

SYMPOSIUM PROGRAM

July 29-30, 2019 | Portland, Oregon

Agenda, Speaker Biographies & Session Summaries

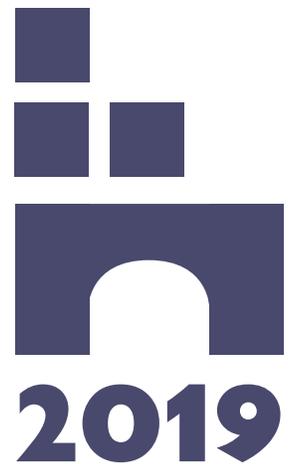
Symposium on

EARLY

CHILDHOOD

MATHEMATICS

PROFESSIONAL DEVELOPMENT



Teachers Development Group



Symposium **AGENDA****MONDAY, JULY 29**

10:00 am – 11:45 am	Registration and Check-in	Mount Hood Foyer
11:45 am – 1:00 pm	Lunch and Networking	Mount Hood Ballroom
Opening Keynote 1:00 pm – 2:15 pm	ANANDA MARIN <i>Indigenous Families' Science Practices and the Design of More Equitable Learning Environments</i>	St. Helens Ballroom
2:15 pm – 2:30 pm	BREAK	
Concurrent I 2:30 pm – 3:30 pm	<p><i>Messing About in Mathematics</i> — Morgan & Maher</p> <p><i>Watch What They Do and Ask Them Why They Did It: Assessment as the Foundation for Teaching</i> — Ginsburg & Platas</p> <p><i>Family Math Matters!</i> — Dearing & Levine</p> <p><i>Drawing from Linguistic and Cultural Resources to Support Children's Mathematical Thinking and Biliteracy</i> — Celedón-Pattichis</p>	<p>Mount Adams</p> <p>St. Helens AB</p> <p>St. Helens CD</p> <p>Cascade</p>
3:30 pm – 4:00 pm	Dessert Break and Networking	St. Helens Foyer
Concurrent II 4:00 pm – 5:00 pm	<p><i>Getting the Most Math out of your Math Center (Without Buying New Materials!)</i> — Farran & Dearing</p> <p><i>What Does Pre-K-3 Mean for Math Instruction?</i> — Stipek & Franke</p> <p><i>Making More of Math: Math + Self Regulation</i> — Clements</p> <p><i>Drawing from Linguistic and Cultural Resources to Support Children's Mathematical Thinking and Biliteracy</i> — Celedón-Pattichis</p>	<p>Mount Adams</p> <p>St. Helens AB</p> <p>St. Helens CD</p> <p>Cascade</p>
5:00 pm – 6:00 pm	Cash Bar and Networking	St. Helens Foyer

TUESDAY, JULY 30

6:45 am –8:00 am	Breakfast and Networking	Mount Hood Ballroom
Keynote 8:00 am –9:15am	ANGELA TURROU & DOLORES TORRES <i>Building on Children’s Math Thinking in Informal Spaces</i>	St. Helens Ballroom
9:15 am – 9:30am	BREAK	
Concurrent III 9:30 am –10:30 am	<i>Engaging in Mathematical Discussion through Children’s Literature</i> — Hintz, Smith, Mortensen, Tengue, & Peterman	Mount Adams
	<i>Watch What They Do and Ask Them Why They Did It: Assessment as the Foundation for Teaching</i> — Ginsburg & Platas	St. Helens AB
	<i>Family Math Matters!</i> — Dearing & Levine	St. Helens CD
	<i>Capture, Reflect, and Take Action on Children’s Big Ideas</i> — Miller & Unrau	Cascade
10:30 am – 10:45am	BREAK	
Concurrent IV 10:45 am –11:45 am	<i>Engaging in Mathematical Discussion through Children’s Literature</i> — Hintz, Smith, Mortensen, Tengue, & Peterman	Mount Adams
	<i>Speaker Round Tables</i> — Speakers are available for informal conversation and questions in small groups.	St. Helens AB
	<i>Making More of Math: Math + Self Regulation</i> — Clements	St. Helens CD
	<i>Messing About in Mathematics</i> — Morgan & Maher	Cascade
11:45 am –1:00 pm	Lunch and Networking	
Concurrent V 1:00 pm –2:00 pm	<i>Speaker Round Tables</i> — Speakers are available for informal conversation and questions in small groups.	St. Helens AB
	<i>Allowing Children to Lead the Learning</i> — Recinos	Mount Adams
	<i>Getting the Most Math out of your Math Center (Without Buying New Materials!)</i> — Farran & Dearing	St. Helens CD
	<i>Capture, Reflect, and Take Action on Children’s Big Ideas</i> — Miller & Unrau	Cascade
2:00 pm - 2:15 pm	Dessert Break and Networking	St. Helens Foyer
Closing Keynote 2:15 pm - 3:30 pm	MEGAN FRANKE & NATALI GAXIOLA <i>Young Children’s Counting: Using Research to Challenge Each Student</i>	St. Helens Ballroom

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SPEAKERS & SESSIONS

about Sylvia Celedón-Pattichis

Sylvia Celedón-Pattichis is Senior Associate Dean for Research and Community Engagement and Professor of bilingual and mathematics education in the Department of Language, Literacy, and Sociocultural Studies at the University of New Mexico. She prepares elementary pre-service teachers in the bilingual/ESL Cohort to teach mathematics and teaches graduate level courses in bilingual education. She taught mathematics at Rio Grande City High School in Texas for four years. Her research interests focus on studying linguistic and cultural influences on the teaching and learning of mathematics, particularly with emergent bilinguals. She was a Co-Principal Investigator of the NSF-funded Center for the Mathematics Education of Latinos/as (CEMELA). She serves as a National Advisory Board Member of several NSF-funded projects and as an Editorial Board Member of the Bilingual Research Journal and Journal of Latinos and Education. Her most current works include co-editing two NCTM books entitled *Access and Equity: Promoting High Quality Mathematics in Grades PreK-2 and Grades 3-5*. She has also published *Beyond Good Teaching: Advancing Mathematics Education for ELLs*. She is a Lead-PI of *Broadening the Participation of Latina/o Students in Engineering Using an Integrated Mathematics, Engineering, and Computing Curriculum in Authentic Out-of-School Contexts*, a project funded by NSF.

Concurrent I & II *Drawing from Linguistic and Cultural Resources to Support Children's Mathematical Thinking and Biliteracy*

Using video clips and students' work from three bilingual and ESL kindergarten classrooms, this session engages participants in discussing promising teaching practices to develop bi-literacy through problem solving by drawing on students' language and culture. We will discuss how teachers can a) contextualize challenging problems appropriate for young learners through storytelling, b) foster the use of multimodal representations (i.e., pictorial, symbolic, and written), c) develop student ownership through the use of mathematics journals, and d) develop sophisticated problem-solving strategies through listening, and oral and written explanations to mathematical thinking.

about Doug Clements

Dr. Douglas Clements has made significant contributions to the field of early childhood mathematics education, with equal relevance to the academy, to the classroom, and to the educational policy arena. At the national level, his contributions have led to the development of new mathematics curricula, teaching approaches, teacher training initiatives, and models of "scaling up" interventions, as well as having a tremendous impact on educational planning and policy, particularly in the area of mathematical literacy and access. He has served on President's National Mathematics Advisory Panel, the Common Core State Standards committee of the National Governor's Association and the Council of Chief State School Officers, the National Research Council's Committee on Early Mathematics, the National Council of Teachers of Mathematics national curriculum and Principles and Standards committees, and is a co-author for each of their reports. A prolific and widely cited scholar, he has earned external grant support totaling nearly \$19 million, including major grants from the National Science Foundation, the National Institutes of Health, and the Institute of Education Sciences of the U.S. Department of Education.

Concurrent II & IV *Making More of Math: Math + Self Regulation*

Self-regulation, or executive function, skills are important for social-emotional development and for learning. Some research shows that they are especially important for thinking and learning about math. But what if (also) that was turned that on its head—would well-crafted math environments and teaching *also* develop executive function skill? Yes! We will discuss and show videos of ways to use and create high-quality experiences for 3-5-year-olds that do both.

about Eric Dearing

Eric Dearing is Professor of Applied Developmental Psychology in the Lynch School of Education and a Faculty Fellow in the Center for Optimized Student Support at Boston College as well as a Senior Researcher at the Norwegian Center for Child Behavioral Development at the University of Oslo, Norway. Eric's work is focused on the consequences of young children's lives outside of school for their performance in school, and their overall wellbeing. Most of his research has given special attention to the role of families, early childcare, and communities in the lives of children growing up poor. Most recently, through his work on the DREME network and other projects funded by the Heising-Simons Foundation, he has been examining early parental engagement in math learning. The goal of this work is to better understand the ways in which parental supports during early childhood are related to good numerical and spatial skills at school entry and through their school years.

Concurrent I & III *Family Math Matters!*

Leading session with Susan Levine

Across all cultures and languages, families have the resources and practices that can be used to support children's early mathematical learning. And, at the same time, many parents and caregivers feel anxious or lack confidence in their own math skills, and some families feel unsure of how to best support their children's math learning in the midst of day-to-day life. In this session, we will be discussing how educators and family-facing professionals can partner with families to help them (a) uncover and enrich the family math they are already doing, (b) integrate family math into daily life in fun and meaningful ways, and (c) use evidenced-based principles and tools to innovate and grow family math into fit their cultures, goals, and interests.

Concurrent II & V *Getting the Most Math out of your Math Center (Without Buying New Materials!)*

Leading session with Dale C. Farran

There is strong evidence that children who are more involved in math activities and who also engage more often with peers both learn more and develop better socially in their preschool classrooms. This session will focus on how to make your math center work better for you in each of these areas. We will have specific activities that build on materials already present in most classrooms as well as easily implemented tips for encouraging peer interactions. Built with teachers as our partners!



about Dale C. Farran

Dale Clark Farran is an Emerita Professor at Peabody College at Vanderbilt University. Dr. Farran has been involved in research and intervention for high-risk children and youth for all of her professional career. She has conducted research at the Frank Porter Graham Child Development Center in Chapel Hill, NC and the Kamehameha Schools Early Education Project in Hawaii. Dr. Farran is the editor of two books both dealing with risk and poverty, the author of more than 90 journal articles and book chapters and a regular presenter at national conferences. Her recent research emphasis is on evaluating the effectiveness of alternative preschool curricula for preparing children from low-income families to transition successfully to school and longitudinal follow up for long term effects. Currently she is directing an evaluation of the State of Tennessee's Prekindergarten program. Most recently she has been involved in identifying early childhood classroom practices most facilitative of children's outcomes, including providing more math learning opportunities in preschool classrooms.

Concurrent II & V *Getting the Most Math out of your Math Center (Without Buying New Materials!)*

Leading session with Eric Dearing

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about Megan Franke

Megan Franke is a Professor of Education at UCLA. Megan's research focuses on understanding and supporting teacher learning for both preservice and inservice teachers. She studies how teachers making use of research-based information about the development of children's mathematical thinking support students to learn mathematics. She is particularly interested in how teaching mathematics with attention to students' mathematical thinking (Cognitively Guided Instruction) can challenge existing school structures and create opportunities for economically marginalized students and students of color to learn mathematics with understanding. She has been engaged in a series of studies with Dr. Noreen Webb, UCLA, that link classroom practice and student outcomes in elementary mathematics classrooms. In addition, she is studying with her Core Practice Consortium colleagues the impact of field-based methods for preservice teachers. She is a member of DREME (Development and Research in Early Mathematics Education) where she is studying pre-K-2 coherence and designing resources for early childhood teacher educators. She is currently partnering with LAUSD to support teachers in pre-K-5th grade across 120 elementary and preschools. Her research work to support teachers, schools and communities was recognized with the AERA Research into Practice Award and she was elected to the National Academy of Education.

Concurrent II What does Pre-K-3 Mean for Math Instruction?

Leading session with Deborah Stipek

How can we maximize math learning by creating a seamless learning experience for children as they move through preschool and the early elementary grades? What tools and practices are required for teachers to build on previous learning so that every child continues to progress in their math understandings and their preschool learning is sustained and extended? This session will focus on strategies to achieve continuity in math learning. Based on studies of district efforts to build stronger connections between preschool and elementary school, we will discuss the role of district and school policies, as well as curriculum, assessments and instruction in creating productive alignment between preschool and K-3rd grade.

Closing Keynote Young Children's Counting: Using Research to Challenge Each Student

Leading Session with Natali Gaxiola

The details of how young children count collections of objects reveal what they are coming to understand about number. We will share insights from recent research and classroom practice that can help educators to create opportunities for children to show us what they know, to recognize each child's unique mathematical strengths, and to respond in ways that build from what children know and can do.

about Natali Gaxiola

Ms. Natali Gaxiola is a preschool teacher at Felton State Preschool and has been working in the Lennox School District since 2002. Ms. Gaxiola earned an Associate of Arts degree in Early Childhood Education from El Camino College and a Bachelor of Arts degree in Psychology from California State University Dominguez Hills. She currently holds a Teacher's Permit from the California Commission on Teacher Credentialing and has been teaching in the Lennox State Preschool Program for seventeen years. Her background in psychology and experience in the classroom have equipped her with strategies and teaching methods that support the development of the whole child. She believes in finding innovative ways of teaching and has found partnerships, which facilitate consistent improvements in doing so. This has led her to be featured on the Teaching Channel, present at the California Math Council South Conference in 2017, participate as a collaborating author of the book *Choral Counting & Counting Collections: Transforming the PreK-5 Math Classroom*, and present at the 2019 Cognitively Guided Instruction Biennial Conference in Minnesota. She has a passion for learning and teaching. She also believes that a strong connection between the home and school is one of the most powerful elements that lead to the overall success of a child. She was one of three to be recognized as 2019 Early Educator of the Year for Los Angeles County.

Closing Keynote Young Children's Counting: Using Research to Challenge Each Student

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about Herbert Ginsburg

Herbert P. Ginsburg is the Jacob H. Schiff Professor Emeritus of Psychology and Education at Teachers College, Columbia University. He has conducted basic research on the development of mathematical thinking, with particular attention to young children, disadvantaged populations, and cultural similarities and differences. He has drawn on cognitive developmental psychology to develop a variety of materials for young children, including a mathematics curriculum (*Big Math for Little Kids*), storybooks, both traditional and digital, tests of mathematical thinking, computer-based assessment systems, and math software. With DREME colleagues, he is currently creating materials, video-based and other, to help teachers, parents, and students in higher education to gain insight into children's mathematical thinking and how knowledge of it can serve as the foundation for early mathematics education. He holds a B.A. from Harvard University and his M.S. and Ph.D. from the University of North Carolina, Chapel Hill.

Concurrent I & III *Watch What They Do and Ask Them Why They Did It: Assessment as the Foundation for Teaching*

Leading session with Linda Platas

As teachers, we all use some form of informal assessment — questions and observations — to guide our teaching. After all, how would we know which topics to investigate, games to play, or activities to engage in if we didn't have some knowledge about children's thinking? Adjusting teaching to individual children (differentiated instruction) is a hallmark of effective teaching in early childhood classrooms. But, there are a lot of them (children) and few of us (teachers), and that fact can make good assessment difficult. This session investigates ways of learning about children's thinking in order to better support their development.

about Allison Hintz

Allison Hintz is an Associate Professor of Mathematics Education at the University of Washington, Bothell. She studies teaching and learning, alongside educators and children, in a wide range of formal and informal contexts. She is especially interested in understanding how to plan for and facilitate lively discussions that center on children's thinking, nurture identities as mathematicians, and broaden perceptions of what mathematical sense-making looks like and sounds like. She is co-author of *Intentional Talk: How to Structure and Lead Productive Mathematical Discussions*.

Concurrent III & IV *Engaging in Mathematical Discussion through Children's Literature*

Leading session with Antony Smith, Jessica Mortensen, Afi Tengue, and Tana Peterman

Within the pages of a children's book lie vibrant opportunities to think like a mathematician! Reading aloud with children is a joyful, however, we rarely view shared reading experiences as a time to wonder mathematically. Join us to think about how to approach literature with a mathematical lens and support young children, and the adults in their lives, to engage in mathematical sense-making through discussion of stories.

about Susan Levine

Susan Levine is the Rebecca Anne Boylan Professor of Education and Society in the Department of Psychology at the University of Chicago. She received her Ph.D. from M.I.T. in Psychology, where she focused on development psychology. She has an extensive track record of research in the area of mathematical development in young children. Dr. Levine's research focuses on individual variations in the development of early mathematical thinking, including numerical and spatial aspects of math, and how the input variations in home and school "math talk" and play activities account for these variations. In addition, she studies how attitudes about math, including math anxiety and stereotypes, affect children's math learning and adults' support of this learning. She is also developing and testing interventions aimed at helping parents and early childhood professionals effectively support young children's math learning and attitudes about this important domain. She is a member of the Development and Research on Early Mathematical Education (DREME) network, supported by the Heising-Simons Foundation.

Concurrent I & III *Family Math Matters!*

Leading session with Eric Dearing

Across all cultures and languages, families have the resources and practices that can be used to support children's early mathematical learning. And, at the same time, many parents and caregivers feel anxious or lack confidence in their own math skills, and some families feel unsure of how to best support their children's math learning in the midst of day-to-day life. In this session, we will be discussing how educators and family-facing professionals can partner with families to help them (a) uncover and enrich the family math they are already doing, (b) integrate family math into daily life in fun and meaningful ways, and (c) use evidenced-based principles and tools to innovate and grow family math into fit their cultures, goals, and interests.

about Alison Maher

Alison Maher is the Executive Director at Boulder Journey School, where she has been employed since 1993. Alison has a BA in Psychology from the University of Virginia and a MA in Educational Psychology from the University of Colorado Denver. She helps to coordinate a graduate program in Education and Human Development in partnership with the University of Colorado Denver and the Colorado Department of Education. Alison currently serves on the board of Hawkins Centers of Learning and Watershed School and, in the past, has been a board member at the Boulder County Association for the Education of Young Children and Friends School in Boulder, Colorado, as well as a committee member for the North American Reggio Emilia Alliance. Additionally, Alison has worked as an educational consultant in a wide variety of public and private preschool and elementary schools in the United States, Canada, Australia, Japan and Ireland. Alison has also presented at numerous national and international conferences.

Concurrent I & IV Messing About in Mathematics

Leading session with Alex Cruickshank Morgan

“The experiential roots [of mathematics] evolve, as a product of children’s exploration of their environment and, by reflection, of their own emerging practical competencies.” - David Hawkins, *Two Essays on Mathematics Teaching*

We recognize that children innately use the language of mathematics in their construction of understanding the world around them. As educators, our responsibility is to offer space, time, and complexity for children’s explorations. Join us to examine, through images and video, stories of children engaging with mathematics. We will also view and unpack videos of children engaged in this work. We will particularly note the choices made by teachers in terms of design of environment, selection of materials, and verbal and physical interactions.

about Ananda Marin

Ananda Marin is an assistant professor at UCLA’s Graduate School of Education and Information Studies. As a learning scientist, she examines the social, cultural, and ecological aspects of learning and development across contexts. Her work spans three areas: (1) the embodied and emplaced aspects of teaching and learning; (2) implicit theories and senses of self as related to disciplinary learning and professional identities; and (3) the relationship between method, theory building, and the design of learning environments. Across these areas she has explored questions about learning in a core domain of human knowing, the natural world, and by extension science education. She is particularly interested in how people coordinate attention and observation to co-operatively build knowledge. She is also pursuing questions about the role of collaboration, improvisation, and ensemble movement in teaching and learning. Across her scholarship, Dr. Marin takes a participatory approach. She employs a variety of methods, including: community-based design research, cognitive tasks, studies of everyday practices, interaction analysis, and video-ethnography. Through her research she aims to answer basic research questions about human learning and development and innovate methods in ways that expand pedagogical possibilities. She also works to design teaching and learning tools that contribute to the goals and well-being of diverse communities.

Opening Keynote *Indigenous Families’ Science Practices and the Design of More Equitable Learning Environments*

The ability to co-operatively coordinate attention and observation is essential for both the establishment and maintenance of productive educational environments, especially in early childhood contexts. “One, two, three” says the teacher. “Eyes on you” say the students. This is a common call and response practice for managing attention and observation in early childhood classrooms in the USA. Inherent in this practice are particular beliefs about sources of knowledge and ways of learning. At the same time, we know that attention practices vary by setting and across cultural communities. What do young Indigenous children’s practices for organizing attention and observation look like in out of school contexts? What can we learn about the capabilities and competencies of diverse young children from studies of family interactions? How might such studies contribute to the design of more equitable learning environments? To help answer these questions, we use video cases from a participatory research project that partnered with Indigenous communities to study families’ science-related practices.

about Jennifer Leeper Miller

Jennifer Leeper Miller is the Director at Ruth Staples Child Development Lab School, where she has been for the past 15 years. She is a faculty member in the Child, Youth, and Family Studies Department at the University of Nebraska. Jenny has her BA in Elementary Education and Early Childhood and a MA in Child Development from the University of Nebraska-Lincoln. She coordinates programming, research, and outreach for the lab school as well as practicum experiences for pre-service teachers. Jenny serves on the board for Nebraska Association for the Education of Young Children, she is an active member of Natural Start Alliance advocating for nature-based learning environments and educational experiences for early childhood programs. Jenny is an early childhood consultant with various partners in China and is a guest lecturer at Nanjing Normal University in Nanjing, China. She has studied and experienced Early Childhood Education in Italy, China, and Scotland. Jenny is a recipient of the Terri Lynne Lokoff/Children's Tylenol National Child Care Teacher Award.

Concurrent III & V *Capture, Reflect, and Take Action on Children's Big Ideas*

Leading session with Eric Unrau

Quite naturally, and without recognizing them as such, young children develop big ideas about mathematics in the course of their day-to-day lives. In order to create an environment conducive to learning and development of the child we as teachers need to have tools ready to support and facilitate experiences connecting these day-to-day happenings. Teachers need to be ready to capture, reflect, and take action. We want to share several mini-stories, video examples of children exploring with nature and diverse materials connecting to key math experiences: growing patterns, number sense, investigating size. We will challenge you to dig into the reflective process while viewing these examples to identify the role of the teacher. We do not have all the answers but we do want to share our tools to gather the important questions about how to facilitate and create an environment that encourages children to investigate their big ideas.

about Alex Cruickshank Morgan

Alex Morgan is the Community Outreach Specialist at Boulder Journey School. She works with teachers and children to support the development of curriculum. She also designs and coordinates professional development opportunities to encourage adult learning, both locally in Colorado and at conferences and workshops around the country. Additionally, Alex is an instructor in the Boulder Journey School Teacher Education Program. Alex is passionate about weaving inspirations from Boulder-based educators, Frances and David Hawkins, and the educators from Reggio Emilia, Italy into her work with adults and children as they discover, uncover, and mess about.

Concurrent I & IV *Messing About in Mathematics*

Leading session with Alison Maher

“The experiential roots [of mathematics] evolve, as a product of children’s exploration of their environment and, by reflection, of their own emerging practical competencies.” - David Hawkins, *Two Essays on Mathematics Teaching*

We recognize that children innately use the language of mathematics in their construction of understanding the world around them. As educators, our responsibility is to offer space, time, and complexity for children’s explorations. Join us to examine, through images and video, stories of children engaging with mathematics. We will also view and unpack videos of children engaged in this work. We will particularly note the choices made by teachers in terms of design of environment, selection of materials, and verbal and physical interactions.

about Jessica Mortensen

Jessica Mortensen is the Executive Director of Reach Out and Read Washington State, a program that partners with over 2,500 doctors in 240 medical clinics across the state to encourage daily, meaningful language-rich interactions between children and parents. Jessica uses her nearly 20 years of experience leading programs and supporting professionals in the health care and literacy fields to create the overall strategy and lead implementation of Reach Out and Read across Washington. A focus of Jessica’s career has been supporting medical and dental professionals to make practice improvements that are evidence-based, sustainable, meet community needs, and reduce opportunity gaps. Jessica earned her Master of Library and Information Science from the University of Washington and her BA from Whitman College.

Concurrent III & IV *Engaging in Mathematical Discussion through Children’s Literature*

Leading session with Allison Hintz, Antony Smith, Afi Tengue and Tana Peterman

Within the pages of a children’s book lie vibrant opportunities to think like a mathematician! Reading aloud with children is a joyful, however, we rarely view shared reading experiences as a time to wonder mathematically. Join us to think about how to approach literature with a mathematical lens and support young children, and the adults in their lives, to engage in mathematical sense-making through discussion of stories.

about Tana Peterman

Tana Peterman serves as a program officer with Washington STEM, working across early STEM, K-12 STEM, and career pathways initiatives. Prior to joining Washington STEM she taught middle school science in South Texas and Seattle, and coordinated extended-day elementary programming in Oregon. More recently, she earned her M. Ed. in Learning Sciences and Human Development at the University of Washington, while working at the Institute for Science and Math Education. At the Institute, she collaborated with a team of researchers, local district leaders, and science teachers to adapt curricula for equity-focused implementation of the Next Generation Science Standards. As part of that work she gained valuable experience working at the intersection of research and practice, serving as a partner in planning and implementing professional development, supporting teachers in classrooms, and informing educational research based on widely-felt problems of instructional practice. During her time at UW she also earned her Certificate in Teacher Leadership, further fueling her passion for empowering teachers to be effective leaders and change agents in equity-focused STEM education.

Concurrent III & IV *Engaging in Mathematical Discussion through Children's Literature*

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about Linda Platas

Linda M. Platas is an assistant professor and associate chair in the Department of Child and Adolescent Development at San Francisco State University, teaching courses in child development, curriculum, and public policy. Her primary areas of research in the United States and internationally are measurement development in early childhood, teacher education, professional development, and the formation and implementation of early childhood public policy. In the United States, her experience includes developing measures of, and designing interventions for, early mathematics, and language and literacy development. Internationally, she has worked on preschool and early primary grades child assessment and classroom observation instruments including the Early Grades Math Assessment (EGMA) and the Measuring Early Learning Quality and Outcomes (MELQO) instruments. She has served as an expert in international meetings on early mathematics and literacy development and on many technical and policy advisory groups. She also has extensive experience working with young children and their families as a teacher and director. Her work with the DREME Network supports the development of open-source materials for teacher educators (i.e., professional development providers, university and college instructors, school districts, and county offices of education) to support their teaching in early mathematics.

Concurrent I & III *Watch What They Do and Ask Them Why They Did It: Assessment as the Foundation for Teaching*

Leading session with Herbert Ginsburg

As teachers, we all use some form of informal assessment — questions and observations — to guide our teaching. After all, how would we know which topics to investigate, games to play, or activities to engage in if we didn't have some knowledge about children's thinking? Adjusting teaching to individual children (differentiated instruction) is a hallmark of effective teaching in early childhood classrooms. But, there are a lot of them (children) and few of us (teachers), and that fact can make good assessment difficult. This session investigates ways of learning about children's thinking in order to better support their development.

about Karen Recinos

Karen S. Recinos is the Associate Director of Early Childhood Education at the UCLA Mathematics Project. She has been providing Cognitively Guided Instruction professional development to schools and districts in and around Los Angeles for the past five years. She enjoys partnering with teachers to listen and learn from children. She is particularly interested in supporting language learners to learn mathematics with understanding and develop language in meaningful ways. Karen is a mother of three young children and a lifelong learner.

Concurrent V *Allowing Children to Lead the Learning*

In the past three years, I have been honored to partner with LAUSD Early Education teachers, teacher assistants, and administrators to learn how attention to the details of children's mathematical thinking can enrich children's early mathematics experiences. Educators in the Early Education classroom already know how to carefully observe children and together we deepened our understanding of children's mathematical thinking and crafted next steps that built on their strengths. In this session, I will share the structure of our work and how classroom coaching coupled with targeted professional development allowed us to create spaces to learn from children.

about Antony Smith

Antony T. Smith is Associate Professor in the School of Educational Studies at the University of Washington, Bothell, where he teaches courses in teacher education, research methods, and literacy assessment and instruction. He is interested in disciplinary literacy K-12, and his current research projects focus on the intersection of reading and mathematics and how exploring children's literature can help deepen comprehension, develop vocabulary knowledge, and increase motivation and engagement for students to become lifelong readers. He is co-author of *Why We Drop Out: Understanding and Disrupting Student Pathways to Leaving School*.

Concurrent III & IV *Engaging in Mathematical Discussion through Children's Literature*

Leading session with Allison Hintz, Jessica Mortensen, Afi Tengue, and Tana Peteman

Within the pages of a children's book lie vibrant opportunities to think like a mathematician! Reading aloud with children is a joyful, however, we rarely view shared reading experiences as a time to wonder mathematically. Join us to think about how to approach literature with a mathematical lens and support young children, and the adults in their lives, to engage in mathematical sense-making through discussion of stories.

about Deborah Stipek

Deborah J. Stipek, Ph.D., is the Judy Koch Professor of Education, the Peter E. Haas Faculty Director of the Haas Center for Public Service, and she is the former James Quillen Dean of the Graduate School of Education at Stanford University. Her doctorate is from Yale University in developmental psychology. Her scholarship concerns instructional effects on children's achievement motivation and early childhood education. In addition to her scholarship, she served for five years on the Board on Children, Youth, and Families of the National Academy of Sciences and is a member of the National Academy of Education. She also chaired the National Academy of Sciences Committee on Increasing High School Students' Engagement & Motivation to Learn and the MacArthur Foundation Network on Teaching and Learning. She currently chairs the Heising-Simons Development and Research on Early Math Education Network. Dr. Stipek served 10 of her 23 years at UCLA as Director of the Corinne Seeds University Elementary School and the Urban Education Studies Center.

Concurrent II *What does Pre-K-3 Mean for Math Instruction?*

Leading session with Megan Franke

How can we maximize math learning by creating a seamless learning experience for children as they move through preschool and the early elementary grades? What tools and practices are required for teachers to build on previous learning so that every child continues to progress in their math understandings and their preschool learning is sustained and extended? This session will focus on strategies to achieve continuity in math learning. Based on studies of district efforts to build stronger connections between preschool and elementary school, we will discuss the role of district and school policies, as well as curriculum, assessments and instruction in creating productive alignment between preschool and K-3rd grade.

about Afi Tengue

Afi Tengue serves as Senior Program Officer for Washington STEM, supporting the organization's Early STEM and King County strategies. She partners with key education and industry partners to support programming and policy intent on dismantling the institutional and systemic inequities that disproportionately impact families of color, those from low-income and rural backgrounds, and women. Afi brings 15+ years of experience in the nonprofit education sector. Most recently, she supported Zeno Math as a strategy consultant focused on national growth planning, strategic planning, and program codification. Prior to working with Zeno, Afi was the founding Executive Director for Reading Partners – Seattle, a management consultant with Foundation Strategy Group and supported operational excellence at the Bill and Melinda Gates Foundation, as well as Teach for America. Afi holds an MPA from New York University, a BA from the University of Washington and an AA from Seattle Central College that she obtained as a Running Start student.

Concurrent III & IV *Engaging in Mathematical Discussion through Children's Literature*

Leading session with Allison Hintz, Antony Smith, Jessica Mortensen, and Tana Peterman

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about Dolores Torres

Dolores Torres shares her expertise from 16 years as a bilingual preschool teacher in Lennox State Preschools, a preschool program located near Los Angeles International Airport serving predominantly low-income, dual-language learners. In addition to teaching 3-5 year old students, she demonstrates leadership in math professional learning opportunities within her district. As an early childhood professional, Dolores has partnered with DREME researchers at UCLA and Stanford to explore in-depth how to support children's mathematical learning across a variety of classroom spaces and leverage the mathematical understandings that children bring to the classroom. Dolores has presented at the NAEYC Professional Learning Institute on the simultaneous support of math and language development. Her math teaching has been featured in prominent online resources for teachers and teacher educators, such as prek-math-te.stanford.edu and teachingchannel.org.

Keynote Building on Children's Math Thinking in Informal Spaces

Leading session with Angela Chan Turrou

As we look around our preschool classrooms, we might notice the variety of informal spaces that children move in and out of throughout the day. As we explore these spaces, what do we see children doing and hear them saying? How might teachers leverage these spaces to find out more about and build upon children's mathematical ideas? And how does language (informal and formal), gesture, and representation all come together to support children's mathematical learning? We will dig into these ideas using classroom examples as we explore children's thinking and pedagogy in preschool.

about Angela Chan Turrou

Angela Chan Turrou is a senior researcher and teacher educator in the UCLA Graduate School of Education & Information Studies. Her work lives at the intersection of children's mathematical thinking, classroom practice, and teacher learning. In her work with preservice and inservice teachers across preschool and elementary settings in the Los Angeles area, Angela leverages purposeful instructional activities driven by children's mathematical thinking to support teacher learning, collaboration, and generative growth. She is continually inspired by teachers who, on a daily basis, create space for children to drive the mathematical work and challenge the broader discourse of who does and does not get to be "good at math." Angela is a member of the Development and Research in Early Math Education Teacher Educator (DREME TE) project team. She supports open-access online early math resources for teacher educators (prek-math-te.stanford.edu) and leads the Early Math in Higher Ed project, networking early childhood teacher educators across the state of California. Angela is co-author of *Young Children's Mathematics: Cognitively Guided Instruction in Early Childhood Education* (Heinemann) and co-editor of *Choral Counting and Counting Collections: Transforming the PreK-5 Math Classroom* (Stenhouse). Find her on Twitter @Angelaturrou.

Keynote Building on Children's Math Thinking in Informal Spaces

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about Eric Unrau

Eric Unrau is the lead teacher at the Clyde Malone Community Center in Lincoln, Ne. He is Child Development Faculty in the Child, Youth, and Family Studies Department at the University of Nebraska-Lincoln. Eric has been an Early Childhood Educator for 28 years. He has focused on building relationships in the classroom and establishing a high quality-learning environment by creating strong connections with children, families, and pre-service teachers. Eric enjoys challenging children and pre-service teachers to explore in the natural spaces and connecting the explorations to the emergent curriculum framework. Eric has been a leader in creating a community lab school at the Malone Center connecting the University and the community with the goal of providing high quality early childhood education to low income families. He is a recipient of the Terri Lynne Lokoff/Children's Tylenol National Child Care Teacher Award.

Concurrent III & V *Capture, Reflect, and Take Action on Children's Big Ideas*

Leading session with Jennifer Leeper Miller

Quite naturally, and without recognizing them as such, young children develop big ideas about mathematics in the course of their day-to-day lives. In order to create an environment conducive to learning and development of the child we as teachers need to have tools ready to support and facilitate experiences connecting these day-to-day happenings. Teachers need to be ready to capture, reflect, and take action. We want to share several mini-stories, video examples of children exploring with nature and diverse materials connecting to key math experiences: growing patterns, number sense, investigating size. We will challenge you to dig into the reflective process while viewing these examples to identify the role of the teacher. We do not have all the answers but we do want to share our tools to gather the important questions about how to facilitate and create an environment that encourages children to investigate their big ideas.

Acknowledgements

We extend a special thanks to the Heising-Simons Foundation and the Buffett Early Childhood Fund for their support of early childhood math education and this event. ~ We also thank Teachers Development Group and their Board of Directors for extending their mission of improving all students' mathematical understanding and achievement through meaningful, effective professional development for teachers and school leaders to the early childhood arena. ~ A final word of thanks goes to Carolyn Pope Edwards, a scholar and leader in the social, emotional and cognitive development of young children, birth to age 8, and, in particular, the Reggio approach to supporting young children's development. Carolyn collaborated for more than a decade at the University of Nebraska-Lincoln with Ruth Heaton, the current CEO of Teachers Development Group. She passed away May 31, 2018. She recognized that young children operate with good intentions and reason and it is our job as researchers and their teachers to continually reflect on and remain curious about what we can learn from them while holding them in awe.