

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

ESU-8

20-24 July 2018

OsloMet – Oslo Metropolitan University

Oslo, Norway

<https://esu8.edc.uoc.gr>

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 the Nordic countries.

Overall Time Schedule

	Friday 20	Saturday 21	Sunday 22	Monday 23	Tuesday-24
9:00-9:30	REGISTRATION ¹	PL4	PL3	PL2	PL5
9:30-10:00					
10:00-10:30		BREAK	BREAK	BREAK	BREAK
10:30-11:00		WS-2 (2)	P	WS-1.5 (3)	OP (4)
11:00-11:30	OPENING	WS-1.5 (1)			OP (4)
11:30-12:00	PL1				OP (2)
12:00-12:30			LUNCH	LUNCH	LUNCH
12:30-13:00	LUNCH	LUNCH			
13:00-13:30					
13:30-14:00	WS-2 (3)	OP (4)	EXCURSION	WS-2 (3)	OP (4)
14:00-14:30		OP (4)			OP (3)
14:30-14:45		SOC (2)			
14:45-15:00					
15:00-15:30		OP (4)			PL6
15:30-15:45					
15:45-16:00	BREAK	OP (3)		BREAK	CLOSING
16:00-16:30		BREAK		OP (4)	
16:30-17:00	WS-1.5 (4)			OP (3)	
17:00-17:15		WS-1.5 (4)			
17:15- 17:30					
17:30-17:45				OP (4)	
17:45-18:00				OP (3)	
18:00-18:15	OP (4)				
20:00 -			CONFERENCE DINNER		

Caption: PLx (Plenary Lecture on theme x), P (Plenary Panel Discussion), OP (30-min Oral Presentation), SOC (10-minute Short Oral Communication) WS-2 (2-hour Workshop), WS-1.5 (1.5-hour Workshop).

Remarks: (1) The Conference Office will also be open for registration on **Thursday 19 July, 17:00-19:00**

(2) In each time slot, the number of the activities running in parallel is indicated in parentheses.

(3) Wherever needed, a 15-minute interval has been scheduled so that participants can change rooms and eventual small deviations from the time schedule do not accumulate. In this way sessions running in parallel are expected to be sufficiently well synchronized.

Place: Pilestredet Campus

ESU-8 will take place in Pilestredet Campus, [building P46](#)

<http://www.hioa.no/eng/About-HiOA/Map-directions-and-premises>; see also the map below

Visiting address: Pilestredet 46 (Main reception)



Rooms: All rooms are in building P46

Ground floor: Auditoria Athene 1 and 2 (PA113/PA110) (192 places).

Third floor: Rooms PA 318 (60 places), PA 311 (30 places), PA 314 (30 places).

Available PA 308 (30 places), if necessary.

Programme¹

Thursday 19 July 2018

17:00-19:00

Registration (Conference Office)

¹ The theme(s)' label in each parallel session indicates the ESU-8 theme(s) to which the activities in that parallel session are **mostly** (though not exclusively) related. A finer description of the relation of each activity to the ESU-8 themes is given in the table that follows the detailed time schedule.

Friday 20 July 2018

9:00 - 11:00	Registration (Conference Office)			
11:00-11:30	Plenary Lecture Room (PA 113 - Athene 1) OPENING			
11:30-12:30	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Plenary Lecture - Theme 1 (Chair: V. Katz) Hans Niels Jahnke: <i>Hermeneutics, and the Question of "How is Science Possible?"</i>			
12:30-13:30	LUNCH BREAK			
	Workshops (WS-2)			
	Room PA 318 (Theme 3)	Room PA 311	Room PA 314 (Theme 3)	Room PA 113 (Theme 1)
13:30-15:30	A. Boyé & X. Lefort: <i>Un éclairage historique pour l'enseignement des nombres négatifs</i>		P. Blaszczyk: <i>On Euler's formula -- between standard and non-standard analysis. An interpretation of Euler's Introductio in analysin infinitorum</i>	A. Demattè & D. Guillemette: <i>Thinking with Levinas about history of mathematics and mathematics education</i>
15:30-16:00	BREAK			

	Workshops (WS-1.5)			
	Room PA 318 (Themes 2, 3)	Room PA 311 (Theme 4)	Room PA 314 (Theme 2)	Room PA 113 (Themes 2, 3)
16:00-17:30	G. Stoffels: <i>(R)evolutions in probability theory: students reflecting their own beliefs about mathematics by dealing with original sources from 20th century development of probability theory</i>	J. M. Rodin: <i>How to use culturally relevant trans-disciplinary activities to improve student attitudes and learning in school mathematics</i>	M. Roelens: <i>The bicylinder or birdcage or móuhéfāng gài. Combining a cultural approach with many other goals of mathematics education</i>	D. Tournès, N. Daval & M. Mouyssinat: <i>Learning arithmetic with counting boards and jetons</i>

17:30-17:45				
	Oral Presentations			
	Room PA 318 (Theme 5)	Room PA 311 (Theme 2)	Room PA 314 (Theme 4)	Room PA 113 (Theme 1)
	Chair: M. R. Massa-Esteve	Chair: A. Demattè	Chair: G. Hitchcock	Chair: J. Tattersall
17:45-18:15	L. Puig: <i>Joseph Zaragoza's Arithmetica Universalis and the teaching of algebra in Spain in the second half of the 17th century</i>	E. Lappa & K. Nikolantonakis: <i>The teaching of logarithms in upper secondary school from a historical perspective</i>	R. Capone, M. G. Adesso, O. Fiore & F. S. Tortoriello: <i>Discovering neglected synthetic geometry on "Social Networks": Learning math as in the historical Italian academies</i>	U. T. Jankvist & E. Geraniou: <i>ICT as a way of making original sources accessible to students</i>

Exhibition: M. Cecchi, A. Ferrini, Ch. Tognaccini: *"The magic of the East: from the Alhambra to the Sammezzano castle" - Symmetries in mathematics, nature and art*

Room: To be announced

Saturday 21 July 2018

9:00-10:00	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Plenary Lecture (Theme 4) (Chair: U.T. Jankvist) Snezana Lawrence: <i>The art and architecture of mathematics education – a study in metaphors</i>			
10:00-10:30	BREAK			
	Workshops (WS-2 & WS-1.5)			
	Room PA 318 (Theme 4)	Room PA 311 (Themes 1, 3)	Room PA 314	Room PA 113 (Themes 4, 3, 5)
10:30-12:00	P. Ransom: <i>The geometry of the Dambusters</i>	S. Bella & M. Blanco: <i>Quelle rigueur pour enseigner l'analyse? Ce que nous apprend le calcul des différences (1696- 1768)</i>		F. Métin: <i>Fortification and geometry in the 17th century: a military and mathematical revolution</i>
12:00-12:30				
12:30-13:30	LUNCH BREAK			
	Oral Presentations (OP) & Short Oral Communications (SOC)			
	Room PA 318 (Theme 1)	Room PA 311 (Theme 4)	Room PA 314 (Theme 2)	Room PA 113 (Theme 3)
	Chair: M. Blanco	Chair: S. Lawrence	Chair: G. Stoffels	Chair: M. Moyon
13:30-14:00	D. Guillemette: <i>Being in research and doing research on history and mathematics education in a Bakhtinian dialogical perspective</i>	L. Kvasz: <i>The concept of space in the history of mathematics and in the history of painting</i>	P-H. Liu: <i>A comparative study on how mathematical culture is implemented in the textbooks</i>	H. Pinto & T. C. Clain: <i>Histórias com Ciência na Biblioteca Escolar [Histories with Science in the School Library] – a project to bring topics of history of science to secondary schools in Aveiro (Portugal)</i>

14:00-14:30	É. Barbin: <i>Using ancient instruments in geometry teaching with Bachelard's Phenomenotechnique</i>	M. Cecchi, A. Ferrini, V. Natali & Ch. Tognaccini: <i>"The magic of the East: from the Alhambra to the Sammezzano castle" - Symmetries in mathematics, nature and art</i>	K. Bråting: <i>The role of algebra in Swedish curricula during the last 40 years</i>	M. O'Reilly: <i>"What is maths without a challenge!" – Reporting on how undergraduate mathematics students in an Irish university worked with original sources in a novel context.</i>
14:30-14:45	A. J. Lemes: <i>Potentialités de l'histoire des mathématiques dans la formation des enseignants de mathématiques</i>		T-S. Chen: <i>Researching high school students' strategies for solving the Chinese rings puzzle</i>	
14:45-15:00				
	Chair: D. Guillemette	Chair: E. Lakoma	Chair: C. Vicentini	Chair: A. Michel-Pajus
15:00-15:30	R. Capone, M. R. Del Sorbo, V. Ninni, O. Fiore & M. G. Adesso: <i>An advanced proof of Pythagorean Theorem using artifacts and dynamic geometry software inspired by Montessori Method</i>	A. Bernard: <i>Borel's approach to mathematics, probability and citizenship</i>	N. Chevalarias: <i>What training in history of mathematics for French teachers?</i>	G. Hitchcock: <i>Harnessing the power of theatre and dialogue to integrate history more effectively into mathematics education</i>
15:30-16:00	A. Mutanen: <i>On mathematical reasoning</i>		X. Li: <i>A practical study of using mathematics history in flipped classroom</i>	F. Romero Vallonesta & M. R. Massa-Esteve: <i>Sources from the 16th century to the teaching and learning about mathematics</i>
16:00-16:30	BREAK			
	Workshops (WS-1.5)			
	Room PA 318 (Theme 1, 2)	Room PA 311 (Theme 2, 3)	Room PA 314 (Theme 2, 3)	Room PA 113(Theme 2, 1)
16:30-18:00	X. Wang, J. Zou, Z. Yue & Z. Shen: <i>HPM and in-service mathematics teachers' professional development in China</i>	C. Guillet, M-L. Moureau & I. Voillequin: <i>Mathématiques et expérience: calculer des aires sans formule au lycée</i>	Popotis & K. Nikolantonakis: <i>The contribution of the Chinese abacus to the development of the number sense</i>	K. M. Clark, G. Stoffels, I. Witzke & H. Struve: <i>Capturing student beliefs at, during, and because of the transition from school to university mathematics: Evidence of influence of the historical development of geometry</i>

Sunday 22 July 2018

9:00-10:00	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Plenary Lecture (<i>Theme 3</i>) (Chair: É. Barbin) Frédéric Métin: <i>Implementing history in the math class, from kindergarten to teacher training: words and artifacts</i>
10:00-10:30	BREAK
10:30-12:00	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Panel discussion (<i>Theme 2</i>) Caterina Vicentini (coordinator), Natalie Chevalarias , Kathy M. Clark & Michel Roelens: <i>History, Epistemology and Teaching Mathematics: A challenging partnership?</i>
12:00-13:30	LUNCH BREAK
13:30-18:30	EXCURSION / FREE
20:00-	CONFERENCE DINNER

Monday 23 July 2018

9:00-10:00	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) <i>Plenary Lecture (Theme 2)</i> (Chair: K. M. Clark) Ingo Witzke: <i>Epistemological beliefs about mathematics – Challenges and chances for mathematical learning: Back to the future</i>			
10:00-10:30	BREAK			
	Workshops (WS-1.5)			
	Room PA 318 (Themes 2, 3)	Room PA 311 (Theme 3, 2)	Room PA 314 (Theme 2)	Room PA 113 (Theme 3)
10:30-12:00	C. Can, M. E. Aktas, J. H. Barnett & K. M. Clark: <i>Leonhard Euler's differentials: An attempt to restructure teaching of the derivative concept</i>		H. Languereau & A. Michel-Pajus : <i>Using French websites to find useful online material to integrate the history and epistemology of mathematics into our teaching</i>	R. Chorlay: <i>Why bother with original sources?</i>
12:00-13:30	LUNCH BREAK			
	Workshops (WS-2)			
13:30-15:30	Room PA 318 (Theme 4)	Room PA 311	Room PA 314 (Theme 3)	Room PA 113 (Themes 1, 6, 3)
	S. Lawrence: <i>What can art teach us about mathematics?</i>		M. Moyon: <i>Enseigner les mathématiques et l'algorithmique avec Leonardo Fibonacci (Teaching mathematics and algorithmics with Leonardo Fibonacci)</i>	G. Hitchcock: <i>Niels Abel: 'So many ideas ...'. Bringing episodes in the history of mathematics to life in the classroom by means of theatre</i>
15:30-16:00	BREAK			
	Oral Presentations (OP)			
	Room PA 318 (Theme 4)	Room PA 311 (Theme 5)	Room PA 314 (Theme 6)	Room PA 113 (Theme 2)
	Chair: P. Ransom	Chair: L. Puig	Chair: A. Christiansen	Chair: F. Métin

16:00-16:30	C. Tzanakis: <i>Time measurement as an interdisciplinary subject in mathematics education: The calendar</i>	J. J. Tattersall: <i>A Cambridge correspondence class in arithmetic for women</i>	K. Bjarnadóttir & B. V. Halldórsson: <i>The Norse Treatise Algorismus in manuscript GKS 1812 4to</i>	M. Moyon: <i>Teaching math through its history in primary and secondary schools (8-11 years)</i>
16:30-17:00		E. Lakoma: <i>On the main milestones in developing mathematics in Poland prior to the XIX century – through the lens of mathematics education</i>	J. Pejlare: <i>Infinite sums and the calculation of π, as presented by the Swedish mathematician Anders Gabriel Duhre in the early 18th century</i>	Deligiannidis & K. Nikolantonakis: <i>Developing geometric proportional thinking to 6th grade students with the use of a historical instrument of Errard de Bar le Duc</i>
17:00-17:15				
	Chair: K. Nikolantonakis	Chair: A. Boyé	Chair: M. Menghini	Chair: H. Pinto
17:15-17:45	A. F. Affan & M. Fried: <i>Potential of collaboration between history and mathematics teachers: investigation and framework based on a text by Abu' al-Wafa Buzj'ani</i>	D. M. Narváez: <i>The didactical contract, its effects and clauses: A historical Study</i>	R. Guitart: <i>Problems and methods in elementary geometry, according to Julius Petersen</i>	X. Wang: <i>The use of historical materials in mathematics teaching: the case of logarithms</i>
17:45-18:15	C. C. Liao: <i>How the counting rod configuration affects the presentation of the method of fangcheng in Qin Jiushao's Shushu jiu Zhang</i>		H. Gropp: <i>Thomas Clausen (1801-1885) – A Danish astronomer in Estonia</i>	B. Durmaz: <i>Mathematics and science history contexts of mathematics textbooks in Turkey</i>

Tuesday 24 July 2018

9:00-10:00	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Plenary Lecture (Theme 5) (Chair: T. H. Kjeldsen) Marta Menghini: <i>The fusion of plane and solid geometry in the teaching of geometry: textbooks, aims, discussions</i>			
10:00-10:30	BREAK			
	Oral Presentations (OP)			
	Room PA 318 (Theme 5)	Room PA 311 (Theme 2)	Room PA 314 (Theme 3)	Room PA 113 (Theme 1)
	Chair: M. O'Reilly	Chair: M. Roelens	Chair: R. Chorlay	Chair: I. Witzke
10:30-11:00	G. Vanpaemel & D. de Bock: <i>New Math, an international movement?</i>	Z. Yue, Z. Shen, X. Wang & J. Zou: <i>Research on factors affecting mathematics teachers' HPM lesson study</i>	M. Mauntel & K. M. Clark: <i>A case study of the pedagogical implementation of primary sources in undergraduate mathematics</i>	U. T. Jankvist, M. Sánchez Aguilar & M. Misfeldt: <i>Tschirnhaus' transformation: mathematical proof, history and CAS</i>
11:00-11:30	M. C. Almeida: <i>The 'New math' in mathematics teachers training in Portugal (1957-1969)</i>	H. Gu & B. Hou: <i>Using history to teach complex number</i>	M. Chiorescu: <i>Engaging with primary sources in a mathematics for the Liberal Arts course</i>	S. Schorcht & N. Buchholtz: <i>ÜberLeGMa - different facets of pre-service teachers' belief</i>
11:30-12:00			I. Guevara Casanova & C. Puig-Pla: <i>Ganita and Kuttaka: the calculation of Indian mathematics in the classical period (400-1200)</i>	E. Rotolli, P. Bonisconi, M. Cazzola, P. Longoni, G. Riva & S. Sorgato: <i>Philosophical and didactic practice in the universe of fraction: Trace and icon</i>
12:00-13:30	LUNCH BREAK			
	Oral Presentations (OP)			
	Room PA 318 (Theme 5)	Room PA 311(Theme 2)	Room PA 314 (Theme 3)	Room PA 113 (Theme 1)

	Chair: R. Guitart	Chair: S. Schorcht	Chair: A. Bernard	Chair: M. Fried
13:30-14:00	D. Basyal: <i>Old Nepali mathematics books in modern day teaching and learning of mathematics</i>	Q. C. Yan: <i>What specialized content knowledge do senior high school teachers have about trigonometry from the perspective of HPM? An empirical study</i>	E. Zubillaga Guerrero, M. T. González Astudillo & F. M. Rodríguez Vásquez: <i>The Jordan's group isomorphism concept in the work "traité des substitutions et des équations algébriques"</i>	Z. Shen: <i>HPM lesson development in the context of professional learning community: A case study in Chinese senior high school</i>
14:00-14:30	K. Karpinska: <i>Mathematics teaching in gymnasiums and real schools in Poland in the years 1795-1918. Schools with Polish and German as the language of instruction - comparison</i>	Y-K. Man: <i>Using a historical problem in a mathematics problem solving class</i>		D. Sun: <i>A categorization model of the "Hows" of using history in mathematics education: An empirical study</i>
14:30-14:45				
14:45-15:45	Plenary Lecture Room (PA 113/PA 110 - Athene 1 & 2) Plenary Lecture (Theme 6) (Chair: K. Bjarnadóttir) Andreas Christiansen: <i>The first Norwegian textbooks in mathematics - A story of independence and controversy</i>			
15:45-16:30	Plenary Lecture Room (PA 113/PA 110: Athene 1 & 2) CLOSING			

Activities ordered by type and first author's name

Proposal ID	Name	Country	Language	Type of Activity	Title	Themes	Time slot & Room
	Christiansen, Andreas	Norway	English	PL	<i>The first Norwegian textbooks in mathematics — A story of independence and controversy</i>	6	24/7, 14:45-15:45 , PA113/PA110
	Jahnke, Hans Niels	Germany	English	PL	<i>Hermeneutics, and the Question of “How is Science Possible?”</i>	1	20/7, 11:30-12:30, PA113/PA110
	Lawrence, Snezana	UK	English	PL	<i>The art and architecture of mathematics education – a study in metaphors</i>	4	21/7, 09:00-10:00, PA113/PA110
	Menghini, Marta	Italy	English	PL	<i>The fusion of plane and solid geometry in the teaching of geometry: textbooks, aims, discussions</i>	5	24/7, 09:00-10:00, PA113/PA110
	Métin, Frédéric	France	English	PL	<i>Implementing history in the math class, from kindergarten to teacher training: words and artifacts</i>	3	22/7, 09:00-10:00, PA113/PA110
	Witzke, Ingo	Germany	English	PL	<i>Epistemological beliefs about mathematics – Challenges and chances for mathematical learning: Back to the future</i>	2	23/7, 09:00-10:00, PA113/PA110
	Vicentini, Caterina (coordinator) ; Chevalarias, Nathalie ; Clark, Kathy Michelle ; Roelens, Michel	Italy, France, USA, Belgium	English	P	<i>History, Epistemology and Teaching Mathematics: A challenging partnership?</i>	2	22/7, 10:30-12:00, PA113/PA110
107	Bella, Sandra; Blanco, Mònica	France & Spain	French	WS-2	Quelle rigueur pour enseigner l'analyse ? Ce que nous apprend le calcul des différences (1696- 1768)	1 (3)	21/7, 10:30-12:30; PA 311
167	Blaszczyk, Piotr	Poland	English	WS-2	On Euler's formula - between standard and non-standard analysis. An interpretation of Euler's <i>Introductio in analysin infinitorum</i>	3 (1)	20/7, 13:30-15:30; PA 314
94	Boyé, Anne; Lefort, Xavier	France	French & English	WS-2	Un éclairage historique pour l'enseignement des nombres négatifs	3	20/7, 13:30-15:30; PA 318
146	Demattè, Adriano; Guillemette, David	Italy & Canada	English	WS-2	Thinking with Levinas about history of mathematics and mathematics education	1	20/7, 13:30-15:30; PA 113
144	Hitchcock, Anthony Gavin	South Africa	English	WS-2	Niels Abel: ‘So many ideas ...’. Bringing episodes in the history of mathematics to life in the classroom by means of theatre	1 (6, 3)	23/7, 13:30-15:30; PA 113
48	Lawrence, Snezana	UK	English	WS-2	What can art teach us about mathematics?	4	23/7, 13:30-15:30; PA 318
88	Métin, Frédéric	France	English	WS-2	Fortification and geometry in the 17th century: a military and mathematical revolution	4 (3, 5)	21/7, 10:30-12:30; PA 113
76	Moyon, Marc	France	French & English	WS-2	Teaching mathematics and algorithmics with Leonardo Fibonacci	3	23/7, 13:30-15:30; PA 314
155	Can, Cihan; Aktas, Mehmet Emin; Barnett, Janet H.; Clark, Kathleen Michelle	USA	English	WS-1.5	Leonhard Euler's differentials: An attempt to restructure teaching of the derivative concept	2 (3)	23/7, 10:30-12:00; PA 318

78	Chorlay, Renaud	France	English	WS-1.5	Why bother with original sources?	3	23/7, 10:30-12:00; PA 113
159	Clark, Kathleen Michelle; Stoffels, Gero; Witzke, Ingo; Struve, Horst	USA & Germany	English	WS-1.5	Capturing student beliefs at, during, and because of the transition from school to university mathematics: Evidence of influence of the historical development of geometry	2 (1)	21/7, 16:30-18:00; PA 113
164	El Idrissi, Abdellah	Morocco	French	WS-1.5	Eléments de trigonometrie d'Al-Biruni	3 (2)	23/7, 10:30-12:00; PA 311
92	Guillet, Carene; Moureau, Marie-Line; Voillequin, Isabelle	France	French	WS-1.5	Mathématiques et expérience: calculer des aires sans formule au lycée	2 (3)	21/7, 16:30-18:00; PA 311
118	Languereau, Hombeline; Michel-Pajus, Anne	France	English & French	WS-1.5	Using French websites to find useful online material to integrate the history and epistemology of mathematics into our teaching	2	23/7, 10:30-12:00; PA 314
96	Popotis, Apostolos; Nikolantonakis, Kostas	Greece	English	WS-1.5	The contribution of the Chinese abacus to the development of the number sense	2 (3)	21/7, 16:30-18:00; PA 314
58	Ransom, Peter	UK	English	WS-1.5	The geometry of the Dambusters	4	21/7, 10:30-12:00; PA 318
51	Rodin, Jennifer Marie	USA	English	WS-1.5	How to use culturally relevant trans-disciplinary activities to improve student attitudes and learning in school mathematics	4 (1)	20/7, 16:00-17:30; PA 311
120	Roelens, Michel	Belgium	English	WS-1.5	The bicilinder or birdcage or móuhéfang gài. Combining a cultural approach with many other goals of mathematics education	2	20/7, 16:00-17:30; PA 314
112	Stoffels, Gero	Germany	English	WS-1.5	(R)evolutions in probability theory: Students reflecting their own beliefs about mathematics by dealing with original sources from 20th century development of probability theory	2 (3)	20/7, 16:00-17:30; PA 318
102	Tournès, Dominique; Daval, Natalie; Mouyssinat, Michel	France	English	WS-1.5	Learning arithmetic with counting boards and jetons	2, 3	20/7, 16:00-17:30; PA 113
114	Wang, Xiaogin; Zou, Jiachen; Yue, Zengcheng; Shen, Zhongyu	China	English	WS-1.5	HPM and in-service mathematics teachers' professional development in China	1 (2)	21/7, 16:30-18:00; PA 318
91	Affan, Abd elrahman Faheem; Fried, Michael	Israel	English	OP	Potential of collaboration between history and mathematics teachers: investigation and framework based on a text by Abu' al-Wafa Buzj'ani	4 (1, 2)	23/7, 17:15-17:45; PA 318
170	Almeida, Mária Cristina	Portugal	English	OP	The 'New Math' in mathematics teachers training in Portugal (1957-1969)	5	24/7, 11:00-11:30; PA 318
67	Barbin, Evelyne	France	English	OP	Using ancient instruments in geometry teaching with Bachelard's Phenomenotechnique	1 (3, 2)	21/7, 14:00-14:30; PA 318
151	Basyal, Deepak	USA	English	OP	Old Nepali mathematics books in modern day teaching and learning of mathematics	5 (4)	24/7, 13:30-14:00; PA 318
156	Bernard, Alain	France	English	OP	Borel's approach to mathematics, probability and citizenship	4 (5)	21/7, 15:00-15:30; PA 311
72	Bjarnadóttir, Kristín; Halldórsson, Bjarni Vilhjálmur	Iceland	English	OP	The Norse Treatise Algorismus in manuscript GKS 1812 4to	6 (5)	23/7, 16:00-16:30; PA 314
154	Bråting, Kajsa	Sweden	English	OP	The role of algebra in Swedish curricula during the last 40 years	2 (5)	21/7, 14:00-14:30;

							PA 314
105	Capone, Roberto; Adesso, Maria Giuseppina; Fiore, Oriana; Tortoriello, Francesco Saverio	Italy	English	OP	Discovering neglected synthetic geometry on "Social Networks": Learning math as in the historical Italian academies	4 (2)	20/7, 17:45-18:15; PA 314
148	Capone, Roberto; Del Sorbo, Maria Rosaria; Ninni, Virginia; Fiore, Oriana; Adesso, Maria Giuseppina	Italy	English	OP	An advanced proof of Pythagorean Theorem using artifacts and dynamic geometry software inspired by Montessori method	1 (2)	21/7, 15:00-15:30; PA 318
60	Cecchi, Michele; Ferrini, Attilio; Tognaccini, Chiara; Natali, Vilma	Italy	English	OP	"The magic of the East: from the Alhambra to the Sammezzano castle" - Symmetries in mathematics, nature and art	4	21/7, 14:00-14:30; PA 311
145	Chevalarias, Nathalie	France	French	OP	What training in history of mathematics for French teachers?	2	21/7, 15:00-15:30; PA 314
157	Chiorescu, Marcela	USA	English	OP	Engaging with primary sources in a mathematics for the Liberal Arts course	3	24/7, 11:00-11:30; PA 314
63	Deligiannidis, Triantafyllos; Nikolantonakis, Kostas	Greece	English	OP	Developing geometric proportional thinking to 6th grade students with the use of a historical instrument of Errard de Bar le Duc	2	23/7, 16:30-17:00; PA 113
130	Durmaz, Burcu	Turkey	English	OP	Mathematics and science history contexts of mathematics textbooks in Turkey	2	23/7, 17:45-18:15; PA 113
103	Gropp, Harald	Germany	English	OP	Thomas Clausen (1801-1885) - a Danish astronomer in Estonia	6	23/7, 17:45-18:15; PA 314
47	Gu, Hui; Hou, Bin	China	English	OP	Using history to teach complex number	2	24/7, 11:00-11:30; PA 311
147	Guevara-Casanova, Iolanda ; Puig-Pla, Carles	Spain	English	OP	Ganita and kuttaka: The calculation of Indian mathematics in the classical period (400-1200)	3	24/7, 11:30-12:00; PA 314
163	Guillemette, David	Canada	English	OP	Being in research and doing research on history and mathematics education in a Bakhtinnian dialogical perspective	1	21/7, 13:30-14:00; PA 318
82	Guitart, René	France	English	OP	Problems and methods in elementary geometry, according to Julius Petersen	6 (3)	23/7, 17:15-17:45; PA 314
136	Hitchcock, Anthony Gavin	South Africa	English	OP	Harnessing the power of theatre and dialogue to integrate history more effectively into mathematics education	3 (1)	21/7, 15:00-15:30; PA 113
64	Jankvist, Uffe Thomas; Geraniou Eirini	Denmark & UK	English	OP	ICT as a way of making original sources accessible to students	1 (2, 3)	20/7, 17:45-18:15; PA 113
66	Jankvist, Uffe Thomas; Sánchez Aguilar, Mario; Misfeldt, Morten	Denmark & Mexico	English	OP	Tschirnhaus' transformation: mathematical proof, history and CAS	1 (2, 3)	24/7, 10:30-11:00; PA 113
183	Karpińska, Karolina	Poland	English	OP	Mathematics teaching in gymnasiums and real schools in Poland in the years 1795-1918. Schools with Polish and German as the language of instruction - comparison	5	24/7, 14:00-14:30; PA 318
117	Kvasz, Ladislav	Czech Republic	English	OP	The concept of space in the history of mathematics and in the history of painting	4	21/7, 13:30-14:00; PA 311
182	Lakoma, Ewa	Poland	English	OP	On the main milestones in developing mathematics in Poland prior to the XIX century – through the lens of mathematics education	5	23/7, 16:30-17:00; PA 311
61	Lappa, Eleni; Nikolantonakis, Kostas	Greece	English	OP	The teaching of logarithms in upper secondary school from a historical perspective	2 (3)	20/7, 17:45-18:15; PA 311

133	Li, Xiaoni	China	English	OP	A practical study of using mathematic history in flipped classroom	2	21/7, 15:30-16:00; PA 314
137	Liao, Chieh-Cheng	Taiwan	English	OP	How the counting rod configuration affects the presentation of the method of fangcheng in Qin Jiushao's <i>Shushu jiuzhang</i>	4	23/7, 17:45-18:15; PA 318
106	Liu, Po-Hung	Taiwan	English	OP	A comparative study on how mathematical culture is implemented in the textbooks	2	21/7, 13:30-14:00; PA 314
171	Man, Yiu-Kwong	China	English	OP	Using a historical problem in a mathematics problem solving class	2 (4)	24/7, 14:00-14:30; PA 311
160	Mauntel, Matthew; Clark, Kathleen Michelle	USA	English	OP	A case study of the pedagogical implementation of primary sources in undergraduate mathematics	3	24/7, 10:30-11:00; PA 314
101	Moyon, Marc	France	English	OP	Teaching maths through its history in primary and secondary schools (8-11 years)	2	23/7, 16:00-16:30; PA 113
99	Mutanen, Arto	Finland	English	OP	On mathematical reasoning	1	21/7, 15:30-16:00; PA 318
153	Narváez, Deissy Milena	Colombia	English	OP	The didactical contract, its effects and clauses: A historical study	5	23/7, 17:15-17:45; PA 311
166	O'Reilly, Maurice	Ireland	English	OP	"What is maths without a challenge!" – Reporting on how undergraduate mathematics students in an Irish university worked with original sources in a novel context	3 (2, 4)	21/7, 14:00-14:30; PA 113
95	Parkinson Coombs, Oisín	USA	English	OP	A case study investigating the use of the history of mathematics with post-primary students to alleviate mathematics anxiety	2	24/7, 11:30-12:00; PA 311
110	Pejlare, Johanna	Sweden	English	OP	Infinite sums and the calculation of π , as presented by the Swedish mathematician Anders Gabriel Duhre in the early 18th century	6	23/7, 16:30-17:00; PA 314
49	Pinto, Hélder; Clain, Teresa Costa	Portugal	English	OP	<i>Histórias com Ciência na Biblioteca Escolar</i> [Histories with Science in the School Library] – a project to bring topics of history of science to secondary schools in Aveiro (Portugal)	3	21/7, 13:30-14:00; PA 113
77	Puig, Luis	Spain	English	OP	Joseph Zaragoza's <i>Arithmetica Universalis</i> and the teaching of algebra in Spain in the second half of the 17th century	5	20/7, 17:45-18:15; PA 318
125, 129	Rogers, Leo	UK	English	OP	Technology, radical education, and applications of mathematics in the pre-industrial period in Baconian England (1580-1750).	4	21/7, 15:30-16:00; PA 311
138	Romero Vallhonestá, Fátima; Massa-Esteve, Maria Rosa	Spain	English	OP	Sources from the 16th century to the teaching and learning about mathematics	3	21/7, 15:30-16:00; PA 113
46	Rottoli, Ernesto; Bonisconi, Petronilla; Cazzola, Marina; Longoni, Paolo; Riva, Gianstefano; Sorgato, Sonia	Italy	English	OP	Philosophical and didactic practice in the universe of fractions: Trace and icon	1	24/7, 11:30-12:00; PA 113
128	Salinas Hernández, Ulises	Mexico	English	OP	The role of mediation in the discourse of a novice teacher regarding the physics concept of free fall: A historical-socio-cultural analysis	4	23/7, 16:30-17:00; PA 318
108	Schorcht, Sebastian; Buchholtz, Nils	Germany, Norway	English	OP	ÜberLeGMA - different facets of pre-service teachers' belief	1	24/7, 11:00-11:30; PA 113
121	Shen, Zhongyu	China	English	OP	HPM lesson development in the context of professional learning community: A case study in Chinese senior high school	1 (2)	24/7, 13:30-14:00; PA 113

75	Siu, Man Keung	China	English	OP	Equations in China: Two millennia of innovation, transmission and re-transmission	5-(2)	24/7, 10:30-11:00; PA 318
124	Sun, Dandan	China	English	OP	A categorization model of the “hows” of using history in mathematics education: An empirical study	1	24/7, 14:00-14:30; PA 113
80	Tattersall, James Joseph	USA	English	OP	A Cambridge correspondence class in arithmetic for women	5	23/7, 16:00-16:30; PA 311
141	Tzanakis, Constantinos	Greece	English	OP	Time measurement as an interdisciplinary subject in mathematics education: The calendar	4 (1)	23/7, 16:00-16:30; PA 318
43	Vanpaemel, Geert; De Bock, Dirk	Belgium	English	OP	<i>New Math</i> , an international movement?	5	24/7, 10:30-11:00; PA 318
152	Wang, Xin	China	English	OP	The use of historical materials in mathematics teaching: The case of logarithms	2	23/7, 17:15-17:45; PA 113
119	Yan, Qi Chun	China	English	OP	What specialized content knowledge do senior high teachers have about trigonometry from perspective of HPM? An empirical study	2 (1)	24/7, 13:30-14:00; PA 311
115	Yue, Zengcheng; Shen, Zhongyu; Wang, Xin; Zou, Jiachen	China	English	OP	Research on factors affecting mathematics teachers’ HPM lesson study	2	24/7, 10:30-11:00; PA 311
149	Zubillaga Guerrero, Erika ; González Astudillo, María Teresa; Rodríguez Vásquez, Flor Monserrat	Mexico, Spain	English	OP	The Jordan's group isomorphism concept in the work “traité des substitutions et des équations algébriques”	3	24/7, 13:30-14:00; PA 314
158	Chen, Tung-Shayan	Taiwan	English	SOC	Researching high school students’ strategies for solving the Chinese rings puzzle	2	21/7, 14:30-14:45; PA 314
139	Klyve, Dominic; Otero, Daniel; Seoville, Nicholas; White, Diana	USA	English	SOC	Using primary-source projects to teach undergraduate mathematics content: preliminary research on faculty perspectives and change	3	21/7, 14:30-14:45; PA 113
134	Lemes, Ana Jimena	France	French	SOC	Potentialités de l'histoire des mathématiques dans la formation des enseignants de mathématiques	1	21/7, 14:30-14:45; PA 318
60	Cecchi, Michele; Ferrini, Attilio; Tognaccini, Chiara	Italy	English	Exhibition	"The magic of east: from the Alhambra to Sammezzano Castle": Symmetries in mathematics, nature and art	4	