

**Ninth MSRI CIME Workshop - Teacher Education in View of the Common Core  
March 19 - 21, 2012**

**Framing Workshop Questions**

1. *Curriculum change*: How does the addition of mathematical practices as an explicit part of the K-12 curriculum change the mathematical scope of the curriculum? What is meant by the each of the *mathematical practices* and how are these interwoven into mathematical topics?
2. *Implications for and demands of practice*: How does the Common Core affect the work of teaching? What is entailed for instruction to meet the goals of the CCSS?
3. *Teachers' education*: How can teachers' professional training support their command of the mathematics of the CCSS and their ability to work on it effectively in practice?
4. *Infrastructure*: What are mechanisms that can support broad development and implementation of teacher training and support aligned with the Common Core?

Names in blue are unconfirmed.

**WORKSHOP SCHEDULE**

WEDNESDAY, MARCH 21: WELCOME AND INTRODUCTION			
<i>Introduction to the conference</i>			
5:00 – 5:30	Registration	Light refreshments	
5:30 – 6:40 <i>Simon Auditorium</i>	Session 0  Opening	<ul style="list-style-type: none"> <li>- Welcome, overview and purposes of conference</li> <li>- Introduction to the MSRI CIME series of conferences</li> <li>- The Common Core</li> </ul>	Robert Bryant, MSRI Director - Hyman Bass, (representing the Educational Advisory Committee)  William McCallum University of Arizona Lead writer for the CCSS-M
6:50– 7:50 <i>Simon Auditorium</i>	Session 1  The historical context.	Hopefully and Hopelessly American: The Challenge of the Common Core.	Deborah Ball, University of Michigan
8:00	Buses to Main Campus		

<b>THURSDAY, MARCH 22</b>			
<i>Part 1 – Mathematical Practices: How do they affect the curriculum? What do they mean? How are they interwoven with topics?</i>			
7:30 – 8:30 <i>Common Area</i>	Breakfast		
8:30 – 8:45 <i>Simons Auditorium</i>	Overview of day #2: Deborah Ball University of Michigan Bill McCallum, University of Arizona	Frame the problem of the conference to start the day  Show conference questions; explain and frame first question	
8:45 – 9:45 <i>Simons Auditorium</i>	Session 2  Moderator: Phil Daro	What are mathematical practices? Disciplinary perspectives; curricular precursors; what is distinctive about mathematical practices in the Common Core?	Deborah Schifter (EDC), Hyman Bass, University of Michigan
9:45 – 10:45 <i>Simons Auditorium</i>	Session 3  Moderator: Jo Boaler	Mathematical practices in action: View and have a panel discuss records of practice. (A selection of MPs, topics, and levels)	Pat Herbst, University of Michigan <a href="#">Emily M Mccullough</a> , Bay Area primary teacher Jo Boaler and Sarah-Kate Selling, Stanford
10:45 – 11:15 <i>Common Area</i>	Tea Break		
11:15 – 12:30  Breakout Sessions	Session 4  Small group sessions: Exploring the use/role of mathematical practices in teaching	<b>Mathematical Practices</b>	<b>Small group leader(s)</b>
		<u>Reasoning and proving</u> (MP# ...) Location:	Juan Pablo Mejias, Rutgers U Deborah Schifter (EDC)
		<u>Mathematical language: definitions, precision</u> (MP# ...) Location:	Susanna Epp (DePaul)
		<u>Representing, modeling</u> (MP# ...) Location:	Sol Garfunkel, COMAP
		<u>Looking for mathematical structure, generalizing</u> (MP# ...) Location:	Hy Bass (U Michigan) Cody Patterson (U Arizona)
		<u>Sense making, understanding conditions of a problem</u> (MP# ...) Location:	Farshid Hajir U Mass Amherst Mark Thames, U Michigan
12:30 – 1:30 <i>Common Area</i>	Lunch		
1:30 – 2:30 <i>Simons Auditorium</i>	Session 4 Reports from Breakout Sessions Moderator: Bill McCallum		
<i>Part 2 – How does the Common Core affect the work of teaching? What is entailed for instruction to meet the goals of the Common Core?</i>			

2:30– 3:00 <i>Simons Auditorium</i>	Overview: Deborah Ball, University of Michigan	Shift the focus from the morning: This is about the work of teaching, not about what the mathematical practices are.	
3:00 – 5:30	Session 5  Examples from classrooms. Implications of the Common Core  Moderator: Deborah Ball	<ol style="list-style-type: none"> <li>1) 3:00- 4:00: Three examples from classrooms and discussion of how the common core affects the <u>work of teaching</u></li> <li>2) 4:00 – 4:30 Small groups: Analysis of the work of teaching</li> <li>3) 4:30 – 5:00 Fishbowl discussion: What is entailed for instruction to meet the goals of the Common Core?</li> <li>4) 5:00- 5:30: Plenary Q&amp;A that opens up the discussion from the fishbowl to the entire audience</li> </ol>	<p>Elham Kazemi ,U Wash.</p> <p>Judith Jacobs, U Michigan</p> <p>Rheta Rubenstein, UM Dearborn</p>
5:50 – 6:00 <i>Simons Auditorium</i>	Reflections on day, comment cards	What do we know, and what do we need to know about mathematical practices in the Common Core curriculum? What are the implications of the Common Core for the work of teaching?	
6:30 – 7:30 <i>Common Area</i>	Dinner		
7:30 – 9:00 <i>After dinner</i>	Session 6  Equity Panel  Moderator: Jo Boaler	Panel: How are concerns for equity affected by the Common Core, in particular its focus on mathematical practices? Specifically, how do these influence attention to issues of language and diversity?	<p>Panelists:</p> <p>Megan Franke, UCLA</p> <p>Imani Goffney, University of Houston</p> <p>Alan Schoenfeld, UCB</p> <p>*Jo also participates while moderating</p>

**FRIDAY, MARCH 23**

**Part 3 – How can teachers’ professional training support their command of the mathematics of the CCSS and their ability to work on it effectively in practice?**

7:30 – 8:30 <i>Common Area</i>	Breakfast		
8:30 – 8:45 <i>Simon Auditorium</i>	Overview of day, and Part 3: Amy Cohen	What kinds of training and resources can use the CCSS to advance teachers’ capabilities to teach mathematics effectively, and how can the CCSS be a resource for improving teachers’ preparation and development?	Identify key issues in the preparation and development of teachers, and elicit some comments from the audience about how the CCSS can help to strengthen teachers’ training (e.g., lack of a common curriculum and how that hampers the development of a profession, and professional standards of practice)
8:45 – 10:15 <i>Simon Auditorium</i>	Session 7a  Professional resources for learning to teach the common core  Moderator: Elham Kazemi	1. Meghan Shaughnessy and Kara Suzuka: Developing materials to support professional development that integrates the mathematical practices with mathematical content and instruction  2. Cathy Fosnot, Materials development for teacher PD	Each project presents briefly and structures productive commentary (45 minutes each). Elham moderates and comments (10 min.) at end.
10:15 – 10:45 <i>Common Area</i>	Break		
10:45 – 12:15	Session 7b  Professional resources for learning to teach the common core (cont.)  Moderator: Amy Cohen	3. Sybilla Backmann Report on MET 2  4. Ellen Whitesides (IM&E) on the “Toolkit.”	
12:15 – 1:15 <i>Common Area</i>	Lunch		
1:15 – 2:45 <i>Simon Auditorium</i>	Session 7c  Professional resources for learning to teach the common core (cont.)  Moderator: ??	1. Deborah Ball and Meghan Shaughnessy: Developing a system for accessing records of practice 2. Bill McCallum, Kristin Umland, and Ashli Black (Oregon HS teacher): Illustrative mathematics project	Each project presents briefly and structures productive commentary (45 minutes each). ?? moderates and comments (10 min.) at end.

2:45 – 3:15 Common Area	Tea Break		
Part 4 – What infrastructure can support broad development and implementation of teacher training and support aligned with the Common Core?			
3:15– 5:00	<p>Session 8</p> <p>Fishbowl (1¼ hour) followed by whole group discussion (30 min)</p> <p>Moderators: Deborah Ball and Bill McCallum</p>	<p>Small group discusses while audience listens:</p> <p>What sorts of infrastructure are needed to help support the productive use of the CCSS to create a common curriculum and much better outcomes for students?</p>	<p>Participants:</p> <p><a href="#">Wade Ellis</a>, West Valley CC  Paola Sztajn, NSF, NCSU  Brian Cohen, NY HS  Teacher</p>
Closing session			
5:00 – 6:00	<p>Session 9</p> <p>Moderator: Deborah Ball, University of Michigan</p>	<p>Reflections: What stood out from across the experiences, ideas discussed, or activities at the workshop?</p>	