

Conference Featured Presenters

Impact Sessions

Build a foundation for your conference experience by examining the theme of Ensuring Equity and Excellence in Mathematics with attendance at one of the following Impact Sessions. Each of these sessions is led by expert national speakers in the fields of mathematics and equity and will provide you with a framework for applying your focus for learning throughout the rest of the conference.

Robert Q. Berry III

M-Scan Measure: A Framework for Examining Mathematics Teaching Practices

Robert Q. Berry, III is an Associate Professor at the University of Virginia in the Curry School of Education. His research focuses on equity issues in mathematics education and mathematics instructional quality.

Standards-based mathematics teaching practices is often associated with the eight teaching practices and standards set forth by the National Council of Teachers of Mathematics (NCTM) (2000 & 2014). The NCTM eight teaching practices and standards provide a vision for teaching mathematics; however, they pose challenges to researchers and mathematics teacher educators because they do not provide enough details and specific indicators necessary for measuring mathematics teaching. Because of the lack of details and specificity, teachers vary widely in their mathematics teaching (Pianta & Hamre, 2009). The M-Scan measure was developed to address this challenge. The M-Scan provides translation from the NCTM principles and standards to mathematics teaching practices. Additionally, the M-Scan was developed using the research literature in mathematics education that converges on nine dimensions.



Robert Q. Berry III

Sandra Crespo & Marcy B. Wood

Teaching and Learning Life Lessons: Collaboration and Equity in the Mathematics Classroom

Sandra Crespo teaches and researches empowering and equitable mathematics teaching and learning practices. She has taught mathematics in middle and secondary schools and is now a Teacher Educator at Michigan State University.

Marcy B. Wood works with K-8 teachers on ways of engaging all students in rigorous mathematics. She was an elementary school teacher and is currently a Mathematics Educator at the University of Arizona.

This session focuses on mathematics teaching that counteracts the image of mathematics classrooms as competitive spaces for learning and for educational inequities. Using the lens of Complex Instruction, in this session, we discuss the problem that unequal student participation creates in the mathematics classroom and how to address it by designing mathematics lessons that demand collaboration. We introduce the audience to three collaborative learning structures that require active and equitable participation. The audience will then use these structures to revise a mathematics task and to further unpack qualities of tasks that support empowering and equitable learning. We close by sharing classroom norms teachers can use to maximize these tasks' potential for teaching life lessons that transcend the mathematics classroom.



Sandra Crespo



Marcy B. Wood

Conference Dates: June 23 - June 25

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Marilyn Strutchens & W. Gary Martin

Implementing Rigorous Standards-Based Mathematics Curriculum (Grades 6-12): Increasing the Mathematical Power of All Students

Marilyn Strutchens is Professor and Coordinator of Secondary Mathematics Education at Auburn University. Her research focuses on equity issues and teacher change in mathematics education. She is an NCTM Board member and a past president of AMTE.

W. Gary Martin is a Professor of Mathematics Education at Auburn University. His research interests include curriculum and preservice teachers. He is co-director of the MTE-Partnership and was a writer for NCTM's Principles to Actions.

In this session, we define rigorous curriculum as curriculum that pursues conceptual understanding, procedural skills and fluency, and application with equal intensity and establishes the connections between all of these components of mathematics learning (NGA and CCSSO, 2010; NCTM, 2014). We will emphasize the importance of students developing understanding of a situation, concept, or context by connecting it with existing knowledge – sense making of mathematics – and engaging in reasoning – drawing conclusions based on evidence or stated assumptions (NCTM, 2009). Participants will find that when students are engaged in sense making of mathematics and reasoning that they develop mathematical power and are able to see the connections that should be established through a rigorous curriculum.



Marilyn Strutchens



W. Gary Martin

Marta Civil and José María Menéndez

Parents as Partners in Ensuring Equity and Excellences in Mathematics for ALL (General) Grades K-12

Marta Civil's research focuses on cultural, social, and language aspects in the teaching and learning of mathematics, linking in-school and out-of-school mathematics, and parental engagement in mathematics. She teaches mathematics education courses for teachers and prospective teachers.

José María Menéndez has lead several mathematics workshops for parents of Latino students. Currently, José María teaches mathematics to community college students and has taught mathematics content courses for prospective elementary school teachers.

In this session we will share some of the activities that we have used in our work with Latina/o parents and discuss some findings from research on parental engagement in mathematics. Our goals are: 1) to show how we can collaborate with parents in meaningful ways, as partners in the teaching and learning of mathematics; 2) to provide practical suggestions to help bridge the gap home-school, particularly when working with diverse students; and 3) to share what we have learned from listening to parents, in particular in two areas – valorization of knowledge and language and mathematics.



Marta Civil



José María Menéndez

Conference Featured Speakers

Impact Sessions

Erin Turner & Julia María Aguirre

Teaching K-8 Mathematics for Social Justice: Starting Places for Action

Erin Turner is an Associate Professor of Mathematics Education at the University of Arizona. Her research and teaching interests include equity and social justice in mathematics education, and supporting emerging bilingual students in rigorous, relevant mathematics.



Erin Turner

Julia María Aguirre is an Associate Professor of Education at the University of Washington Tacoma. Her research and professional development work focuses on culturally responsive mathematics education that emphasizes equity and justice in mathematics teaching and learning.



Julia María Aguirre

This interactive session will introduce participants to key principles and strategies for *Teaching Mathematics for Social Justice (TMSJ)* in the elementary and middle grades. TMSJ is an advocacy approach for teaching children to learn rich, rigorous and relevant mathematics that authentically connects to students' lived experiences; cultivates a positive mathematics identity, and reduces status and power issues in the classroom. Video clips, group activities, mathematics tasks, and student work will be used to illustrate key principles and connections to the Common Core Standards, and to provide examples of TMSJ in action. The session will end with opportunities for participants to explore resources, and to brainstorm ways to get started with Teaching Mathematics for Social Justice in their own classrooms, courses or workshops!

Rodrigo J. Gutiérrez & Galina (Halla) Jmourko

Promoting Mathematical Discourse with English Learners: Professional Development through a University-District Collaboration (Grades K-5)



Rodrigo J. Gutiérrez

Rodrigo's professional interests include teacher preparation, mathematics education, and teaching for social justice, paying particular attention to Latin@s and English Learners. He previously taught 4th-12th grades, and is currently at the University of Maryland.

Halla's professional interests include the role of language in mathematics and coaching teachers to support English learners in the mathematics classroom. She taught EFL/ESOL, and now she is a coach in Prince George's County Public Schools, MD.



Galina (Halla) Jmourko

This session will focus on the design and implementation of teacher professional development for improving mathematics instruction for English Learners. Workshop participants will review and discuss teacher training materials, as well as language-based instructional tools for classroom implementation. Both teachers and teacher educators (e.g., coaches, university faculty) will develop an understanding of approaches to align the CCSS Mathematical Practices and the WIDA Language Development Standards. More specifically, the presenters will provide an overview of their unique partnership to offer a yearlong professional development ("Focus Group") aimed at supporting elementary mainstream and ESOL teachers to engage English Learners in mathematical discourse. The Focus Group emphasized the development of teachers' knowledge and practices related to problem solving based mathematics, the language of mathematics, linguistic supports, and discourse moves.

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Judit Moschkovich & Bill Zahner

Connecting the Mathematical Practices and Academic Language for ELs

Judit Moschkovich is Professor of Mathematics Education at the University of California Santa Cruz. Her research uses sociocultural approaches to study mathematical thinking and learning, mathematical discourse, and mathematics learners who are bilingual and/or learning English.

Bill Zahner is an Assistant Professor in the mathematics department at San Diego State University. Zahner's research and teaching focus on promoting powerful classroom discussions among linguistically diverse students.

How can mathematics teachers best meet the needs of linguistically diverse students and English Learners? We will use two case studies to present a framework for connecting the Common Core Standards for Mathematical Practice with principles for teaching Academic Language in classes with English Learners. After a short introduction to the framework, participants will have the opportunity to examine mathematical tasks using a focus on fostering Academic Language and developing Mathematical Practices with ELs.



Judit Moschkovich



Bill Zahner



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The mission of TODOS is to advocate for equity and high quality mathematics education for all students – in particular, Latina/o students.