



# UNIVERSITY OF ICELAND

## NORSMA 10 Conference 2021

Equal access for all learners to quality mathematics education

Virtual Conference

### PROGRAM

November 4-5, 2021

University of Iceland



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## Program Overview

All times are Reykjavík time, which is UTC – (Coordinated Universal Time)

For reference:

Denmark = UTC+1

Norway = UTC+1

Sweden = UTC+1

Finland = UTC+2

Hong Kong = UTC+8

Los Angeles = UTC-7

Hawaii = UTC-10

### Thursday November 4th

8:00 – 8:20	Welcome reception – introduction
<b>8:20 – 09:30</b>	<b>Keynote presentation I:</b> Petra Scherer, PhD, Professor of Mathematics Education at the University of Duisburg-Essen, Germany
9:30 – 9:45	Break
9:45 - 11.15	Papers sessions 1-3 Host:
11.15 - 11.45	Break
11:45 - 13.15	Workshop / Symposiums 1-2 Host:
13:15 - 13:30	Break
13:30 – 15:00	Paper sessions 4-5 Host:
15:00 – 16:00	Virtual Meet and Greet – Informal gathering

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## Friday November 5th

<b>8:00 – 9:10</b>	<b>Keynote presentation II:</b> Kerry Lee, PhD, Professor, Head of the department of Early Childhood Education and Director of the Centre for Educational and Developmental Sciences, University of Hong Kong
9:10 – 09:25	Break
9:25 – 10:55	Paper sessions 6-7 Host:
10:55 – 11:25	Break
11:25 – 12:55	Symposium 3-4 Host:
12:55 – 13:10	Break
<b>13:10 – 14:20</b>	<b>Keynote presentation III:</b> Edda Óskarsdóttir, PhD, assistant professor at the School of Education, University of Iceland
14:20 – 14:50	Closing ceremony – Invitation to NORSMA 11
14:50 – 15:50	Conference goodbye – Informal gathering

## Keynote Lecture I – Thursday, November 4th, 8:20 – 9:30

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**-Petra Scherer**, PhD, Professor of Mathematics Education at the University of Duisburg-Essen, Germany

**Abstract:**

## Keynote Lecture II – Friday, November 5th, 8:00 – 9:10

USING WORKING MEMORY INTERVENTION TO IMPROVE MATH PERFORMANCE: ILL-CONCEIVED, POORLY EXECUTED, OR JUST NOT QUITE THERE YET?

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**-Kerry Lee**, PhD, Professor, Head of the Department of Early Childhood Education and Director of the Centre for Educational and Developmental Sciences, University of Hong Kong

**Abstract:**

Working memory training has been around for several decades now. The initial success of computerized, adaptive training with clinical samples saw its use widened to children with poor math performance. Although some studies documented success, evidence of facilitation is patchy, with many studies showing improvement on closely related working memory or executive functioning tasks but no generalization to math or other academic tasks that place heavy demands on working memory. In this talk, I will briefly review key studies that examined this issue, including some of my efforts in this area. An area of focus is to evaluate whether the lack of stronger or more consistent findings of facilitation is due to (a) the use of working memory training to enhance math performance being ill-conceived in the first place, (b) methodological shortcomings, or (c) an efficacious protocol not having been found.

## Keynote Lecture III - Friday, November 5th, 13:10 – 14:20

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**-Edda Óskarsdóttir**, PhD, Assistant Professor at the School of Education,  
University of Iceland

**Abstract:**

# Detailed Program Schedule

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Keynote Lecture I

Thursday 8:20 – 9:30

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**-Petra Scherer, PhD, Professor of Mathematics Education at the University of Duisburg-Essen, Germany**



### Paper session 1

Thursday 9:45 - 11.15

*Arithmetic fluency and reading skills associated with mathematical problem-solving skills in 6th graders with average performance and mathematical learning difficulties*

**-Elina Sipilinen, Airi Hakkarainen, A. Laine and Pirjo Aunio**

*Creating students' access to the classroom discussion with silent video tasks*

**-Bjarnheiður Kristinsdóttir**

### Paper session 2

Thursday 9:45 - 11.15

*The development of children's early numeracy skills during a kindergarten year*

**-Heidi Hellstrand, Johan Korhonen and Pirjo Aunio**

*The relationship between early numeracy skills and physical activity during preschool hours*

**-Natalia Stalchenko, Anssi Vanhala, Johan Korhonen and Pirjo Aunio**

*The association between executive functions and early numeracy in 4-year-old children*

**-Molina Bustamante, Anssi Vanhala and Pirjo Aunio**

### Paper session 3

Thursday 9:45 - 11.15

*Counting in year one as predictor for achievement in year four in Danish students*

**-Pernille B. Sunde, Pernille Ladegaard Pedersen and Peter Sunde**

*The use of formative assessment in special education to enhance mathematical equity, access, and empowerment*

**-Catarina Andersson**

*Creative mathematics for the diverse learning group*

**-Ósk Dagsdóttir**

### Workshop

Thursday 11:45 – 13:15

*Developmental work, workshop: The team around the child and professional development*

**-Olaug Ellen Lona Svingen & Astrid Bondø**

### Symposium 1

Thursday 11:45 – 13:15

**Predictors of early mathematics performance – developmental interplay between cognitive, motivational, and affective factors**

Chair: Riikka Mononen

**Paper 1:** *Number writing as a longitudinal predictor of arithmetic development and early fraction understanding*

**-Silke M. Göbel**

**Paper 2:** *Profiles of arithmetic performance and mathematics motivation: Change and stability from first to second grade*

**-Heta Tuominen, Markku Niemivirta, Kristine Tveiten, and Riikka Mononen**

**Paper 3:** *Concurrent and longitudinal relations between math anxiety, symbolic numerical magnitude processing and arithmetic performance in the first and second grade*

**-Riikka Mononen, Markku Niemivirta, Johan Korhonen, Marcus Lindskog and Anna Tapola**

Symposium 2

Thursday 11:45 – 13:15

**Assessment and Treatment of Dyscalculia**

Chair: Lena Lindenskov and Pekka Räsänen

**Paper 1:** *The Danish model of dyscalculia assessment*

**-Lena Lindenskov and Bent Lindhardt**

**Paper 2:** *The Danderyd model of dyscalculia assessment*

**-Carina Ode and Daniel Lindau**

**Paper 3:** *A digital ecosystem of curriculum-based math education*

**-Pekka Räsänen**

**Panel discussion:** *Cross-cultural collaboration within the Nordic context*

**-Lena Lindenskov, Pekka Räsänen, Bent Lindhardt, Carina Ode and Daniel Lindau**

Paper session 4

Thursday 13:30 – 15:00

*Achievement emotions, self-concept, and value in Norwegian school beginners' mathematics studies*

**-Anna Maria Rawlings, Markku Niemivirta, Johan Korhonen, Marcus Lindskog, Heta Tuominen and Riikka Mononen**

*Low performers only recognize straightforward addition word problems*

**-Pernille Pind and Mette Bjerre**

*Adapting mathematics teaching to diverse learners needs*

**-Jónína Garðarsdóttir**

Paper session 5

Thursday 13:30 – 15:00

*What makes it so difficult at upper secondary school? School staff' views of what influences vocational students' poor goal achievement in mathematics*

**-Karoline Holmgren**

*Reciprocal effects of matheamtics performance, school engagement, and burnout during adolescence*

**-Anna Widlund, Heta Tuominen and Johan Korhonen**

*Longitudinal relations between math anxiety and math performance in Finnish adolescent students*

**-Johan Korhonen, Anna Widlund and Pekka Räsänen**

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Keynote Lecture II

Friday 8:00 – 9:10

USING WORKING MEMORY INTERVENTION TO IMPROVE MATH PERFORMANCE: ILL-CONCEIVED, POORLY EXECUTED, OR JUST NOT QUITE THERE YET?

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**-Kerry Lee**, PhD, Professor, Head of the Department of Early Childhood Education and Director of the Centre for Educational and Developmental

## Sciences, University of Hong Kong

### Paper session 6

Friday 9:25 – 10:55

*Factor structure and grade-level development in the new digital Functional Numeracy Assessment (FUNA) tool for grades 3–9*

**-Johan Korhonen, Pekka Räsänen, Mikko-Jussi Laakso, Anu Laine, Airi Hakkarainen, Eija Väisänen, Teemu Rajala, Ulrika Ekstam and Pirjo Aunio**

*Finding pupils' strengths*

**-Guðbjörg Pálsdóttir**

*Assessment of mathematics in preschool-class*

**-Anette Bagger and Helena Vennberg**

### Paper session 7

Friday 9:25 – 10:55

*Developing whole-class teaching practices for preventing mathematical difficulties: Arithmetic strategies in 1st to 3rd grade*

**-Maria Grove Christensen**

*Mathematical learning difficulties: How to understand, investigate and identify suitable instruction measures*

**-Irina Jensø and Jeanette Lindhart Bauer**

*Pre-school mathematics: Pilot study on a course for mathematics leaders*

**-Margrét Björnsdóttir and Valdís Ingimarsdóttir**

### Symposium 3

11:25 – 12:55

#### **Disability and inclusive equity in light of old and new frontiers of mathematics assessment**

Chair: Paulo Tan

**Paper 1:** Participation as both a discursive/positional and narrative/lived issue of shifting frontiers

**-Anette Bagger**

**Paper 2:** Universal design for assessment in mathematics: Offering students access to... what?

**-Rachel Lambert**

**Paper 3:** Conceptualizing access knowledge for teaching mathematics as an assessment practice

**-Juuso Henrik Nieminen**

**Paper 4:** The new frontiers of mathematics assessment as sentipensante relationality: Exploring relevant links between disability justice and epistemologies of the global south

**-Alexis Padilla**

**Paper 5:** Assessments of functional mathematics educational ecologies for disabled students of color

**-Paolo Tan**

Symposium 4

11:25 – 12:55

**Access in mathematics education**

Chair: Helena Roos

**Paper 1:** What is special about special educational needs in mathematics?

**-Helena Roos**

**Paper 2:** Meaning and operationalization of equity in municipality mathematical action plans

**-Åsa Maria Johansson, Cecilia Lindegren-Österholm and Helena Roos**

**Paper 3:** Access to displaying knowledge during assessment – a matter of sustainability

**-Anette Bagger**

**Paper 4:** Relational aspects on teachers' mathematical competencies – a design research study

**-Malin Gardesten**

Keynote Lecture III

Friday 13:10 – 14:20

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**-Edda Óskarsdóttir, PhD, Assistant Professor at the School of Education,  
University of Iceland**