Schedule: summary

	Monday 13 September	Tuesday 14 September	Wednesday 15 September	Thursday 16 September
9:00 - 9:30		Plenary: Anna Baccaglini-Frank *(9:00 – 10:00)*	Plenary: Shai Olsher *(9:00 – 10:00)*	Paper session 5 *(9:00 – 10:30)*
9:30 - 10:00				
10:00 - 10:30		Coffee break	Coffee break	
10:30 - 11:00		Paper session 2 *(10:30 – 12:00)*	Paper session 4 *(10:30 – 12:00)*	Coffee break
11:00 - 11:30				Paper session 6 *(11:00 – 12:30)*
11:30 - 12:00				
12:00 - 12:30	Registration and lunch *(12:00 – 13:30)*	Lunch *(12:00 – 13:00)*	Lunch *(12:00 – 13:30)*	Lunch *(12:30 – 13:30)*
12:30 - 13:00				
13:00 - 13:30		Walk and talk *(13:00 – 14:30)*		
13:30 - 14:00	Openning ceremony		Workshops 2 *(13:30 – 15:00)*	Plenary: Chronis Kynigos *(13:30 – 14:30)*
14:15 - 14:30	Paper session 1 *(14:15 – 15:45)*			
14:30 - 15:00		Workshops 1 *(14:30 – 16:00)*		Closing ceremony
15:00 - 15:45			Excursion: Canal trip *(15:00 – 18:00)*	
15:45 - 16:00	Coffee break			
16:00 - 16:30	Plenary: Dan Meyer *(16:00 – 17:00)*	Coffee break		
16:30 - 17:00		Paper session 3 *(16:30 – 18:00)*		
17:00 - 17:30	Poster session and wine reception *(17:00 – 18:00)*			
17:30 - 18:00				
18:00 - 18:30				
18:30 - 19:00			Conference dinner *(Starting 18:45)*	
19:00 - later				

Day 1: Monday 13 September

12:00-13:30 – Registration and lunch
Aulaen (A141)
Time for checking in; receive credentials and materials, and having lunch

13:30-14:00 – Opening ceremony
Festsalen (A220)
Uffe Thomas Jankvist, IPC chair – Danish School of Education, Aarhus
University, Denmark

14:15-15:45 – Paper session 1

Festsalen (A220)
- Rogier Bos and Winand Renkema: *Metaphor-based algebra animation*
- Philipp Larmann, Simon Barlovits and Matthias Ludwig: *MCM@home: Analysing a learning platform for synchronous distance education*
- Lena Frenken and Gilbert Greefrath: *Successful modelling processes in a computer-based learning environment*
  Chair: Morten Blomhøj

Auditorium (D174)
- Francesca Ferrara, Giulia Ferrari and Ketty Savioli: *Children in movement towards STEAM: Coding and shapes at kindergarten*
- Melanie Platz: *"… Then it looks beautiful"* - *Preformal proving in primary school*
- Susanne Podworny and Yannik Fleischer: *An approach to teaching data science in middle school*
  Chair: Julie Vangsøe Færch

15:45-16:00 – Coffee break
Aulaen (A141)

16:00-17:00 – Plenary lecture
Festsalen (A220)
Dan Meyer – Desmos, Oakland, CA, USA
Theme 4: Innovating with technologies
Pixels are pedagogy
Chair: Alison Clark-Wilson

17:00-18:30 – Poster session and wine reception
Festsalen (A220)

- Domenico Brunetto: *StreetMath: Supporting young migrants empowerment (cancelled)*

- Ben Davies, Eirini Geraniou, Cosette Crisan and Manolis Mavrikis: *Undergraduates' experiences with automated assessment in STACK* (cancelled)

- Morten Elkjœr: *Equation Lab: Teaching equation solving in Virtual Reality using a modified dynamic balance model* (cancelled)

- Francesca Ferrara, Giulia Ferrari, Elvira Fernández-Ahumada and Natividad Adamuz-Povedano: *Gamifying CLIL within the mathematical context of fraction learning*

- Julie Vangsøe Fœrch: *Development and evaluation of primary school students' mathematical competencies via dynamic online learning environments*

- Inge Olav Hauge and Johan Lie: *Contributions of computational thinking and computer programming for development of critical democratic competence: Empowerment and agency*

- Ayse Kilic, Zeger-Jan Kock and Birgit Pepin: *Connectivity related issues in a modularised course involving mathematics*

- Evelyn Schirmer, Alexander K. Schüler-Meyer and Birgit E.U. Pepin: *Challenges of procedure-oriented cognitive conflict strategies for undergraduate students*

- Kinga Szücs: *Finding theorems and their proofs by using a calculator with CAS in university-level mathematics*

- Laura Wirth and Gilbert Greefrath: *Examining heuristic worked example videos in a collaborative setting: The conception of the project MoVie*

- Filip Moons, Ellen Vandervieren and Jozef Copaert: *Atomic, reusable feedback: A technology-mediated solution for assessing handwritten math tasks?*

Day 2: Tuesday 14 September

09:00-10:00 – Plenary lecture
Festsalen (A220)
Anna Baccaglini-Frank – University of Pisa, Italy
Theme 2: Making sense of 'classroom' practice
Shifts from teaching mathematics with technology to teaching mathematics through technology: A focus on mathematical discussion
Chair: Hans-Georg Weigand

10:00-10:30 – Coffee break
Aulaen (A141)

10:30-12:00 – Paper session 2

Room A401
- Rikke Maagaard Gregersen: *How about that algebra view in GeoGebra? A review on how task design may support algebraic reasoning in lower secondary school*
- Cecilie Carlsen Bach and Angelika Bikner-Ahsbahs: *When a digital tool guides mathematical communication*
- Annalisa Cusi, Agnese Ilaria Telloni and Katia Visconti: *Design of digital resources to scaffold metacognitive activities: Focus on students' reflections* (cancelled)
  Chair: Anna Baccaglini-Frank

Room A405
- Katrin Klingbeil, Fabian Rösken, Daniel Thurm, Bärbel Barzel, Florian Schacht, Ulrich Kortenkamp, Kaye Stacey and Vicki Steinle: *SMART$_A$ – Online diagnostic to reveal students algebraic thinking and enhance teachers diagnostic competencies*
- Reinhard Oldenburg: *Relational thinking supported by an algebraic modeling tool on the web*
- Simeon Schwob and Paul Gudladt: *Successful communication as a part of teaching and learning mathematics in remote settings* (cancelled)
  Chair: Stine Gerster Johansen

12:00-13:00 – Lunch
Aulaen (A141)

13:00-14:30 – Walk and talk
Festsalen (A220)
Walk tour in groups with a visit to Grundtvig's Church.

14:30-16:00 – Workshop session 1

Room A100a
- Chaim Ballin, Anatoli Kouropatov and Ofir Shafirovitz: *Workshop: Interactive digital environment for teaching and learning deductive geometry (FullProof): Design principles, functionality, pedagogy and results of implementation (Part I)*
Room A104
- Theo van den Bogaart and Rogier Bos: Heuristic trees hackathon: *Designing and implementing support for mathematical problem solving (Part I)*
Room A201
- Kendal Bahadirgil and Knud Nissen: *Maple Mathematics Suite - essential tools for STEM education*
Room A203
- Lena Frenken: *Discovering the Possibilities of a Computer-Based Learning Environment on Mathematical Modelling*
Room A408
- Mats Brunström, Maria Fahlgren, Mirela Vinerean and Yosief Wondmagegne: *Workshop on the design of tasks and feedback utilizing a combination of a dynamic mathematics software and a computer-aided assessment system*
Room A412
- Yannik Fleischer and Susanne Podworny: *Teaching machine learning with decision trees in middle school using CODAP*
Room A416
- Allan Tarp: *Develop children's innate mastery of many by bridging outside existence to inside essence in full sentences*

16:00-16:30 – Coffee break
Aulaen (A141)

16:30-18:00 – Paper session 3
Auditorium (D174)
- Raimundo Elicer and Andreas Lindenskov Tamborg: *Nature of the relations between programming and computational thinking and mathematics in Danish teaching resources*
- Liv Nøhr, Morten Misfeldt and Andreas Lindenskov Tamborg: *Teacher development in computational thinking and student performance in mathematics: A proxy-based TIMSS study*
- Eleonora Faggiano and Federica Mennuni: *Grasping sense and building meanings in mathematical distance contexts: The role of the teacher*
  Chair: Mathilde Kjær Pedersen

Room D170 (cancelled)

- Scott Courtney: *Exploring teachers' attempts to differentiate instruction in remote learning environments: The case of Claudia* (cancelled)
- Eirini Geraniou and Cosette Crisan: *Adapting classroom based practices to online teaching: A mathematics teacher's reflections* (cancelled)
- Melih Turgut, Iveta Kohanová, Jørn Ove Asklund, Øistein Gjøvik, Marit Buset Langfeldt and Hermund André Torkildsen: *Fourth graders explore a computational thinking task using Robot Emil: A multimodal analysis of pupils' thinking* (cancelled)

Day 3: Wednesday 15 September

09:00-10:00 – Plenary lecture
Festsalen (A220)
Shai Olsher – University of Haifa, Israel
Theme 3: Fostering mathematical collaborations
Te(a)ching to collaborate: Automatic assessment based grouping recommendations and implications for teaching
Chair: Eleonora Faggiano

10:00-10:30 – Coffee break
Aulaen (A141)

10:30-12:00 – Paper session 4

Festsalen (A220)
- Frederik Dilling and Julian Sommer: *Virtual Reality in Mathematics Education – Design of an Application for Multiview Projections*
- Alice Barana: *Understanding linear functions in an interactive digital learning environment*
- Cintia Scafa Urbaez Vilchez and Alice Lemmo: *A videogame as a tool to orchestrate productive mathematical discussions*
  Chair: Eleonora Faggiano

Auditorium (D174)
- Manuela Subtil, António Domingos and Maria Alessandra Mariotti: *Graphing calculator in the connection between geometry and functions with the contribution of semiotic mediation*
- David Reid, Angelika Bikner-Ahsbahs, Thomas Janßen and Estela Vallejo-Vargas: *Forms of epistemic feedback*
- Zelha Tunç-Pekkan, Eylem Sayar and Isıl Ozturk: *Affordances of university based online laboratory school: Types of feedback*
  Chair: Marianne Thomsen

12:00-13:30 – Lunch
Aulaen (A141)

13:30-15:00 – Workshop session 2

Room A100a
- Chaim Ballin, Anatoli Kouropatov and Ofir Shafirovitz: *Workshop: Interactive digital environment for teaching and learning deductive geometry (FullProof): Design principles, functionality, pedagogy and results of implementation (Part II)*
Room A104
- Theo van den Bogaart and Rogier Bos: Heuristic trees hackathon: *Designing and implementing support for mathematical problem solving (Part II)*
Room A203
- Filip Moons and Ellen Vandervieren: *Workshop - Writing atomic, reusable feedback to semi-automatedly assess handwritten math tasks*
Room A405
- Philipp Larmann, Simon Barlovits and Matthias Ludwig: *MCM@home: An approach for synchronous distance learning with mobile devices*
Room A414
- Frederik Dilling and Julian Sommer: *Mixed reality in mathematics education*
Room A416
- Francesca Ferrara, Giulia Ferrari and Keyy Savioli: *Spatial and computational thinking at kindergarten through the aid of an educational robot*
Room D166
- Douglas Butler: *Comparing the user interfaces of dynamic software* (cancelled)

15:00-18:00 – Excursion
Parking lot between buildings A and C
Ferry tour to the Copenhagen canals.
A bus will be expecting us on the campus parking lot.
The last stop of the tour will be **Christianshavn**, at a walking distance to the conference dinner.

18:45 – Conference dinner
Restaurant *Spiseloppen*
Address: Bådmandsstræde 43, 1407 Copenhagen (Christiania)

Day 4: Thursday 16 September

09:00-10:30 – Paper session 5

Festsalen (A220)

- Dimitris Diamantidis and Chronis Kynigos: *Digital media as tools fostering teacher creativity on designing tasks around an area of mathematical concepts*
- Bjarnheiður Kristinsdóttir, Freyja Hreinsdóttir and Zsolt Lavicza: *Developing silent video tasks' instructional sequence in collaboration with teachers*
- Tim Lutz: *Machine learning model for automated text classification of mathematical tasks (cancelled)*
  Chair: Rikke Maagaard Gregersen

Room A203

- Marianne Thomsen and Uffe Thomas Jankvist: *Mathematical thinking in the interplay between historical original sources and GeoGebra*
- Maria Fahlgren, Mats Brunström, Mirela Vinerean and Yosief Wondmagegne: *Designing tasks and feedback utilizing a combination of a dynamic mathematics software and a computer-aided assessment system*
- Mathilde Kjær Pedersen: *The use of digital technologies for mathematical thinking competency*
  Chair: Andreas Lindenskov Tamborg

10:30-11:00 – Coffee break
Aulaen (A141)

11:00-12:30 – Paper session 6

Festsalen (A220)

- Zelha Tunç-Pekkan, Rukiye Didem Taylan, Bengi Birgilil and İbrahim Burak Olmez: *An examination of pre-service mathematics teachers' experiences at an online school*
- Andreas Lindenskov Tamborg, Uffe Thomas Jankvist and Morten Misfeldt: *Comparing programming and computational thinking with mathematical digital competencies from an implementation perspective*
- Simone Jablonski, Eugenia Taranto, Matthias Ludwig and Maria Flavia Mammana: *Go online to go outdoors – a MOOC on MathCityMap*
  Chair: Cecilie Carlsen Bach

Room A203
- Maxim Brnic and Gilbert Greefrath: *Does the gender matter? The use of a digital textbook compared to printed materials*
- Alexander Schüler-Meyer: *The purpose of handwriting with tablet-computers and smartpens in mathematical group work over distance*
- Stine Gerster Johansen: *A Review on Allgemeinbildung and Digital Technologies in Mathematics Education*
  Chair: Raimundo Elicer

12:30-13:30 – Lunch
Aulaen (A141)

13:30-14:30 – Plenary lecture
Festsalen (A220)
Chronis Kynigos – National and Kapodistrian University of Athens, Greece; and Linnaeus University, Sweden
Theme 1: Designing technology
Embedding mathematics in socio-scientific games: The case of the mathematical in grappling with Wicked Problems
Chair: Hans-Georg Weigand

14:30-15:00 – Closing ceremony
Festsalen (A220)
Uffe Thomas Jankvist, IPC chair – Danish School of Education, Aarhus University, Denmark