

MCTM Conference Keynotes
Wednesday, July 26, 2017

Jason Zimba (8:15 a.m. – 9:40 a.m.)

From Arithmetic to Algebra – And Beyond

How can elementary grades teachers prepare students for success in algebra? How can teachers in middle and high school take advantage of those early investments to help their students? In this talk, I'll share ideas for teaching and assessing the progression from arithmetic to algebra, the central pillar of any college- and career-ready curriculum.

Margaret Heritage (12:40 p.m. – 2:00 p.m.)

Assessment to Inform Learning

Formative assessment is the term used to describe a type of assessment, used in everyday classroom practice, where the focus is on informing learning, rather than measuring it or summing it up. This presentation will address how formative assessment is situated within a balanced assessment system, and describe the principles of formative assessment and how they are enacted in the context of mathematics learning.

MCTM Institutes
Tuesday, July 25, 2017

Morning (8:15 a.m. – 11:30 a.m.)

Option A - "Formative Assessment in Elementary Grades" with Margaret Heritage (A102/A103)

We know that formative assessment can have powerful effects on student learning. This session will focus on what makes formative assessment effective for all students, including how students are involved in the assessment process. Participants will be introduced to formative assessment as a feedback loop, and consider what classroom practice looks like when the feedback loop is successfully implemented. Particular attention will be paid to formative assessment in the context of STEM learning.

Option B - "CCSS in Elementary Grades" with Jason Zimba (A108 / A109)

Seeing Progressions and Using the Coherence Map

Participants will work together in teams to trace key ideas in math as they develop from grade to grade. Participants will also get a tour of new features in the Coherence Map, a free online tool that reveals connections within and across grades. We'll discuss ways we might leverage coherence to help our students stay on track for college and careers.

Option C - "CCSSM & Next Generation Science Standards: Synergy & Intersections in Middle & Upper Grades" with Joe Krajcik & Kristen Bieda (B102 / B103)

This Institute will shed insight about how teachers can build on connections and complements between the CCSS and the NGSS to achieve important and meaningful outcomes for students in grades 5-9. We will focus on the shared mathematical and scientific practice of argumentation and illustrate ways that incorporating opportunities for students to engage in argumentation. We will also discuss the scientific practices of using mathematical and computational thinking, analyzing and interpreting data and construction explanations. These practices are vital for ongoing formative assessment and to create equitable learning environments for all students. Participants will have opportunities to design tasks that integrate scientific contexts and practices from the CCSS and NGSS.

MCTM Institutes
Tuesday, July 25, 2017

Morning (8:15 a.m. – 11:30 a.m.)

Option D - “Building Thinking Classrooms for Middle & Upper Grades” with Kate Fanelli, Kya Brown, and Scot Acre (C101 / C102)

Building Thinking Classrooms is the results of 10 years of research by Dr. Peter Liljedahl at Simon Fraser University that examined normative behaviors in the mathematics classroom and specific practices that promote problem solving and thinking. Are you implementing problem solving methods with fidelity (rich tasks, Standards for Mathematical Practice, discourse), but not getting the student thinking you want? Experience specific classroom practices you can use immediately to increase thinking and engagement. K-12 general and special education math educators are welcome, and encouraged to attend in teams.

The morning pre-conference session will demonstrate these practices using middle and secondary level content (Grades 7-12).

The extended conference session will demonstrate these practices using a combination of content, and focus on how to help teachers learn and use these practices.

Option E – “STEM to Develop Mathematical Understanding” S. Asli Özgün-Koca, Thomas G. Edwards, Kenneth Chelst, Ruth Anne Hodges, Megan Schrauben (A110)

What is the role of M in STEM? Join Wayne State Engineering and Mathematics Education Faculty and MDE in using engineering applications as relevant contexts for students to engage with science and mathematics standards. Better understand how STEM activities can actually move mathematical literacies forward.

Afternoon (12:15 p.m. – 3:30 p.m.)

Option J - "Formative Assessment in Secondary Grades" with Margaret Heritage (A102 / A103)

We know that formative assessment can have powerful effects on student learning. This session will focus on what makes formative assessment effective for all students, including how students are involved in the assessment process. Participants will be introduced to formative assessment as a feedback loop, and consider what classroom practice looks like when the feedback loop is successfully implemented. Particular attention will be paid to formative assessment in the context of STEM learning.

Option K - “Panel Discussion: The Tension Between the “M” and the “S” in STEM - with Joe Krajcik, Kristen Bieda, & Jason Zimba” Moderator: Scot Acre (B102 / B103)

MCTM Institutes
Tuesday, July 25, 2017

Afternoon (12:15 p.m. – 3:30 p.m.)

Option L - "Building Thinking Classrooms for Elementary Grades" with Kate Fanelli, and Kya Brown (C101 / C102)

Building Thinking Classrooms is the results of 10 years of research by Dr. Peter Liljedahl at Simon Fraser University that examined normative behaviors in the mathematics classroom and specific practices that promote problem solving and thinking. Are you implementing problem solving methods with fidelity (rich tasks, Standards for Mathematical Practice, discourse), but not getting the student thinking you want? Experience specific classroom practices you can use immediately to increase thinking and engagement. K-12 general and special education math educators are welcome, and encouraged to attend in teams.

The afternoon pre-conference session will demonstrate these practices using elementary level content (Grades K-6).

The extended conference session will demonstrate these practices using a combination of content, and focus on how to help teachers learn and use these practices.

Option M - "Algebra I and Formative Assessment: Learn, Observe and Reflect!on " with Anne Marie Nicoll Turner and Valerie Mills (A108 / A109)

Interested in engaging in a series of activities to build your capacity to use the formative assessment process effectively allowing your students to realize all of the achievement gains this instructional process promises? If so, this workshop is for you! Participants will learn how to use a newly developed resource from ETS (Educational Testing Services) that offers users greater detail and guidance regarding the implementation of formative assessment within the daily stream of teaching and learning. The resource, titled Formative Assessment Rubrics, Reflection, and Observation Tools to Support Professional Reflection on Practice (FARROP), will be provided to participants along with guidance on how to use this powerful new tool to plan more effective lessons and monitor the extent to which formative assessment is being used in daily lessons.

Facilitators will model the 2016 - 2017 professional learning design used with Algebra I teacher teams in Southeastern Michigan and share results and insights gained during this exciting project. Note that although the tool was used in the pilot with Algebra I teachers, it is written to apply to any content area or course.