk/





http://www-history.mcs.st-andrews.ac.uk/Indexes/HistoryTopics.html

#### **History Topics Index**

The links below will take you to individual articles or to index pages for articles on these topics.

#### **Mathematics in various cultures**

Ancient Babylonian mathematics Ancient Egyptian mathematics Ancient Greek mathematics Arabic mathematics Chinese mathematics Indian mathematics Mayan mathematics American mathematics

#### **Mathematical topics**

Overview of the history of mathematics Algebra Analysis Numbers and number theory Geometry and topology Mathematical physics Mathematical astronomy Mathematical education

# "Primary Source Projects"

- From the TRIUMPHS website: https://blogs.ursinus.edu/triumphs/
- Janet Barnett (janet.barnett@csupueblo.edu)

Determining the Determinant Danny Otero, Xavier UniversityFollow **Document Type Course Materials Publication Date Summer 2018 Applicable Math Courses** linear algebra Academic Division Lower Division Undergraduate Primary Source Author(s): Cauchy, Cramer

# An Introduction to the Algebra of ComplexNumbers and the Geometry in the Complex Plane

Nicholas A. ScovilleUrsinus College, Diana WhiteUniversity of Colorado Denve,

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Caspar Wessel (1745-1818)
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On the Analytical Representation of Direction. An Attempt Applied Chiefly to Solving Plane and Spherical Polygons) [Wessel, 1999]

D. E. Smith. A source book in mathematics. 2 vols. Dover Publications, Inc., New York, 1959.

#### Sekundärliteratur:

M. J. Crowe. A history of vector analysis. Dover Publications, Inc., New York, 1994. The evolution of the idea of a vectorial system, Corrected reprint of the 1985 edition. Reflexionen der Verwendung historischer Quellen im Mathematikunterricht findet man u.a. auf der Homepage von Nils Jahnke



https://www.unidue.de/didmath/ag\_jahnke/jahnke/publikationenGeschichteU nterricht.shtml

#### Darstellung unseres Arbeitskreises im Internet- Homepage

#### Hinweise auf

- Artikel
- Bücher
- Internetlinks
- Videos?
- Onlinematerialien?

#### Forum für Aktionsforschung zu

- Ergänzende Materialien zu historischen Themen in Mathematiklehrbuch
- Weiterentwicklung von Materialien, die auf Internetseiten von Schulen und Lehrern liegen
- Entwickeln von universitären Lehr
- veranstaltungen und Lehrerfortbildungen

#### Ankündigung von

- Konferenzen
- Projekten
- Verlinken? Absprachen?