

AGENDA - FINAL

<http://eventus.trippus.se/21stcenturymaths>

Day 1: Framing the issues	
9:00 – 9:45	<p><i>Introductions, welcome, setting the stage</i></p> <ul style="list-style-type: none">• Greetings and introduction: Charles Fadel (CCR & BIAC)• Greetings: Tobias Krantz (Svensknaringsliv)• Presentation: “Why should we fix this urgently?” Åke Svensson (CEO - Teknikföretagen)• Short remarks on importance to OECD countries – Dirk Van Damme (OECD/CERI)
9:45 – 10:45	<p>Presentation: <i>Why Curriculum Redesign? Why Maths? Exponential technologies and their impact on humankind</i> – Charles Fadel (Center for Curriculum Redesign)</p>
Break	
11:00 – 12:00	<p>Presentation: “<i>Mathematicians’ reluctance to embrace uncertainty (zero, probabilities, incompleteness)</i>” Michael Kaplan (author, “<i>Chances are</i>”)</p>
12:00 – 12:45	<p>Presentation: <i>Neuroscience and Cognitive Psychology of Mathematics</i> - Jon Star (Harvard University)</p>
Lunch	
14:00 – 14:45	<p>Presentation: <i>Mathematics standards of PISA countries</i> – William Schmidt (Michigan State University – via webconference)</p>
14:45 – 15:30	<p>Presentation and poll: <i>Why do we teach Mathematics? (CCR to facilitate)</i></p>
Break	
15:45 – 16:30	<p>Presentation: <i>The History of Mathematics teaching; the tension between practice and theory</i> – Joseph Dauben (City University of New York)</p>
18:00 reception and dinner until 20:30	<p>Sponsored by Ross Institute (http://www.ross.org/ and http://rossinstitute.org/) presenting on their success with Complex Systems curriculum</p>

Day 2: Laying the foundation for a rethink – and novel ideas about Mathematics

9:00 – 9:30	Presentation: <i>Mathematics and PISA's future</i> – Dirk Van Damme (OECD/CERI)
9:30 – 10:15	Presentation: <i>Mathematical Thinking</i> – Keith Devlin (Stanford University)
10:15 – 10:45	Presentation: <i>Mathematics and the drift towards Purity</i> – Sverker Lundin (University of Gothenburg)
Break	
11:00 – 11:45	Presentation: <i>Stop Teaching Calculating, Start Teaching Maths</i> – Conrad Wolfram (Wolfram Research)
11:45 – 12:45	Group discussion: <i>Important new topics in Mathematics education: Computing, Complex Systems, Personal finance, Statistics & Risk; etc.</i>
Lunch	
14:00 – 15:00	Panel: <i>AND not OR: How do we educate the diversity of needs of all students, from the universal citizen to the future mathematician?</i> (Irene Greif, IBM, facilitator; Zalman Usiskin, University of Chicago; Sol Garfunkel, COMAP)
15:00 – 15:45	Presentation: <i>Mathematics and 21st century skills: Creativity, Critical Thinking, Communication, Collaboration</i> (Michael Pearson, Mathematical Association of America)
Break	
16:00 – 17:00	Presentation: <i>The importance of Computational Thinking</i> – Maggie Johnson (Google - via webconference)
17:00 – 17:30	<i>Freestyle Mathematica</i> activity by Sverker Lundin, University of Gothenburg

Day 3: Setting the stage for innovation – what is really needed?

8:45 – 9:30	Presentation: <i>The Power of Visualizations</i> – Staffan Landen (Karolinska Institutet and www.Gapminder.org)
9:45 – 10:00	Presentation: <i>Many Eyes</i> - Irene Greif (IBM)
10:00 – 10:30	Presentation: “ <i>Street-fighting</i> ” <i>Mathematics for Everyone</i> - Sanjoy Mahajan (MIT & Olin College)
Break	
11:00 – 11:45	Presentation: <i>Workplace Mathematics</i> - Arthur Bakker (Freudenthal Institute)
11:45 – 12:45	Presentation: <i>What Mathematics does the workforce really use?</i> - Merrilea Mayo (Kellogg Foundation – via webconference)
Lunch	
14:00 – 14:45	Panel: <i>How would we teach all high school Maths via robotics and other integrated disciplines?</i> (Bryan Meyer, High Tech High; Benjamin Bottorff, Ecole Internationale; Steen Markvorsen, Danish Technical University)
14:45 – 16:00	Poll: <i>So what branches/topics should be de-emphasized? What should be added?</i> (CCR to facilitate) CONCLUSION: “The Stockholm Declaration: Mathematics for the 21st century” (All participants, led by CCR)
Adjourn	