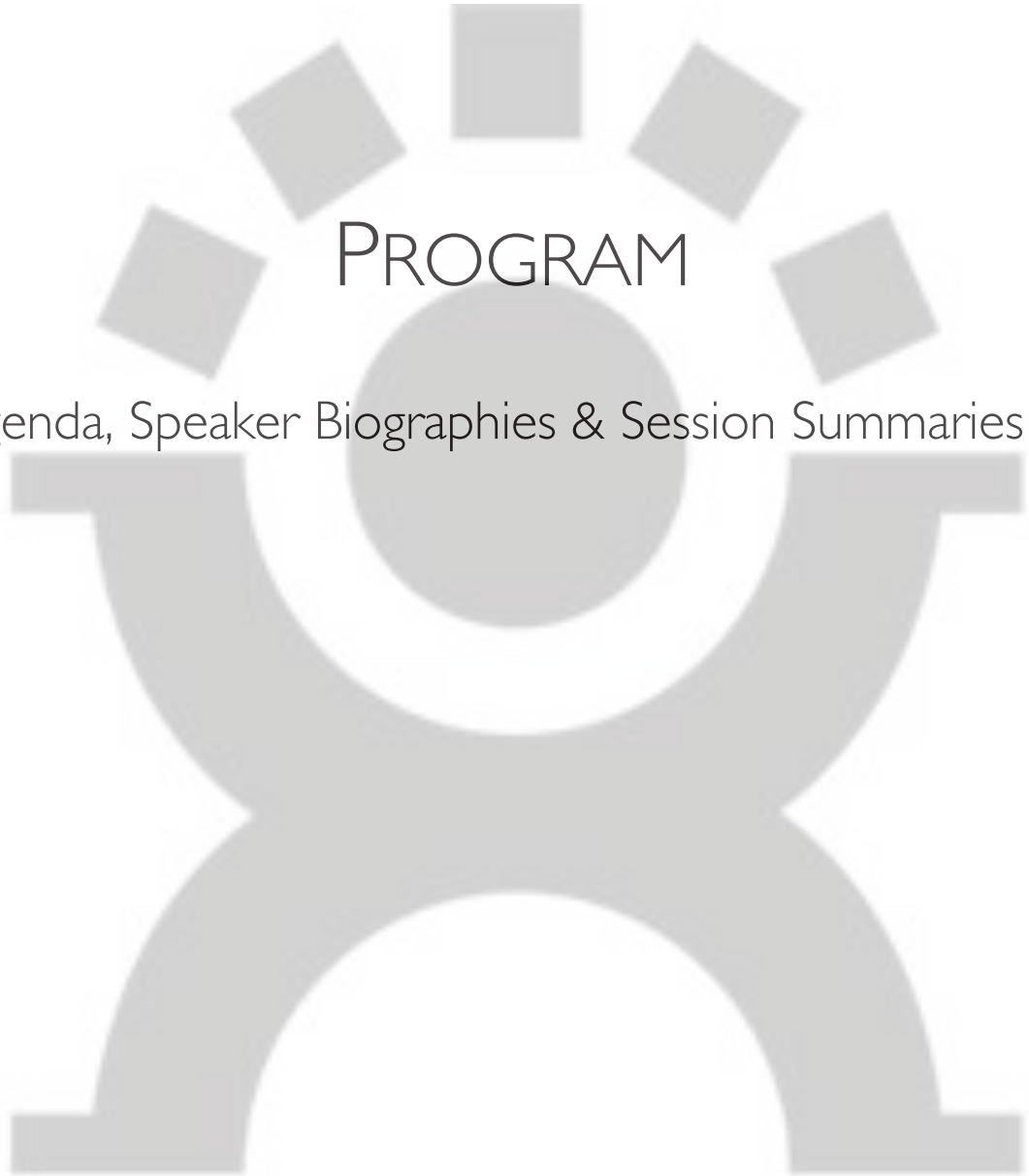
Leadership Seminar on Mathematics Professional Learning

March 6-8, 2024 | Portland, Oregon



Program

Agenda, Speaker Biographies & Session Summaries

TEACHERS DEVELOPMENT GROUP

ACKNOWLEDGEMENTS

This year, Teachers Development Group (TDG) is celebrating its 25th anniversary as a nonprofit organization, founded in 1998 by Linda Foreman and her colleagues. Linda's vision of mathematics teaching, learning, and leadership fueled TDG's mathematics professional learning offerings from 1998-2017. She also created the first annual TDG Leadership Seminar on Mathematics Professional Learning in 2001. Stimulated by the cutting-edge ideas presented in sessions led by researchers, she envisioned the entire Seminar community (i.e., teacher leaders, math coaches, school and district administrators, professional development providers, curriculum developers, and researchers) engaged in extended conversations and learning from one another for the purpose of improving mathematics learning outcomes for students. This year's Seminar is designed to engage the community that gathers in thinking deeply and critically about cultivating equitable and just spaces for PK-Grade 12 mathematics teaching, learning, and leading. Each session builds on the "notice and wonder" routine to both identify and reimagine multiple access points for action to better meet the needs of students not traditionally well served by our educational system.

I am grateful to the TDG Board of Directors for their voluntary commitment and leadership in service of TDG's programmatic and financial well-being.

Deborah Loewenberg Ball, University of Michigan
Robert Q. Berry III, University of Arizona
Jill Board, Teachers Development Group
Cathy Martin, Denver, Colorado
Marrielle Myers, Kennesaw State University
Kathy Pfaendler, Teachers Development Group
Richard Velasco, University of Oklahoma

The commitment, expertise, hard work, and on-going learning characteristic of TDG's Mathematics Professional Learning Specialists as they engage in the daily work of supporting math teachers' and school leaders' learning around the country, are crucial to the organization's success. To each I give my heartfelt thanks. They make it possible for TDG to continue to exist.

Shelly Allen, Augusta, GA
Laura Bower, Tacoma, WA
Cheryl Cameron, Happy Valley, OR
Carolyn Choi, Portland, OR
Linda Davenport, Dedham, MA
Bill Feeley, Charlottesville, VA
Julie Fredericks, Beaverton, OR
Murrel Hoover, Elkview, WV
Denise Huddlestun, Atlanta, GA
Wendy Jung, Hixon, TN
Jennifer Kallenberger, Gig Harbor, WA
Amy Kimball, Lake Elmore, VT
Abi Leaf, Escondido, CA
Cathy Martin, Denver, CO
Lori McMullen, Aurora, CO
Kerry Morton, Bend, OR
Lisa Norwood, Augusta, GA
Rose Palmer, Scappoose, OR
Kathy Pfaendler, Beaverton, OR
Melissa Plummer, Roseburg, OR
Sara Swedlund, Bend, OR
Jennifer Vomocil, Albany, OR
Luke Weinbrecht, West Linn, OR
Lindsay Wood, Kent, WA

Special thanks are also extended to Jill Board, Executive Director of Program, whose relentless commitment, and hard work coupled with her human touch have been in service of TDG and each of its employees and school partners since the organization was founded 25 years ago. Great gratitude is offered to Lisna Lai, TDG's Accounting and Program Specialist, who skillfully and meticulously manages and engages in all the organization's daily financial and programmatic operations and does so with endless grace. My deepest thanks go to Paul Navarre who manages TDG's database and works in service of TDG at any hour of the day. I am deeply appreciative of Sengu Thomas, TDG's Business Manager, who does TDG's monthly payroll, and Karin Wandtke, TDG's Chief Financial Officer, both of McDonald Jacobs, PC, for their sound and calm counsel on any aspect of TDG's financial operations. I am extraordinarily thankful to Adrian Burke whose joyful skilled assistance in completing the daily tasks of TDG, especially in the many details of preparing for this Seminar, has been immeasurable. Additional thanks are extended to Fred Rectanus and Judy Martin, the organization's faithful volunteers. Finally, I wish to express my gratitude to TDG Board Member, Marrielle Myers, who for the second year in a row has helped envision and enact the theme of the Seminar and assemble an extraordinary group of scholar practitioners to lead the Seminar's sessions. I am deeply honored and grateful beyond words to be in the role of leading this treasure of a community we call TDG.

Ruth Heaton, Chief Executive Officer

seminar AGENDA

WEDNESDAY MARCH 6

4:30 pm – 6:30 pm	Registration and Check-In	Mount Hood Foyer
5:30 pm – 6:30 pm	Opening Reception (Hot and Cold Hors d'Oeuvres and Cash Bar)	Mount Hood Foyer
6:30 pm	Opening - Ruth Heaton	Mount Hood Ballroom

Plenary A — Mount Hood Ballroom

John Staley

Becoming An Equity-Focused Mathematics Educator

TEAM COLLABORATION DURING THE SEMINAR

Several spaces throughout the hotel, found in the foyers of Garden, Cascade, Mount Adams, and St Helens have been set with round tables and chairs specifically for Team Collaboration throughout the Seminar.

THURSDAY MARCH 7

6:45 am – 8:00 am **Breakfast** Mount Hood Foyer

8:00 am – 9:30 am **Concurrent 1**

Aguirre Reimagining Assessment as a Tool for Learning, not Labeling (repeats Concurrent 2) **Mount Hood A**

Westby Universal Design for Learning – Mathematics and Disability Justice (repeats Concurrent 6) **Cascade**

Staley Bringing Social Justice to a Mathematics Classroom Near You (Does Not Repeat) **Mount Hood C**

Flynn The Art of Advocacy: Empowering Educators and Influencing Change in Mathematics Education (Does Not Repeat) **Mount Adams**

Song Disrupting Injustice: How Math Teachers Can Take Action (repeats Concurrent 4) **Garden**

Myers Using What We Have to Get What We Want: Teaching Elementary Mathematics for Social Justice While Facing Curricular Constraints (repeats Concurrent 6) **St. Helens A/B**

Asturias Méndez Noticing Students' Strengths and Wondering How We Might Create More Equitable Learning Opportunities (repeats Concurrent 6) **St. Helens C/D**

9:30 am – 9:50 am **Break** Mount Hood Foyer

9:50 am – 11:20 pm **Concurrent 2**

Aguirre Reimagining Assessment as a Tool for Learning, not Labeling (repeats Concurrent 1) **Mount Hood A**

Jansen Equitable Assessment in Secondary Mathematics Classrooms: Examples from Classrooms that Implement Rough Draft Math (repeats Concurrent 5) **Cascade**

Ho, Hagman In the Moment Moves: Equity, Math Identity, and Student Thinking (repeats Concurrent 4) **Mount Hood C**

Soto Centering Student Voice for More Equitable Grading in Secondary Mathematics (repeats Concurrent 4) **Mount Adams**

Moldavan Elevating Equitable Elementary Mathematics Teaching with Social Justice Children's Book Connections (repeats Concurrent 3) **Garden**

Smith Leveraging Opportunities to Position Multilingual Learners for Mathematical Success (repeats Concurrent 3) **St. Helens A/B**

Adams Corral "I Have to Talk to Not Give Up": Opening our Math Classrooms to the Voices of Multilingual Students (repeats Concurrent 5) **St. Helens C/D**

11:30 pm – 12:30 pm **Lunch** Hotel Lobby

12:30 pm – 1:40 pm **Plenary B** Mount Hood Ballroom

Mike Flynn

Be the Guide, Not the Hero:
Supporting Colleagues Struggling with Change in Math Education

1:40 pm – 1:50 pm **Transition**

1:50 pm – 3:20 pm **Concurrent 3**

Torres Advocate for Systemic Change through School Scheduling
(Does Not Repeat) **Mount Hood A**

Safi Equitable Teaching Practices and Mathematical Modeling as a Vehicle for Focusing on Identity and Mathematics (repeats Concurrent 6) **Cascade**

Fredericks, Melhuish, Plummer Reimagining How We Collect and Use Data on Math Habits, Routines and Actions in Service of Equitable Instruction
(Does Not Repeat) **Mount Hood C**

Parris, Johns Unintended Consequences: The Implications of Leadership Practices on Equitable Learning Experiences and Student Agency
(repeats Concurrent 6) **Mount Adams**

Moldavan Elevating Equitable Elementary Mathematics Teaching with Social Justice Children's Book Connections (repeats Concurrent 2) **Garden**

Smith Leveraging Opportunities to Position Multilingual Learners for Mathematical Success (repeats Concurrent 2) **St. Helens A/B**

Crespo, Herbel-Eisenmann Reimagining Discourse and Myths About the "Smart" Student (repeats Concurrent 5) **St. Helens C/D**

3:20 pm – 3:35 pm **Dessert Break** Mount Hood Foyer

3:35 pm – 5:05 pm **Concurrent 4**

Chan Turrou The Complexity of Young Children's Mathematical Thinking (repeats Concurrent 5) **Mount Hood A**

Knapp, Kulow, Gao, Goffney Reimagining How Teachers Work Together: Co-Learning about Equity through Co-Noticing Student Participation (Does Not Repeat) **Cascade**

Ho, Hagman In the Moment Moves: Equity, Math Identity, and Student Thinking (repeats Concurrent 2) **Mount Hood C**

Loewenberg Ball Using Discretionary Spaces in Teaching and Leadership to Advance Students' Mathematical Flourishing (repeats Concurrent 5) **Mount Adams**

Song Disrupting Injustice: How Math Teachers Can Take Action (repeats Concurrent 1) **St. Helens A/B**

Soto Centering Student Voice for More Equitable Grading in Secondary Mathematics (repeats Concurrent 2) **St. Helens C/D**

5:05 pm – 6:00 pm **Collaboration - Light Snacks and Cash Bar** Mount Hood Foyer

FRIDAY MARCH 8

6:45 am – 8:00 am **Breakfast** Mount Hood Foyer

8:00 am – 9:10 am	**Plenary C** Mount Hood Ballroom Maria del Rosario Zavala *Weaving Faith, Power, and Justice into Mathematics Leadership*

9:10 am – 9:30 am **Break**

9:30 am – 11:00 am **Concurrent 5**

Chan Turrou The Complexity of Young Children's Mathematical Thinking (repeats Concurrent 4) **Mount Hood A**

Jansen Equitable Assessment in Secondary Mathematics Classrooms: Examples from Classrooms that Implement Rough Draft Math (repeats Concurrent 2) **Cascade**

Crespo, Herbel-Eisenmann Reimagining Discourse and Myths About the "Smart" Student (repeats Concurrent 3) **Mount Hood C**

Loewenberg Ball Using Discretionary Spaces in Teaching and Leadership to Advance Students' Mathematical Flourishing (repeats Concurrent 4) **Mount Adams**

Lopez, Roman, Rigby, Elliott, Jones Noticing and Reimagining Mathematics Stories in Community (Does Not Repeat) **St. Helens A/B**

Adams Corral "I Have to Talk to Not Give Up": Opening our Math Classrooms to the Voices of Multilingual Students (repeats Concurrent 2) **St. Helens C/D**

11:20 am – 12:20 pm **Lunch** Hotel Lobby

12:20 pm – 1:50 pm	**Concurrent 6** **Zavala, Aguirre** Reimagining Classrooms for Joy and Justice through Culturally Responsive Mathematics Teaching (Does Not Repeat) **Mount Hood A** **Westby** Universal Design for Learning – Mathematics and Disability Justice (repeats Concurrent 1) **Cascade** **Safi** Equitable Teaching Practices and Mathematical Modeling as a Vehicle for Focusing on Identity and Mathematics (repeats Concurrent 3) **Mount Hood C** **Parris, Johns** Unintended Consequences: The Implications of Leadership Practices on Equitable Learning Experiences and Student Agency (repeats Concurrent 3) **Mount Adams** **Myers** Using What We Have to Get What We Want: Teaching Elementary Mathematics for Social Justice While Facing Curricular Constraints (repeats Concurrent 1) **St. Helens A/B** **Asturias Méndez** Noticing Students' Strengths and Wondering How We Might Create More Equitable Learning Opportunities (repeats Concurrent 1) **St. Helens C/D**
1:50pm – 2:00 pm	**Transition**
2:00 pm – 2:40 pm	**Chatting for Change - Dessert** Have some dessert and spend three rounds of 10 minutes each chatting informally with other educators from other schools. During this time, you will share some of the **actions** you intend to take as you return to your school to initiate change for more equitable student engagement, interactions, and learning outcomes in math classrooms. You will also listen to others about what they have **reimagined** during the Seminar. You can chat with educators from across the country about what you are still **wondering**, and how you intend to be better at **noticing** and recognizing **feelings** that emerge as you become a proponent for change in your system or classroom. Participating in multiple rounds of "Chatting," and completing your *Chatting for Change Passport*, qualifies you for a drawing for an iPad or one of two pairs of Apple AirPods during the closing plenary. You must be present to win.
2:40 – 2:50 pm	**Transition**

2:50 pm – 3:50 pm	Plenary D Angela Torres *Working Towards Equity through Core Values*	Mount Hood Ballroom

3:50 – 4:00 pm **End of Seminar Drawing** Mount Hood Ballroom

One Apple 10.9-inch iPad (10th generation)
Two pairs of Apple AirPods (3rd generation)

You must be present to win.

Speaker Index

Melissa Adams Corral	University of Texas Rio Grande Valley
Julia Aguirre	University of Washington Tacoma
Luis Harold Asturias Méndez	The Lawrence Hall of Science
Angela Chan Turrou	University of California Los Angeles
Sandra Crespo	Michigan State University
Rebekah Elliott	Oregon State University
Julie Fredericks	Teachers Development Group
Mike Flynn	Flynn Education Inc.
Maddi Gao	Portland State University
Imani Goffney	University of Maryland
Jennifer Hagman	UCLA Mathematics Project
Ruth Heaton	Teachers Development Group
Beth Herbel-Eisenmann	Michigan State University
Kristine Ho	UCLA Mathematics Project
Amanda (Mandy) Jansen	University of Delaware
Jamelie Johns	Hamilton County Schools
Sarah Jones	Oregon State University
Melinda Knapp	Oregon State University - Cascades
Torrey Kulow	Portland State University
Deborah Loewenberg Ball	University of Michigan
Frances Lopez	University of Texas at Austin
Kate Melhuish	Texas State University
Alesia Moldovan	Georgia Southern University
Marrielle Myers	Kennesaw State University
Jamie Parris	Hamilton County Schools
Melissa Plummer	Teachers Development Group
Lauren Rigby	University of Texas at Austin
Kathryn Roman	Portland State University
Farshid Safi	University of Central Florida
Erin Smith	University of Nevada, Las Vegas
Esther Song	Nth Education Partners
Katie Soto	Educational Service Unit #9
John Staley	Baltimore County Public Schools
Angela Torres	UC San Diego Mathematics Project
Katie Westby	Michigan State University
Maria del Rosario Zavala	San Francisco State University

Speakers & Session Abstracts

about Melissa Adams Corral

Melissa Adams Corral is an assistant professor of Mathematics Education at the University of Texas, Río Grande Valley. Before receiving her PhD, she spent seven years as a bilingual elementary teacher in central Texas. Her research explores the theories and methods of community organizers and topics at the intersection of race, language, and mathematics education.

CONCURRENT 2 AND 5

"I Have to Talk to Not Give Up": Opening our Math Classrooms to the Voices of Multilingual Students

When it comes to ensuring that our mathematics classrooms are communicative spaces that include multilingual learners, it is important to understand what it means to embrace translanguaging beyond named languages. How we build spaces that allow for student voice, agency, and risk-taking requires that we reconsider the kinds of power dynamics that work to silence, disempower, and suppress. In this session, we will explore what it means to build a translanguaging mathematics classroom that includes actual multilingual learners (rather than stereotypes built into curricular modules). *(PK – 12)*

about Julia Aguirre

Julia Maria Aguirre is a biracial Chicana activist math education scholar and teacher educator. Her parents were educators and activists integrating faith, community and justice. Julia is a Professor of Education at the University of Washington Tacoma. She focuses on critical equity studies in mathematics education, teacher education, and culturally responsive mathematics pedagogy. She has taught mathematics in formal and informal classroom settings. A primary goal of her work is preparing new generations of teachers to make mathematics education accessible, meaningful and relevant to today's youth.

CONCURRENT 1 AND 2

Reimagining Assessment as a Tool for Learning, not Labeling

This interactive session will focus on the powerful role of assessment on students' math identity and agency. Participants will interrogate current assessment systems and practices to measure and message learning progress. Participants will engage in a freedom dreaming activity to reimagine how assessment can holistically help students and their families understand what they know and are still learning to do. The session will include critical discussions on formative and summative assessment practices, grading policies, and providing meaningful feedback to support and extend mathematical learning. *(PK – 12)*

CONCURRENT 6

Reimagining Classrooms for Joy and Justice through Culturally Responsive Mathematics Teaching
Leading session with Maria del Rosario Zavala

This session is for the teachers, coaches, and educational leaders who know that mathematics classrooms can and should be spaces that embrace joy and justice for students, teachers, and families. Culturally Responsive Mathematics Teaching offers a framework for realizing these commitments. We will engage participants with core concepts and ideas in culturally responsive mathematics teaching, while inviting them to reflect on their own mathematics education contexts. We will share practical tools, activities, and take-aways for participants to try out in their own contexts, and act on their commitments to joy and justice in mathematics classrooms. We invite participants to engage in examination of and reflection on their mathematics teaching contexts, while imagining new possibilities that weave the heart back into mathematics teaching and learning. *(PK – 12)*

about Luis Harold Asturias Méndez

Luis Harold Asturias Méndez has worked for over 18 years at The Lawrence Hall of Science, the University of California, Berkeley´s Science Center. His work has focused on equity in mathematics education. In particular, he wants to help PK-12 teachers and leaders create powerful, equitable, and coherent learning experiences for students, connecting mathematics understanding and language development. He also wants to support teachers and leaders in developing students' positive mathematical identity and addressing the racial and social injustices pervasive in our educational systems.

CONCURRENT 1 AND 6

Noticing Students' Strengths and Wondering How We Might Create More Equitable Learning Opportunities

Deficit thinking permeates math education, leading to unjust decisions and practices. Racism and inequity are products of design; they can be redesigned. This hands-on session is an invitation to think about how to redesign the way K-8 students experience learning by building on their assets—interests, aspirations, funds of knowledge, perceptions, and ways of thinking. By noticing students' perceptions of mathematics (beyond school exercises teachers assign) and their assets, we wonder how to re-design relevant and more equitable opportunities for learning mathematics. What would it look like if grade-level mathematics were represented through a canonical set of tasks? Standards are the language of policymakers. Math tasks are the language of the classroom and the

glue that creates a coherent learning experience for students. In this session, we will experience an innovative free tool—Math Milestones + Asset Maps—that supports equitable instructional designs by connecting curriculum, students' agency, and academic language. We will discuss how, when used formatively, the tasks can reveal and promote student thinking when we make them part of an agency and mathematics interview. *(K – 8)*

about Angela Chan Turrou

Angela Chan Turrou is a researcher and teacher educator in the UCLA School of Education & Information Studies. She leverages purposeful instructional activities driven by children's mathematical thinking to support teacher learning, collaboration, and generative growth across preschool and elementary spaces. 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 doesn't get to be "good at math."

CONCURRENT 4 AND 5

The Complexity of Young Children's Mathematical Thinking

Young children are eminently capable of making sense of complex mathematical ideas; our role as educators is to create and find space for the complexity of children's mathematical thinking as the driver of powerful learning across preschool and early elementary classrooms. This intense focus on children's thinking, even for our youngest learners in school settings, has been the cornerstone of much of my work with colleagues. As we engage with networks of teachers and teacher educators, we seek to leverage the power of children's thinking to bridge the preschool and elementary worlds and create coherent learning opportunities for young people. In this session, we will engage together around videos of children's mathematical thinking and classroom vignettes, focusing on the complexity of young children's mathematical ideas that emerges as young children count, solve problems, and interact with each other within and outside of "math time". My colleagues and I have leveraged this focus in our work with teachers and teacher leaders, teacher educators, an professional development providers across our state. While the content and examples shared are drawn from our work with preschool- and early elementary-aged children, the principled ideas of children's mathematical thinking as the driver of learning spans the elementary years. *(PK – 5)*

about Sandra Crespo

Sandra Crespo is a professor and associate chairperson for graduate education in the Department of Teacher Education at Michigan State University. Her research focuses on anti-oppressive mathematics education and seeks to theorize and explore equity and justice-oriented mathematics teaching and learning practices. She is co-author of the NCTM book *Smarter Together: Collaboration and Equity in the Elementary Mathematics Classroom* and co-editor

of the AMTE book, *Cases for Mathematics Teacher Educators: Conversations About Inequities in Mathematics Classrooms.*

CONCURRENT 3 AND 5

Reimagining Discourse and Myths About The "Smart" Student
Leading session with Beth Herbel-Eisenmann

In this session we focus on the challenge of creating mathematics classrooms where students thrive and develop positive mathematics identities. We connect this challenge to the persistent association of mathematics with "natural intelligence" and with narrow perspectives on how to (and who can) be considered smart. We take a deep dive into the ableist, racialized, and gendered messages that get communicated to students inside and outside mathematics classrooms about who can be "a math person." To do this, we use three lenses — societal, institutional, (a)historical— to unpack common messages people, media, and schools convey (and continue to repeat) about what it means to be smart in mathematics. We explore and call out the damaging and oppressive discourses associated with these assumptions. We draw particular attention to the ways competition and hierarchy underlie current myths about smartness in education and mathematics education, and we look to the ways they are embedded in (a)historical and societal myths/discourses. All throughout the session, we will invite participants to reflect on classroom and school practices and policies that are steeped in damaging myths and discourses about what it means to be smart in math and together work to reconceptualize and reimagine different messages we want to convey to our students about what it means to be "good at math" and the qualities we want to associate with "being a math person." We conclude with suggestions for countering damaging discourses and myths and ways to move towards more humanizing and inclusive views of what it means to be smart. Attendees will have the opportunity to identify ways these myths about smartness are instantiated in their own practice and school/state policies. They will also spend time creating goals and actions to disrupt or change underlying myths about smartness in their own educational context. *(PK – 12)*

about Rebekah Elliott

Rebekah Elliot is an Oregon State University mathematics education teacher educator collaborating with Oregon teachers, teacher leaders, and state-level policymakers, building community to learn with and from one another in support of equitable and just mathematics education. Her research interests center on research-practice partnerships with educators to investigate how innovative, equitable instructional practices are cultivated in systems, schools, and classrooms so that diverse youth can thrive.

CONCURRENT 5

Noticing and Reimagining Mathematics Stories in Community
Leading session with Frances Lopez, Kathryn Roman, Lauren Rigby, and Sarah Jones

In this session, participants will represent and share mathematics stories to explore how histories, culture, and events shape stories, how our stories are shaped by normalized perspectives of students, math, and learning, and how we might reimagine what our stories entail to envision antibias mathematics education. Collectively, we will consider how noticing, wondering, feeling, acting, and reimagining help us build a critical perspective to unpack our math stories. Facilitators, collaborators on a current NSF grant, will use the discussion as a springboard to reimagine math

stories for students, teachers, ourselves, and the future. We will also reimagine what actions participants are willing to commit to in order to rewrite math stories. *(PK - 12)*

about Mike Flynn

Mike Flynn is a national leader and change agent in mathematics education. He is the Chief Executive Officer and Founder of Flynn Education Inc., supporting school districts around the world to enhance the teaching and learning of mathematics for all students (PK-12). Mike is the author of *Beyond Answers, Exploring Mathematical Practices with Young Children* and has contributed to many education journals and publications.

PLENARY B

Be the Guide, Not the Hero: Supporting Colleagues Struggling with Change in Math Education

Change is challenging, especially when the shifts we want people to make go against their deeply held beliefs. So how do you support educators who are resistant to your change efforts and have unproductive beliefs about students or the teaching of mathematics? In this plenary address, you will learn how leaders can leverage the transformative learning framework to disrupt educators' unproductive beliefs and empower them to be the driving force behind the change you want to make. You will hear two first-hand accounts of the effectiveness of transformative learning and follow one teacher's journey through a change initiative that she openly hated. This process has huge implications for creating more equitable learning experiences for all students because it directly addresses educators' biases and assumptions about students and can help them truly believe that all students are capable of learning mathematics. *(PK – 12)*

CONCURRENT 1

The Art of Advocacy: Empowering Educators and Influencing Change in Mathematics Education

Creating a shared vision within a system for what high-quality, equitable mathematics teaching and learning looks like is no easy task. Leaders must advocate for changes that will ensure students from all racial, ethnic, linguistic, gender, and socioeconomic groups can attain the highest levels of mathematics achievement. The success of these change initiatives depends largely on the advocacy skills of the leaders and their ability to address resistance. This session is designed to strengthen the advocacy skills of administrators, math coaches, and teacher leaders by drawing upon the psychology of how people learn and are influenced to change. We will explore a variety of tools and resources that can help design, implement, and support sustainable change efforts and get more buy-in from your stakeholders. You will learn how to scale your efforts from working with just a few colleagues to changing an entire school system. Attendees will leave with a wealth of resources to support this work within their own districts to create more equitable and effective learning experiences for each and every student. *(PK – 12)*

about Julie Fredericks

Julie Fredericks is a Math Professional Learning Specialist for Teachers Development group. She lives in Beaverton, Oregon which is a suburb of Portland. She has a strong interest in mathematics teaching and learning and particularly loves to help participants think about ways they can foster and work with student mathematical discourse in classrooms, with particular attention to students who are reluctant to engage due to past and/or current experiences in math classrooms. What she appreciates the most about professional development work with teachers and leaders is the opportunity to learn along with and from her participants and their students.

CONCURRENT 3

Reimagining How We Collect and Use Data on Math Habits, Routines and Actions in Service of Equitable Instruction
Leading Session with Kate Melhuish, and Melissa Plummer

The Math Habits, Routines, and Action Tool used by Teachers Development Group was developed as a product of multiple NSF grants to support classroom observation and formative feedback for teachers and leaders. The initial focus was on engaging students in productive mathematics through habits of mind and habits of interaction. Through its decade long history, the tool has been reimagined to support practitioners, researchers, and a multitude of foci in service of equity-oriented mathematics instruction. In this session, we will use both a paper and app version of the tool (currently available in the Apple Store for use on an iPad). We will watch classroom video clips and examine shared data collected with the tool. We will also consider what the tool does and does not capture, what emotions the data collected can surface, and how we can use those emotions to both reimagine how we work with the tool and the data it generates and actions we can take in the future to promote equitable math teaching and learning. Throughout the session, we will share key learnings from our decade long journey creating, using, studying, and revising the tool. We suggest it is not just the content in a tool, but its usage that determines how we improve our practice in ways that lead to more equitable outcomes for students, especially students who have been historically underserved. Ultimately, we hope the session supports us all in keeping our observation tools from becoming stagnant artifacts, but rather be instruments of change where we can continually reimagine our instructional work and aims in ways that are in service of equitable teaching practices and learning outcomes. *(PK – 12)*

about Maddi Gao

Maddi Gao is a PhD candidate at Portland State University. She is interested in mathematics education, emphasizing the development of teachers who prioritize understanding and students who grasp mathematical concepts and knowledge deeply. Her interest extends to integrating social justice into the curriculum, ensuring that education is equitable and inclusive, and fostering a learning environment where every student can succeed.

CONCURRENT 4

Reimagining How Teachers Work Together: Co-Learning about Equity through Co-Noticing Student Participation
Leading session with Melinda Knapp, Torrey Kulow, and Imani Goffney

This session highlights a collaborative protocol that supports teachers to co-learn about and implement equitable math instruction. Developed through an NSF grant and refined over a multi-year research project, the protocol facilitates co-planning, co-noticing, collaborative in-the-moment decision making, and co-debriefing of lessons focused on centering diverse students' mathematical contributions. This protocol aims to restructure teachers' shared work in ways that promote reciprocal learning rather than unidirectional "feedback". The guiding questions embedded within the protocol support teachers to unpack their assumptions about student participation to broaden what is viewed as mathematically meaningful. Shared implementation prompts joint inquiry into how students are included or excluded inside of mathematics classrooms and pushes teachers to leverage assets from those most marginalized within classrooms. The iterative cycles of collaborative noticing support teachers in questioning their own biases and expectations related to student participation. By making participation patterns visible and then responding in real-time, the goal is to reimagine collaboration and to amplify the often-unnoticed brilliance of marginalized students. Implementation of the protocol across schools has provided key insights into features of its use that have enhanced equity-focused teacher co-learning. During this session, examples of protocol use will be shared, including video examples, and attendees will have the opportunity to consider the ways they might use the protocol. They will be given time to plan one action they can take in their own contexts to support co-learning between educators (teachers, coaches, administrators) focused on disrupting inequitable student participation. *(PK – 12)*

about Imani Goffney

Imani Goffney is an assistant professor of Mathematics Education at University of Maryland- College Park. Her research focuses on mathematics instruction and on interventions designed to improve its quality and effectiveness, especially for students not traditionally served well by our educational system. She is an integral member of the EF+Math Program community, participating on five Research and Development teams, one of which she is a co-principal investigator.

CONCURRENT 4

Reimagining how Teachers Work Together: Co-Learning about Equity through Co-Noticing Student Participation
Leading Session with, Melinda Knapp, Torrey Kulow and Maddi Gao

This session highlights a collaborative protocol that supports teachers to co-learn about and implement equitable math instruction. Developed through an NSF grant and refined over a multi-year research project, the protocol facilitates co-planning, co-noticing, collaborative in-the-moment decision making, and co-debriefing of lessons focused on centering diverse students' mathematical contributions. This protocol aims to restructure teachers' shared work in ways that promote reciprocal learning rather than unidirectional "feedback". The guiding questions embedded within the protocol support teachers to unpack their assumptions about student participation to broaden what is viewed as mathematically meaningful. Shared implementation prompts joint inquiry into how

students are included or excluded inside of mathematics classrooms and pushes teachers to leverage assets from those most marginalized within classrooms. The iterative cycles of collaborative noticing support teachers in questioning their own biases and expectations related to student participation. By making participation patterns visible and then responding in real-time, the goal is to reimagine collaboration and to amplify the often-unnoticed brilliance of marginalized students. Implementation of the protocol across schools has provided key insights into features of its use that have enhanced equity-focused teacher co-learning. During this session, examples of protocol use will be shared, including video examples, and attendees will have the opportunity to consider the ways they might use the protocol. They will be given time to plan one action they can take in their own contexts to support co-learning between educators (teachers, coaches, administrators) focused on disrupting inequitable student participation. *(PK – 12)*

about Jennifer Hagman

Jenn Hagman serves as Associate Director of Secondary Math Programs at UCLA, Center X since February of 2020. UCLA Mathematics Project (UCLAMP) is part of a statewide program that strives to positively impact TK-12 educators, students, communities and school districts in the Los Angeles basin. Jenn is passionate about engaging learners of all ages to see the relevance of mathematics in their lives.

CONCURRENT 2 AND 4

In the Moment Moves: Equity, Math Identity and Student Thinking
Leading session with Kristine Ho

This session positions student thinking as a vehicle for change. We will take time to explore, reflect and develop mathematical identities, what they are, their power and impact on teaching and learning all while highlighting ways to develop strong math identities with students and teachers. We will share our journey partnering with a large urban district where we bring elementary and secondary educators together to develop positive math identities. In exploring this multi year partnership, we will highlight the unique spaces of collaboration, exploration and growth. During our time together we will develop our skills with listening, sense-making and becoming more strategic with student thinking. We will investigate and connect mathematics 4th through Alg 1, investigate and refine teaching and learning practices, and redefine what doing mathematics looks like. *(4 - 9)*

about Ruth Heaton

Ruth Heaton has been the Chief Executive Officer (CEO) of Teachers Development Group (TDG) since August 2017. TDG is a nonprofit provider of mathematics professional learning for PK-12 teachers and leaders nationwide. TDG has as its mission to improve students' mathematical understanding and achievement, particularly for students who have not been well served by educational systems. Ruth and her TDG colleagues collaborate with districts, educational service units, universities, and various public and private funding agencies to design,

provide, and study math professional learning nationwide. TDG is currently serving teachers and leaders in approximately 12 states and 40 school districts and engaging in 5 externally funded grant awards from federal and private foundation fundings sources. Through these grants, TDG works in partnership with colleagues from 6 universities to support professional learning and conduct research focused on creating and studying practices, routines, and tools in service of equity-oriented math teaching, learning and leading. Ruth holds an affiliated faculty appointment with the Department of Mathematics and Statistics at Portland State University. She was the Gilmartin Professor of Mathematics Education at the University of Nebraska-Lincoln, where she held a faculty appointment for 23 years. In 2016, she received the *Nadine Bezuk Excellence in Service and Leadership Award*, Association of Mathematics Teacher Educators (AMTE).

about Beth Herbel-Eisenmann

Beth Herbel-Eisenmann is a Professor in Teacher Education and Director of the Program in Mathematics Education at Michigan State. She has focused on discourse, positioning, storylines, and power in mathematics classrooms and teacher education and how these might be intentionally engaged to support students' developing identities in humanizing ways, challenge myths about mathematics, and change practices and policies that are oppressive. She uses participatory approaches to support secondary mathematics teachers' action research and youth's participatory action research.

CONCURRENT 3 AND 5

Reimagining Discourses and Myths About The "Smart" Student
Leading session with Sandra Crespo

In this session we focus on the challenge of creating mathematics classrooms where students thrive and develop positive mathematics identities. We connect this challenge to the persistent association of mathematics with "natural intelligence" and with narrow perspectives on how to (and who can) be considered smart. We take a deep dive into the ableist, racialized, and gendered messages that get communicated to students inside and outside mathematics classrooms about who can be "a math person." To do this, we use three lenses — societal, institutional, (a)historical— to unpack common messages people, media, and schools convey (and continue to repeat) about what it means to be smart in mathematics. We explore and call out the damaging and oppressive discourses associated with these assumptions. We draw particular attention to the ways competition and hierarchy underlie current myths about smartness in education and mathematics education, and we look to the ways they are embedded in (a)historical and societal myths/discourses. All throughout the session, we will invite participants to reflect on classroom and school practices and policies that are steeped in damaging myths and discourses about what it means to be smart in math and together work to reconceptualize and reimagine different messages we want to convey to our students about what it means to be "good at math" and the qualities we want to associate with "being a math person." We conclude with suggestions for countering damaging discourses and myths and ways to move towards more humanizing and inclusive views of what it means to be smart. Attendees will have the opportunity to identify ways these myths about smartness are instantiated in their own practice and school/state policies. They will also spend time creating goals and actions to disrupt or change underlying myths about smartness in their own educational context. *(PK – 12)*

about Kristine Ho

Kristine Ho serves as Director of Math Programs at UCLA, Center X, since June of 2017. UCLA Mathematics Project (UCLAMP) is part of a statewide program that strives to positively impact TK-12 educators, students, communities and school districts in the Los Angeles basin. We partner with these entities to provide rich and transformative Mathematical experiences in urban schools. UCLAMP has developed programs that help prepare equity-focused, reflective, and responsive leaders in Mathematics.

CONCURRENT 2 AND 4

In the Moment Moves: Equity, Math Identity and Student Thinking
Leading session Jennifer Hagman

This session positions student thinking as a vehicle for change. We will take time to explore, reflect and develop mathematical identities, what they are, their power and impact on teaching and learning all while highlighting ways to develop strong math identities with students and teachers. We will share our journey partnering with a large urban district where we bring elementary and secondary educators together to develop positive math identities. In exploring this multi-year partnership, we will highlight the unique spaces of collaboration, exploration and growth. During our time together we will develop our skills with listening, sense-making and becoming more strategic with student thinking. We will investigate and connect mathematics 4th through Alg 1, investigate and refine teaching and learning practices, and redefine what doing mathematics looks like. *(4 - 9)*

about Amanda (Mandy) Jansen

Amanda (Mandy) Jansen is a Professor in the mathematics education program in the School of Education at the University of Delaware. She has a joint appointment at UD's Department of Mathematical Sciences. Mandy was formerly a middle school mathematics teacher. She earned her PhD in educational psychology from Michigan State University. She has written two books: *Rough Draft Math: Revising to Learn* (published by Routledge / Stenhouse) and *Motivation Matters and Interest Counts* (published by NCTM).

CONCURRENT 2 AND 5

Equitable Assessment in Secondary Mathematics Classrooms: Examples from Middle School and High School Classrooms that Implement Rough Draft Math

We will elicit and revise our thinking about equitable assessment practices in secondary mathematics classrooms. After exploring our incoming ideas about equitable assessment, individually and in small groups, we will learn about two teachers' efforts to change their assessment practices to be more equitable (one at the middle school level and one at the high school level). Examples come from teachers who have aligned their assessment practices in their classrooms with their visions of learning mathematics through drafting and revising. Participants will have

opportunities to collectively build visions for more equitable assessment practices in secondary mathematics classrooms. Participants will be introduced to a framework for equitable assessment practices (c.f., Shepard, 2021) and have opportunities to critique the framework by suggesting revisions to it OR to revise their own visions for equitable assessment in light of the framework. *(6 - 12)*

about Jamelie Johns

Jamelie Johns is the Principal at Normal Park Museum Magnet, a PreK-8 school in Chattanooga, TN. During her 21 years in education, she has served as an elementary teacher, math coach, elementary math and science director, and as a school administrator. Jamelie has worked on numerous state-level committees supporting math instruction, standards, professional learning, and assessment. Much of her work centers on development of and feedback to teachers, coaches, and leaders.

CONCURRENT 3 AND 6

Unintended Consequences: The Implications of Leadership Practices on Equitable Learning Experiences and Student Agency
Leading session with Jamie Parris

The teacher actions we use daily send powerful messages to our students about their identities as learners. As leaders, our voices and actions have a profound influence on developing and supporting teacher actions that either increase student agency and access or create dependence and perpetuate inequities. Hamilton County Schools in Chattanooga, TN, has been working to build systems and structures that equip leaders to identify and disrupt instructional practices that may lead to inequitable learning outcomes. Come alongside us to investigate some of the common teaching and leadership moves we make and the intentional and unintentional messages those moves may send to our students and teachers. We will also share our ongoing journey and findings from both district and building-level perspectives. *(PK – 12)*

about Sarah Jones

Sarah Jones is a math and science education PhD student at Oregon State University. She has a master's degree in mathematics also from OSU. Sarah loves teaching undergraduate mathematics, and her research interests include understanding how teaching practices may foster or inhibit students' sense of belonging in the classroom and transforming mathematics learning spaces by attending to issues of identity, power, and positionality.

CONCURRENT 5

Noticing and Reimagining Mathematics Stories in Community
Leading session with Frances Lopez, Kathryn Roman, Lauren Rigby, and Rebekah Elliott

In this session, participants will represent and share mathematics stories to explore how histories, culture, and events shape stories, how our stories are shaped by normalized perspectives of students, math, and learning, and how we might reimagine what our stories entail to envision antibias mathematics education. Collectively, we will consider how noticing, wondering, feeling, acting, and reimagining help us build a critical perspective to unpack our math stories. Facilitators, collaborators on a current NSF grant, will use the discussion as a springboard to reimagine math stories for students, teachers, ourselves, and the future. We will also reimagine what actions participants are willing to commit to in order to rewrite math stories. *(PK - 12)*

about Melinda Knapp

Melinda Knapp is an Assistant Professor at Oregon State University-Cascades, her research documents how teachers' vision of equitable and ambitious mathematics instruction evolves through professional development situated within institutional contexts, identifying experiences that effectively cultivate teaching practices that increase student learning.

CONCURRENT 4

Reimagining how Teachers Work Together: Co-Learning about Equity through Co-Noticing Student Participation
Leading session with Torrey Kulow, Maddi Gao, and Imani Goffney

This session highlights a collaborative protocol that supports teachers to co-learn about and implement equitable math instruction. Developed through an NSF grant and refined over a multi-year research project, the protocol facilitates co-planning, co-noticing, collaborative in-the-moment decision making, and co-debriefing of lessons focused on centering diverse students' mathematical contributions. This protocol aims to restructure teachers' shared work in ways that promote reciprocal learning rather than unidirectional "feedback". The guiding questions embedded within the protocol support teachers to unpack their assumptions about student participation to broaden what is viewed as mathematically meaningful. Shared implementation prompts joint inquiry into how students are included or excluded inside of mathematics classrooms and pushes teachers to leverage assets from those most marginalized within classrooms. The iterative cycles of collaborative noticing support teachers in questioning their own biases and expectations related to student participation. By making participation patterns visible and then responding in real-time, the goal is to reimagine collaboration and to amplify the often-unnoticed brilliance of marginalized students. Implementation of the protocol across schools has provided key insights into features of its use that have enhanced equity-focused teacher co-learning. During this session, examples of protocol use will be shared, including video examples, and attendees will have the opportunity to consider the ways they might use the protocol. They will be given time to plan one action they can take in their own contexts to support co-learning between educators (teachers, coaches, administrators) focused on disrupting inequitable student participation. *(PK – 12)*

about Torrey Kulow

Torrey Kulow is an Associate Professor at Portland State University. Her work focuses on understanding how to support teachers in co-learning equity-oriented instruction in the clinical experience as well as supporting teachers in teaching mathematics for social justice.

CONCURRENT 4

Reimagining how Teachers Work Together: Co-Learning about Equity through Co-Noticing Student Participation
Leading session with Melinda Knapp, Maddi Gao, and Imani Goffney

This session highlights a collaborative protocol that supports teachers to co-learn about and implement equitable math instruction. Developed through an NSF grant and refined over a multi-year research project, the protocol facilitates co-planning, co-noticing, collaborative in-the-moment decision making, and co-debriefing of lessons focused on centering diverse students' mathematical contributions. This protocol aims to restructure teachers' shared work in ways that promote reciprocal learning rather than unidirectional "feedback". The guiding questions embedded within the protocol support teachers to unpack their assumptions about student participation to broaden what is viewed as mathematically meaningful. Shared implementation prompts joint inquiry into how students are included or excluded inside of mathematics classrooms and pushes teachers to leverage assets from those most marginalized within classrooms. The iterative cycles of collaborative noticing support teachers in questioning their own biases and expectations related to student participation. By making participation patterns visible and then responding in real-time, the goal is to reimagine collaboration and to amplify the often-unnoticed brilliance of marginalized students. Implementation of the protocol across schools has provided key insights into features of its use that have enhanced equity-focused teacher co-learning. During this session, examples of protocol use will be shared, including video examples, and attendees will have the opportunity to consider the ways they might use the protocol. They will be given time to plan one action they can take in their own contexts to support co-learning between educators (teachers, coaches, administrators) focused on disrupting inequitable student participation. *(PK – 12)*

about Deborah Loewenberg Ball

Deborah Loewenberg Ball is the William H. Payne Collegiate Professor at the University of Michigan and the director of TeachingWorks. She is an experienced elementary teacher and continues to teach children every summer. Ball's research focuses on the practice of teaching, using elementary mathematics as a critical context for investigating the challenges of helping children develop understanding and agency and to work collectively, and on leveraging the power of teaching to advance justice. Deborah is also a TDG board member.

CONCURRENT 4 AND 5

Using Discretionary Spaces in Teaching and Leadership to Advance Students' Mathematical Flourishing

This session will engage participants in experiencing firsthand the concept of "discretionary spaces" in teaching (Ball, 2018), the ways that these are portals for the reproduction of institutionalized patterns of racism, and the potential power of this concept to confront and disrupt normalized practice embedded in white supremacy. The concept of "discretionary spaces" draws on research on policy enactment (e.g., Lipsky, 1980) and on the sociology of teaching (e.g., Lortie,1975). As theory, the concept contributes critical perspective on the power of teaching, power that can be deeply harmful or liberating. However, the concept is also method. As method, it affords a pathway for confronting the systemic racism embedded in teaching, for disrupting habitual practice, and for supporting the development of alternative practice. This session has been designed to take participants actively inside the concept of a "discretionary space," to learn concrete ways to notice and wonder about these spaces and what often fills them, and to explore how, through deliberate action, they can function in the service of equitable practice and advancing justice. *(PK – 12)*

about Frances Lopez

Frances Lopez is a Ph.D candidate at The University of Texas at Austin in the department of Curriculum and Instruction; their research interests center the experiences of elementary bilingual teacher candidates as they use their agency to develop their teaching practices across face to face, hybrid, virtual, and anonymous spaces. Frances has served as an assistant instructor, teaching assistant, and field supervisor across departments; however, their passion is in teaching child development courses.

CONCURRENT 5

Noticing and Reimagining Mathematics Stories in Community
Leading session with Kathryn Roman, Lauren Rigby, Rebekah Elliott, and Sarah Jones

In this session, participants will represent and share mathematics stories to explore how histories, culture, and events shape stories, how our stories are shaped by normalized perspectives of students, math, and learning, and how we might reimagine what our stories entail to envision antibias mathematics education. Collectively, we will consider how noticing, wondering, feeling, acting, and reimagining help us build a critical perspective to unpack our math stories. Facilitators, collaborators on a current NSF grant, will use the discussion as a springboard to reimagine math stories for students, teachers, ourselves, and the future. We will also reimagine what actions participants are willing to commit to in order to rewrite math stories. *(PK - 12)*

about Kate Melhuish

Kate Melhuish is an Associate Professor in the Mathematics Department at Texas State University. They have collaborated with TDG for over a decade building a reflexive relationship between research and practice. Their primary interests are the development of strong tools and measures, and thinking about how mathematics classrooms can be more inclusive. Their work has spanned elementary to the postsecondary level.

CONCURRENT 3

Reimagining How We Collect and Use Data on Math Habits, Routines and Actions in Service of Equitable Instruction
Leading Session with Julie Fredericks, and Melissa Plummer

The Math Habits, Routines, and Action Tool used by Teachers Development Group was developed as a product of multiple NSF grants to support classroom observation and formative feedback for teachers and leaders. The initial focus was on engaging students in productive mathematics through habits of mind and habits of interaction. Through its decade long history, the tool has been reimagined to support practitioners, researchers, and a multitude of foci in service of equity-oriented mathematics instruction. In this session, we will use both a paper and app version of the tool (currently available in the Apple Store for use on an iPad). We will watch classroom video clips and examine shared data collected with the tool. We will also consider what the tool does and does not capture, what emotions the data collected can surface, and how we can use those emotions to both reimagine how we work with the tool and the data it generates and actions we can take in the future to promote equitable math teaching and learning. Throughout the session, we will share key learnings from our decade long journey creating, using, studying, and revising the tool. We suggest it is not just the content in a tool, but its usage that determines how we improve our practice in ways that lead to more equitable outcomes for students, especially students who have been historically underserved. Ultimately, we hope the session supports us all in keeping our observation tools from becoming stagnant artifacts, but rather be instruments of change where we can continually reimagine our instructional work and aims in ways that are in service of equitable teaching practices and learning outcomes. *(PK – 12)*

about Alesia Moldavan

Alesia Moldovan is an Assistant Professor of Mathematics and Science Education at Georgia Southern University. Before receiving her Ph.D., she taught high school mathematics and was an elementary STEM enrichment program instructor. Her research interests include equity and asset-based teaching practices that promote cultural awareness, inclusion, and justice-oriented advocacy. Her work in teacher preparation and in-service professional development leverages culturally responsive pedagogy to cultivate mathematical identities and agency while challenging social injustices.

CONCURRENT 2 AND 3

Elevating Equitable Elementary Mathematics Teaching with Social Justice Children's Book Connections

Elementary classrooms provide some of the first experiences for students to explore mathematics as a tool to understand the world around them. In this interactive session, participants will look at ways PreK-5th grade teachers can invite rich discussions and problem-solving scenarios into mathematics lessons using social justice children's book connections to examine inequities and elevate equitable mathematics teaching. Social justice in elementary school often focuses on creating equitable spaces for all children to explore themselves and others in their communities in thoughtful and compassionate ways. Ideas around gender, race, culture, ability, sexuality, and environment can help children learn about each other while providing insights into how these ideas intersect and interact. Children's books can be used as entry points for facilitating social justice conversations and how mathematics can help critique privilege and marginalization. This session explores the research on teaching mathematics for social justice in elementary classrooms and how children's books can elevate social justice mathematics lessons to address concepts of identity, diversity, justice, and action. Participants will look at example social justice mathematics lessons referencing children's books and brainstorm noticings, wondering, and feelings derived from the hands-on learning engagement and sample student work. Planning prompts and examples of children's books will also be shared so teachers, administrators, coaches, and other instructional leaders can begin collaboratively creating social justice mathematics lessons for their contexts. Learning outcomes include developing cultural competence and critical consciousness in justice-oriented understandings to improve pedagogical practice and students' scaffold supports to critique social inequities. *(PK – 5)*

about Marrielle Myers

Marrielle Myers is an associate professor of elementary mathematics education. Marrielle enjoys supporting K-5 teachers and leaders' work towards teaching mathematics for social justice, developing the political knowledge needed to dismantle systemic racism, and navigating systemic obstacles that impede teaching mathematics for liberation. Prior to her career in higher ed, she taught and supported K-12 mathematics teachers in North Carolina. Marrielle is also a TDG board member.

CONCURRENT 1 AND 6

Using What We Have to Get What We Want: Teaching Elementary Mathematics for Social Justice While Facing Curricular Constraints

We are seeing increased calls to teach mathematics for social justice, center the voices of historically marginalized learners, honor the multiple languages and modes of communication in our classrooms, and use mathematics as a tool for liberation and humanity. And while many mathematics teachers and leaders are ready to move in this direction, we are faced with the challenges of strict pacing guides, heavily scripted mathematics curriculum, high-stakes testing, book bans, and other political rhetoric. In this workshop style session, participants will examine their current curriculum and school policies using a notice and wonder protocol. We will then look at various resources (e.g., culturally relevant children's books, social justice standards, existing justice-focused lesson plans) and think about how to build bridges between school/district mandates and age-appropriate social justice math lessons. Examples in this session are drawn from K-5 mathematics content and classrooms. Resources will be provided. *(K – 5)*

about Jamie Parris

Jamie Parris is the Director of High School Teaching and Learning for Hamilton County Schools in Chattanooga, TN. During his 30 years in education, he has served as a secondary math teacher, district-level math coach, secondary math/science supervisor, and adjunct professor. Jamie has worked on numerous state and national committees supporting math instruction, standards, professional learning, and assessment. Much of his work centers on instructional coaching, leadership development, and feedback delivery.

CONCURRENT 3 AND 6

Unintended Consequences: The Implications of Leadership Practices on Equitable Learning Experiences and Student Agency
Leading session with Jamelie Johns

The teacher actions we use daily send powerful messages to our students about their identities as learners. As leaders, our voices and actions have a profound influence on developing and supporting teacher actions that either increase student agency and access or create dependence and perpetuate inequities. Hamilton County Schools in Chattanooga, TN, has been working to build systems and structures that equip leaders to identify and disrupt instructional practices that may lead to inequitable learning outcomes. Come alongside us to investigate some of the common teaching and leadership moves we make and the intentional and unintentional messages those moves may send to our students and teachers. We will also share our ongoing journey and findings from both district and building-level perspectives. *(PK – 12)*

about Melissa Plummer

Melissa Plummer is a Math Professional Learning Specialist for Teachers Development Group**.** She has grown up and spent her career as a PK-5 educator in rural counties of the Pacific Northwest. She lives about 3 hours south of Portland in Roseburg, Oregon. In her work with teachers and leaders, she focuses them on learning to notice and become curious about students' mathematical thinking and responding to their ideas with intention and attention to students on the margins. She is interested in how young mathematicians use and express Math Habits of Mind and Interaction.

CONCURRENT 3

Reimagining How We Collect and Use Data on Math Habits, Routines and Actions in Service of Equitable Instruction
Leading session with Julie Fredericks, and Kate Melhuish

The Math Habits, Routines, and Action Tool used by Teachers Development Group was developed as a product of multiple NSF grants to support classroom observation and formative feedback for teachers and leaders. The initial focus was on engaging students in productive mathematics through habits of mind and habits of interaction. Through its decade long history, the tool has been reimagined to support practitioners, researchers, and a multitude of foci in service of equity-oriented mathematics instruction. In this session, we will use both a paper and app version of the tool (currently available in the Apple Store for use on an iPad). We will watch classroom video clips and examine shared data collected with the tool. We will also consider what the tool does and does not capture, what emotions the data collected can surface, and how we can use those emotions to both reimagine how we work with the tool and the data it generates and actions we can take in the future to promote equitable math teaching and learning. Throughout the session, we will share key learnings from our decade long journey creating, using, studying, and revising the tool. We suggest it is not just the content in a tool, but its usage that determines how we improve our practice in ways that lead to more equitable outcomes for students, especially students who have been historically underserved. Ultimately, we hope the session supports us all in keeping our observation tools from becoming stagnant artifacts, but rather be instruments of change where we can continually reimagine our instructional work and aims in ways that are in service of equitable teaching practices and learning outcomes. *(PK – 12)*

about Kathryn Roman

Kathryn Roman is a math education Ph.D. student at Portland State University interested in supporting teachers as they integrate teaching math for social justice in their classrooms and understanding how community is built. She used to be a high school and middle school math teacher in New Jersey and is currently co-teaching a social justice high school math class with a high school math teacher for her dissertation.

CONCURRENT 5

Noticing and Reimagining Mathematics Stories in Community
Leading session with Frances Lopez, Lauren Rigby, Rebekah Elliott, and Sarah Jones

In this session, participants will represent and share mathematics stories to explore how histories, culture, and events shape stories, how our stories are shaped by normalized perspectives of students, math, and learning, and how we might reimagine what our stories entail to envision antibias mathematics education. Collectively, we will consider how noticing, wondering, feeling, acting, and reimagining help us build a critical perspective to unpack our math stories. Facilitators, collaborators on a current NSF grant, will use the discussion as a springboard to reimagine math stories for students, teachers, ourselves, and the future. We will also reimagine what actions participants are willing to commit to in order to rewrite math stories. *(PK - 12)*

about Lauren Rigby

Lauren Rigby is a STEM Education PhD student at the University of Texas at Austin. Her research interests center around the mathematical conceptual understanding of students with disabilities and increasing access to meaningful mathematics for all students. Prior to UT, Lauren worked as a junior high math teacher for 8 years and received her master's degree in Mathematics Education from Brigham Young University.

CONCURRENT 5

Noticing and Reimagining Mathematics Stories in Community
Leading session with Frances Lopez, Kathryn Roman, Rebekah Elliott, and Sarah Jones

In this session, participants will represent and share mathematics stories to explore how histories, culture, and events shape stories, how our stories are shaped by normalized perspectives of students, math, and learning, and how we might reimagine what our stories entail to envision antibias mathematics education. Collectively, we will consider how noticing, wondering, feeling, acting, and reimagining help us build a critical perspective to unpack our math stories. Facilitators, collaborators on a current NSF grant, will use the discussion as a springboard to reimagine math stories for students, teachers, ourselves, and the future. We will also reimagine what actions participants are willing to commit to in order to rewrite math stories. *(PK - 12)*

about Farshid Safi

Farshid Safi is a K-12 Mathematics Education professor at the University of Central Florida. His research focuses on equitable teaching practices, supporting teachers' conceptual understanding of mathematics, as well as the role of mathematical modeling in professional learning efforts. Farshid is committed to centering students' and teachers' identity in educational spaces. He currently serves as the President-Elect of AMTE and contributes to policy efforts related to equitable teaching practices and intentional technology use in mathematical experiences.

CONCURRENT 3 AND 6

Equitable Teaching Practices and Mathematical Modeling as a Vehicle for Focusing on Identity and Mathematics

Students' ability to use mathematics in their personal lives should be extended to help prepare them to investigate, understand, and critique the world around them. As such, students need opportunities and resources that empower them to explore and engage in sense making with mathematics so they can move beyond merely doing mathematical calculations and move intentionally toward putting mathematics into action and decision-making. Mathematics can and should be used as a tool to provide a better understanding of our roles as members of an informed democratic society. Engaging students through equitable teaching practices with

mathematical tasks embedded in relevant contexts promotes the development of the political and social literacies greatly needed to confront and push for needed changes. Mathematical modeling is both a tool and a process for teachers to engage students in such authentic experiences. Modeling processes enable both teachers and students to identify, interpret, evaluate, and critique the mathematics embedded in social and political systems. In many traditional problem-solving situations, the goal is to find a particular solution to a particular context. However, by engaging in modeling activities through equitable teaching practices, the goal can be to focus on the complex intersectional factors that impact students and community members to further analyze models that help to make sense of messy, authentic, real-world situations. This process supports teachers and students in identifying, interpreting, evaluating, and critiquing the mathematics embedded in the social and political systems affecting their daily lives. Attendees will have the opportunity to engage in a brief mathematical modeling activity, connect mathematical modeling to equitable teaching practice, consider implications for students and teacher engagement, and plan next steps in advocacy and reimagining. *(6 – 12)*

about Erin Smith

Erin Smith is an assistant professor of mathematics education at the University of Nevada Las Vegas. She teaches elementary mathematics methods to pre- and in-service teachers. Her research focuses on facilitating access to rigorous mathematics instruction for multilingual learners and leveraging community spaces to prepare culturally sustaining, community-informed anti-racist mathematics teachers.

CONCURRENT 2 AND 3

Leveraging Opportunities to Position Multilingual Learners for Mathematical Success

In this interactive session, participants will learn about positioning, understand how teachers position students in classroom interactions and the relationship to storylines, and identify ways teachers can enhance their own positioning of multilingual learners to promote mathematical success. Examples from an elementary mathematics classroom will be used to highlight the practices and actions discussed. Resources for teachers will also be provided. *(PK – 5)*

about Esther Song

Esther Song is the advisor for teacher professional development at Nth Education Partners and the co-author of *Disrupting Injustice: Navigating Critical Moments in the Classroom*. She has served as the district mathematics manager for 6-12th grades at Chicago Public Schools, where she also taught high school mathematics. She has also been on the publishing committee for the National Council of Teachers of Mathematics. Her work is centered around rehumanizing classrooms, focusing on student and teacher math identity.

CONCURRENT 1 AND 4

Disrupting Injustice: How Math Teachers Can Take Action

Many mathematics teachers are learning more about social justice philosophy, policy shifts, and curriculum. Still, they don't have examples of how to practice their philosophy in the classroom, particularly when facing resistance. The purpose of this session is to attend to participants' identities, beliefs, and assets so they can move toward authentic action. We will be applying the framework on disrupting microlevel injustice from the book *Disrupting Injustice: Navigating Critical Moments in the Classroom* to ground our learning. In this session, we move away from dehumanizing "copy-paste" models of education reform and toward empowering individuals to enact creative responses with their communities. Participants will learn about practices and actions of math teachers who challenge and disrupt unjust structures perpetuated for historically marginalized students. Additionally, this session offers structures for school leaders, coaches, and administrators to lead this work and professional learning for teacher teams. *(6 – 12)*

about Katie Soto

Katie Soto is a math education leader and secondary instructional coach with over 15 years of experience dedicated to equitable and high-quality mathematics instruction. Her research and advocacy focus on elevating student voice, co-creating grading systems that inspire growth and ownership, and designing policies that foster inclusion.

CONCURRENT 2 AND 4

Centering Student Voice for More Equitable Grading

Equitable grading practices are foundational to creating math learning environments where all students can thrive. However, definitions of "equitable grading" often overlook a key perspective—that of the students themselves. This session will explore equitable grading in secondary mathematics through a unique lens: outputs from a Youth Participatory Action Research (YPAR) study examining equitable grading policies co-developed by high school students. We will use the Notice, Wonder, Feel, Act, and Reimagine framework to reflect on study insights, consider emotions evoked, and brainstorm actionable changes we can make to grading approaches to better reflect principles of equity, access, and empowerment for marginalized youth. Participants will leave with research-based, student-centered insights into equitable grading, as well as concrete tools to reimagine grading in their settings to advance justice and nurture all students' mathematical identities. *(6 – 12)*

about John Staley

John Staley has contributed to math education as a secondary mathematics teacher, adjunct professor, school system and national leader, author, advisor, and consultant for more than 35 years. He's a former NCSM president, chaired the U.S. National Commission on Mathematics Instruction, and co-founded Math Milestones. He is a coauthor for *Middle School (2023) and High School (2022) School Mathematics Lessons to Explore, Understand, and Respond to Social Injustice* (Corwin/NCTM), *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* (NCTM), and *Framework for Leadership in Mathematics Education* (NCSM). John's current passion and work focuses on projects that involve "Changing the Narrative" about who is seen as being doers, learners, and teachers of mathematics, especially for African American boys and men; student readiness for Algebra and success during the transition years; and building mathematics education leaders at all levels.

PLENARY A

Becoming an Equity Focused Mathematics Educator

Becoming an equity-focused mathematics educator begins with us first reimagining how we make mathematics more meaningful, relevant, and accessible for each and every student. This will require that we disrupt and dismantle systems, structures, policies, and practices that historically marginalized students have experienced in the mathematics classroom. That said, we will know that we are on the right path to achieving equity in mathematics education when it is "no longer possible to predict mathematics achievement and participation based solely on student characteristics such as race, class, ethnicity, sex, beliefs, and proficiency in the dominant language." [Gutiérrez, Rochelle. "Enabling the Practice of Mathematics Teachers in Context: Toward a New Equity Research Agenda." Mathematical Thinking and Learning 4, n. 2/3 (2020b): 145 – 87.] During this session the Notice, Wonder, Feel, Act, Reimagine (NWFAR) framework is used to invite attendees to reflect (Notice, Wonder, Feel) on the role they play in the mathematics classroom; examine (Notice, Wonder, Feel) their work with learners, instruction, and content; and identify (Act) next steps, where do we begin, and where to focus as they continue their journey. *(PK – 12)*

CONCURRENT 1

Bringing Social Justice to a Mathematics Classroom Near You

In 2017, the Benjamin Banneker Association, Inc. (BBA) released its position statement, *Implementing a Social Justice Curriculum: Practices to Support the Participation and Success of African-American Students in Mathematics* (BBA, 2017). BBA viewed the concept of social justice in the mathematics classroom through the following lens:

- ABOUT social justice: planning a lesson to look at serious or even provocative issues using mathematics.
- WITH social justice: the demeanor of classroom interactions, where the teacher uses various instructional practices that encourage equal participation and status.
- FOR social justice: practices founded on the belief that mathematics is the tool to be used to challenge the status quo, one that is adversely impacted by the lack of social justice.

During this session participants will unpack social justice through the lens to answer the question: How might we use social justice in the mathematics classroom to change the narrative? *(6 – 12)*

about Angela Torres

Angela Torres is a professional learning coordinator for the UC San Diego Mathematics Project and an educational consultant. She served as a content specialist in San Francisco Unified and worked on the team creating and supporting detracked pathways. Torres is a co-author of the book, *A Guide to Detracking Math Courses,* providing big ideas and activities to support others in their detracking journey. Her passion is supporting teachers to see the brilliance in each student.

PLENARY D

Working Towards Equity through Core Values

How can our core values be reflected across our systems? Creating equitable math experiences for every student requires being aligned to core values across our system so that every student thrives in mathematics across their school journey. Educators and leaders must actively work to prevent systemic barriers that exist within mathematics from our classroom practices to professional development to course pathways. Angela, one of the authors from the book, A Guide to Detracking Math Courses, will share her core values and how these connect in creating and supporting a detracked math pathway. Leave considering how you might support change in your context based on your core values. *(PK – 12)*

CONCURRENT 3

Advocate for Systemic Change through School Scheduling

Equitable access for all students begins with strong teacher learning communities centered on collaboration. Join us for an interactive session as we consider how to leverage your site's schedule to promote more collaboration and learning for the secondary teacher learning community in order to support all students. Participants will have time to explore a Site Schedule worksheet from the book, *A Guide to Detracking Math Courses*, and will leave with ideas to advocate for site schedule change in their context. *(6 – 12)*

about Katie Westby

Katie Westby worked in community colleges as a Distance Learning Associate and an instructional Designer, then a special educator and teacher of mathematics at the high school level for 10 years.n She was also an adjunct instructor in mathematics at a community college for one year. She is in a PhD program in mathematics education and will complete that in April 2024. Katie's teaching and research synergistically combine mathematics education, critical special education, and disability studies in education.

CONCURRENT 1 AND 6

Universal Design for Learning – Mathematics and Disability Justice

Have you ever gotten your roster for the upcoming year and realized you have a bunch of students on IEPs and 504s, all for different reasons, and all with different needs and accommodations? In this session, we will reimagine the mathematics classroom to be designed for equitable accessibility and inclusion. We will discuss disability in mathematics teaching and learning as well as Universal Design for Learning (UDL) and UDL-Math. Using the design framework of UDL-Math, we will redesign learning activities, which you can then use when you return to your classrooms. We will also discuss ways to redesign entire mathematics courses to be accessible and engaging to as wide a variety of students as possible. To begin this work, we will briefly discuss how disability itself is conceptualized in education. *(PK – 12)*

about Maria del Rosario Zavala

Maria del Rosario Zavala is a second-born child of Peruvian immigrant parents and the first of her family born in the US. She is an associate professor of Elementary Education at San Francisco State University, specializing in mathematics and bilingual education. Her work in education is informed by multiple years of teaching and volunteering in K-12 classrooms. She is particularly interested in how people, especially from historically marginalized populations, (re)claim their mathematical power.

PLENARY C

Weaving Faith, Power, and Justice into Mathematics Leadership

How does leadership in mathematics education reflect an unequivocal faith in children and their families? How does our leadership cultivate mathematical power in the most marginalized? And finally, how do our commitments to justice show up in our actions? We will grapple with these questions through a metaphor of Mardi Gras, where the colors green, gold, and purple stand for faith, power, and justice. We'll consider how our answers to these questions inform how we move from acknowledging lived realities impacting students and families, towards new visions for mathematics teaching and learning. *(PK – 12)*

CONCURRENT 6

Reimagining Classrooms for Joy and Justice through Culturally Responsive Mathematics Teaching
Leading session with Julia Aguirre

This session is for the teachers, coaches, and educational leaders who know that mathematics classrooms can and should be spaces that embrace joy and justice for students, teachers, and families. Culturally Responsive Mathematics Teaching offers a framework for realizing these commitments. We will engage participants with core concepts and ideas in culturally responsive mathematics teaching, while inviting them to reflect on their own mathematics education contexts. We will share practical tools, activities, and take-aways for participants to try out in their own contexts, and act on their commitments to joy and justice in mathematics classrooms. We invite participants to engage in examination of and reflection on their mathematics teaching contexts, while imagining new possibilities that weave the heart back into mathematics teaching and learning. *(PK – 12)*

2024 Mark Driscoll Memorial Scholarship Winner

Megan Malloy, Chattanooga, TN

about Megan Malloy

Megan Malloy is an Algebra I math teacher and the department chair of mathematics at The Howard School in Chattanooga, TN. She is in her third year of teaching and has spent all three of these years at this school. She works mainly with students who are learning English as a non-primary language. One hundred percent of the students at The Howard School are economically disadvantaged, with a large portion having immigrated from South America in the last three years. Living in the same community as her students, Megan desires to show them that education is a pathway; their cultural and economic minority status does not dictate their success in math.