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## Wednesday Program

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*All sessions and events are located in the Walter E. Washington Convention Center.*

### Session Types:

- Major Sessions
- Regular Sessions
- Extended Sessions

### Ticketed Events:

- Breakfast – Sponsored by America’s Choice (*ticket required*)
- Luncheon – Sponsored by Casio America, Inc. and Houghton Mifflin Harcourt (*ticket required*)

### Special Interest Group Meetings

- AMTE
- BBA
- CLIME
- Lesson Study Networking
- Math Olympiad Contests
- Promising Creative Students
- NASGEM
- PLC’s
- Students with Special Needs in Mathematics
- TODOS
- UMLN
- WME

### Registration

Hall B: 7:30 am – 10:30 am

Use the **Conference Planner** on page 107 to outline your daily schedule.

Wear your NCSM **Conference Name Badge** to gain entrance to sessions, ticketed events, and the sponsor display area.

Follow **Fire Code** standards in Sessions: no standing, no sitting on the floor, no moving of chairs from another room.

## **Program Summary Information for Wednesday, April 22, 2009**

**See page 7 for Conference Strand descriptions.**

## Wednesday Summary

**7:00–7:45:** Session 174, Wednesday Breakfast (ticket required), Phil Daro, Kit Norris, sponsored by America's Choice, Hall B

	140AB	143AB	143C	144A	144B	144C	145A
<b>8:00</b>	<b>Session 193</b> Secondary (9–12), Strand 2 <b>Smith, Arbaugh,</b> <i>Developing Teachers' Capacity to Engage Students in Reasoning and Proving Activities</i>	<b>Session 187</b> Secondary (9–12), Strand 6 <b>Putnam, Britton,</b> <i>Research on New Teacher Induction: Focus on Mathematics</i>	<b>Session 176</b> General, Strand 1 <b>Akwaji-Anderson, Williams,</b> <i>Implementing the PRIME Leadership Framework: Fostering Equity Leadership and Its Three Components</i>	<b>Session 194</b> Secondary (9–12), Strand 7 <b>Pence, Banas, Hutchison, Canzone,</b> <i>Supporting Teachers of Mathematics Grades 6–12 to Increase Retention: Models and Research</i>	<b>Session 188</b> General, Strand 4 <b>Rosowski, Williams, Sanders,</b> <i>How Can All Districts Use High Stakes Assessment Data to Address Instructional Gaps?</i>	<b>Session 186</b> Middle (6–8), Strand 7 <b>Mitchell, Lynch,</b> <i>Using NCTM Journals to Provide Professional Development to Mathematics Learning Communities</i>	<b>Session 185</b> Primary (PK–2), Strand 2 <b>Rimbey,</b> <i>Response to Intervention (RTI) for Teaching Number Concepts and Operations to Struggling K-4 Students</i>
<b>9:00</b>							
<b>9:15</b>							
<b>9:30</b>		<b>Session 204</b> Middle (6–8), Strand 5 <b>Marti, Anderson-Nielsen, Scher, Austin,</b> <i>Mixing Mathematics, Movies, and Moodle</i>	<b>Session 205</b> Middle (6–8), Strand 4 <b>Brown,</b> <i>Supporting Teachers as They Create Diagnostic Assessments and Use Assessment Data for Planning Instruction</i>			<b>Session 206</b> Middle (6–8), Strand 7 <b>Hacker, Burghardt, Hecht,</b> <i>Infusing Mathematics into Science and Technology at the Middle School Level: A Professional Development Model</i>	<b>Session 207</b> Middle (6–8), Strand 3 <b>Wallach, Crenshaw,</b> <i>Professional Learning Communities: Tackling Middle School Mathematics</i>
<b>10:00</b>	<b>Session 209</b> General, Strand 7 <b>Morse,</b> <i>Cultivating a Mathematics Coaching Practice: What Are We Learning by Examining Coach-Authored Accounts of Practice?</i>			<b>Session 210</b> General, Strand 7 <b>Baker, Bartle, Garrison, Lewis,</b> <i>K-8 Math Alliance: Connecting Teacher Content Knowledge with Formative Assessment Strategies to Impact Student Achievement</i>	<b>Session 214</b> Middle (6–8), Strand 2 <b>Friel, Markworth,</b> <i>Exploring a Proposed Framework for Analyzing Geometric Pattern Tasks</i>		
<b>10:15</b>							
<b>10:30</b>		<b>Session 227</b> Secondary (9–12), Strand 6 <b>Monson-Lasswell,</b> <i>Change Leadership in High School Mathematics</i>	<b>Session 218</b> General, Strand 2 <b>Cameron, Iacoviello, Malpani,</b> <i>Hybrid Lead Teacher/Coach Roles: A Model for Developing School-Based Leaders in Mathematics</i>			<b>Session 228</b> Secondary (9–12), Strand 7 <b>Bird, Powell,</b> <i>Mathematics Professional Community</i>	<b>Session 219</b> General, Strand 4 <b>Nelson, Moody, Peterson, NotAfraid,</b> <i>Using Common Assessments as Formative Assessments to Raise Student Achievement Through Grade Level Professional Learning Communities</i>
<b>11:30</b>							

**12:00–2:00:** Session 230, Wednesday Luncheon (ticket required), Anthony Harradine, Timothy Kanold, Diane Briars, Presentation of the Glenn Gilbert National Leadership Award, Hall B

**2:30**

All Wednesday 2:30–4:00 sessions are Special Interest Group meetings.

<b>Session 231</b> Middle (6–8), Math Olympiad Contests <b>Kalman,</b> <i>How Can the Math Olympiad Contests Strengthen Your Program?</i>	<b>Session 232</b> General, UMLN <b>Gartzman, Hull,</b> <i>Urban Mathematics Leadership Network</i>	<b>Session 233</b> General, AMTE <b>Bezuk, Reys,</b> <i>Association of Mathematics Teacher Educators</i>	<b>Session 235</b> General, TODOS <b>Ramirez, Shockey,</b> <i>Equity in Mathematics Education: TODOS</i>
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**4:00**

## Wednesday Summary

**7:00–7:45 A.M.:** Session 174, Wednesday Breakfast (ticket required), Phil Daro, Kit Norris, sponsored by America's Choice, Hall B

	145B	146AB	146C	147A	147B	149AB	150A
<b>8:00</b>	<b>Session 177</b> General, Strand 7 <b>Maples, Sheffield, Herbel-Eisenmann</b> , <i>Professional Development in Other Countries: What Can We Learn?</i>	<b>Session 175: Major</b> General <b>Moursund</b> , <i>Two Brains (Human Plus Computer) Are Better Than One</i>	<b>Session 178</b> General, Strand 3 <b>Fennell</b> , <i>Mathematics Specialists, Teacher Specialists, and Coaches: Where Is This Going? What Do We Know?</i>	<b>Session 179</b> General, Strand 4 <b>Paek</b> , <i>Aligning Mathematics Assessment and Standards: How the Alignment Process Can Help Inform Instructional Practice</i>	<b>Session 180</b> General, Strand 2 <b>Smith</b> , <i>PRIME Time: Strategies for Leadership in the Extended Community</i>	<b>Session 189</b> General, Strand 7 <b>Zbiek, Kepner, Wilson, Charles</b> , <i>Essential Understandings Book Series: Professional Development Tools for Engaging Teachers with Mathematics</i>	<b>Session 181</b> General, Strand 3 <b>Dougherty, Flores</b> , <i>Essential Understandings Book Series: Professional Development Tools for Engaging Teachers with Mathematics, Grades PreK-2</i>
<b>9:00</b>							
<b>9:15</b>	<b>Session 197</b> General, Strand 1	<b>Session 196: Major</b> General	<b>Session 203</b> Intermediate (3–5), Strand 7	<b>Session 198</b> General, Strand 2	<b>Session 199</b> General, Strand 2		<b>Session 200</b> General, Strand 4
<b>9:30</b>	<b>Norris</b> , <i>NCSM Position Papers: Improving Student Achievement Series</i>	<b>Boaler</b> , <i>What Are We Up Against? Experiences of Trying to Bring About Change in the United States and the United Kingdom</i>	<b>Burns</b> , <i>Applying Results from Individual Assessments to Professional Development, Number and Operations, Grades K-6</i>	<b>Allen, Stamm</b> , <i>Partnering Practitioners for Developing Algebraic Thinking</i>	<b>Linnen, Andrews</b> , <i>Sustaining an Administrator Initiative for Observing and Coaching Mathematics Teachers</i>		<b>Carter, Zimmermann</b> , <i>Knowing and Modeling PRIME Assessment Leadership!</i>
<b>10:00</b>							
<b>10:15</b>						<b>Session 216</b> Secondary (9–12), Strand 2	
<b>10:30</b>	<b>Session 229</b> Secondary (9–12), Strand 2	<b>Session 217: Major</b> General	<b>Session 226</b> Middle (6–8), Strand 3	<b>Session 224</b> Intermediate (3–5), Strand 1	<b>Session 220</b> General, Strand 2	<b>Choike, Bois, Diaz</b> , <i>Lessons Learned from a Secondary Professional Development Project on Formative Assessment and Reflection on Classroom Practice</i>	<b>Session 222</b> Intermediate (3–5), Strand 2
	<b>Dietiker</b> , <i>What's the Problem? Professional Development Ideas to Help 9-12 Mathematics Teachers Understand the Importance of Task Design</i>	<b>Civil</b> , <i>Dialogues with Latino Parents: Implications for Leaders in Mathematics Education</i>	<b>Balka</b> , <i>State Standards for Grade 8 Algebra: Who Has the Answer?</i>	<b>Lipka, Rickard, Andrew-Ihrke, Yanez</b> , <i>Sharing Our Success: Lessons from an Alaskan Program</i>	<b>Reys, Bay-Williams</b> , <i>Promoting Leadership in Curriculum and Instruction: What Can NCSM and AMTE Do Together?</i>		<b>Storeygard</b> , <i>Collaboration in Inclusive K-5 Mathematics Classrooms: Special Education and Classroom Teachers Working Together</i>
<b>11:30</b>							

**12:00–2:00:** Session 230, Wednesday Luncheon (ticket required), Anthony Harradine, Timothy Kanold, Diane Briars, Presentation of the Glenn Gilbert National Leadership Award, Hall B

<b>2:30</b>	<b>Session 234</b> General, PLCs <b>Cummins, Toncheff</b> , <i>Creating a Culture that is Intentionally Focused on Three Critical Questions Built Around Professional Learning Communities (PLCs)</i>	All Wednesday 2:30–4:00 sessions are Special Interest Group meetings.	<b>Session 236</b> General, Lesson Study Networking <b>Gorman, Mark, Nikula</b> , <i>Lesson Study Networking: An Opportunity for Practitioners, Researchers, and Leaders to Share Resources, Findings, Questions</i>	<b>Session 237</b> General, Special Needs <b>Brodesky, Gross, Fagan</b> , <i>Improving Mathematics Education for Students with Special Needs</i>	<b>Session 238</b> General, Promising Creative Students <b>Sheffield, Gavin</b> , <i>Nurturing Mathematically Promising and Creative Students</i>
<b>4:00</b>					

## Wednesday Summary

**7:00–7:45:** Session 174, Wednesday Breakfast (ticket required), Phil Daro, Kit Norris, sponsored by America's Choice, Hall B

	150B	151A	151B	152A	152B	154A	154B
8:00	<b>Session 182</b> General, Strand 1 <b>Barta, Hakansson, A</b> <i>Leader's Responsibility: Creating Equitable Solutions for Optimal Mathematical Instructional Access</i>	<b>Session 184</b> General, Strand 7 <b>West, Cameron,</b> <i>Powerful Learning Formats for Coaches and Teacher Leaders</i>	<b>Session 183</b> General, Strand 7 <b>Rieke, Williams, Keith,</b> <i>Our Three-Year Intensive Professional Development Journey: How Did It Go? What Did We Learn? Where Do We Go from Here?</i>	<b>Session 191</b> Middle (6–8), Strand 3 <b>Moyer, Cai, Laughlin, Nie,</b> <i>How Teachers Use Reform and More Traditional Curricula to Teach Algebraic Concepts in Middle School: Insights from a Longitudinal Study</i>	<b>Session 190</b> Intermediate (3–5), Strand 6 <b>Klass, Gawronski, Bezuk,</b> <i>Guiding and Assessing the Development of Mathematics Specialists</i>	<b>Session 192</b> Middle (6–8), Strand 2 <b>Mason, Aerni, Cofer,</b> <i>"Just In Time" Prof. Dev. through Content-Specific On-site Mathematics Courses Augmented by Distance Learning Components and Lesson Study</i>	<b>Session 195</b> Secondary (9–12), Strand 3 <b>Martin, Kader, Kepner, Robinson,</b> <i>NCTM's Focus in High School Mathematics: Reasoning and Sense Making</i>
9:00							
9:15	<b>Session 201</b> General, Strand 7	<b>Session 202</b> General, Strand 2	<b>Session 208</b> Secondary (9–12), Strand 2				
9:30	<b>Murawski, Fierle,</b> <i>Using a Case-Based Model in Planning and Implementing a Professional Development Program</i>	<b>Martin, Day, Schmalzer,</b> <i>The Many Facets of Teacher Improvement</i>	<b>Bradsby,</b> <i>The Leader's Role in Helping Secondary Teachers Implement Intervention Techniques Using Algebra Examples</i>				
10:00				<b>Session 212</b> Intermediate (3–5), Strand 3 <b>Gojak,</b> <i>What's Your Problem?</i>	<b>Session 215</b> Middle (6–8), Strand 2 <b>Seago, Jacobs,</b> <i>Why Similarity? Exploring the Importance of Mathematical Similarity throughout Middle Grades Mathematics by Analyzing Videocases Used to Foster Teacher Learning</i>	<b>Session 213</b> Intermediate (3–5), Strand 5 <b>Laborde, Pence, Laborde,</b> <i>Develop Mathematical Understandings Using Visualization and the New Interactive Cabri Elementary Environment</i>	<b>Session 211</b> General, Strand 3 <b>Goldenberg,</b> <i>What Do Focus, Attention, and Language Learning Have to Do with Problem Solving and Early Algebra?</i>
10:15							
10:30	<b>Session 221</b> General, Strand 4 <b>Berry, Jones,</b> <i>A Proven Process for Using Assessments to Specifically Change Instruction and Immediately Improve Achievement</i>	<b>Session 223</b> Intermediate (3–5), Strand 7 <b>Freeman,</b> <i>Supporting Teachers' English Language Learners in the Mathematics Class</i>	<b>Session 225</b> Intermediate (3–5), Strand 3 <b>Casa, Gavin,</b> <i>Equity and Access for ALL: Strategies for Helping Students Communicate Like Mathematicians</i>				
11:30							

**12:00–2:00:** Session 230, Wednesday Luncheon (ticket required), Anthony Harradine, Timothy Kanold, Diane Briars, Presentation of the Glenn Gilbert National Leadership Award, Hall B

2:30	<b>Session 239</b> General, CLIME <b>Charischak,</b> <i>Technology and Mathematics Integration 2.0: A Tipping Point toward More Significant Mathematics Achievement?</i>	<b>Session 240</b> General, WME <b>Wiest, Werner, Anderson-Nielsen,</b> <i>Supporting and Encouraging Females in Mathematics (Women and Mathematics Education)</i>	<b>Session 241</b> General, NASGEM <b>Silverman, Lipka, Andrew-Ihreke, Yanez,</b> <i>Mathematics in a Cultural Context: Model of Ethnomathematics for Leadership, Instruction, and Curriculum in Mathematics Education for All</i>	<b>Session 242</b> General, BBA <b>Matthews, Leonard,</b> <i>Benjamin Banneker Association (BBA): Envisioning Local Grassroots Movements in Mathematics Education for Black Children</i>
4:00				

All Wednesday 2:30–4:00 sessions are Special Interest Group meetings.

## Wednesday Sessions by Strand

<b>Strand 1. Equity Leadership</b>		
Session	Room	Time
176	143C	8:00–9:00
182	150B	8:00–9:00
197	145B	9:15–10:15
224	147A	10:30–11:30

<b>Strand 2. Teaching and Learning Leadership</b>		
Session	Room	Time
180	147B	8:00–9:00
185	145A	8:00–9:00
192	154A	8:00–9:30
193	140AB	8:00–9:30
198	147A	9:15–10:15
199	147B	9:15–10:15
202	151A	9:15–10:15
208	151B	9:15–10:15
214	144B	10:00–11:30
215	152B	10:00–11:30
216	149AB	10:00–11:30
218	143C	10:30–11:30
220	147B	10:30–11:30
222	150A	10:30–11:30
229	145B	10:30–11:30

<b>Strand 3. Curriculum Leadership</b>		
Session	Room	Time
178	146C	8:00–9:00
181	150A	8:00–9:00
191	152A	8:00–9:30
195	154B	8:00–9:30
207	145A	9:15–10:15
211	154B	10:00–11:30
212	152A	10:00–11:30
225	151B	10:30–11:30
226	146C	10:30–11:30

<b>Strand 4. Assessment Leadership</b>		
Session	Room	Time
179	147A	8:00–9:00
188	144B	8:00–9:30
200	144BC	9:15–10:15
205	143C	9:15–10:15
219	145A	10:30–11:30
221	150B	10:30–11:30

<b>Strand 5. Technology Leadership</b>		
Session	Room	Time
204	143AB	9:15–10:15
213	154A	10:00–11:30

<b>Strand 6. Leadership Connecting Research &amp; Practice</b>		
Session	Room	Time
187	143AB	8:00–9:00
190	152B	8:00–9:30
227	143AB	10:30–11:30

<b>Strand 7. Leading with Professional Learning</b>		
Session	Room	Time
177	145B	8:00–9:00
183	151B	8:00–9:00
184	151A	8:00–9:00
186	144C	8:00–9:00
189	149AB	8:00–9:30
194	144A	8:00–9:30
201	150B	9:15–10:15
203	146C	9:15–10:15
206	144C	9:15–10:15
209	140AB	10:00–11:30
210	144A	10:00–11:30
223	151A	10:30–11:30
228	144C	10:30–11:30



## Wednesday Breakfast

Session 174

Sponsored by America's Choice

Hall B

7:00 – 7:45 AM (ticket required)

America's Choice's has researched the highest performing education systems in the world to create a set of internationally-benchmarked solutions tailored to American schools. The company's comprehensive designs and instructional systems for mathematics and literacy have been implemented in more than a thousand schools across the country, helping over a million students reach higher standards.

Visit America's Choice at Booth # 11 or at [www.Americaschoice.org](http://www.Americaschoice.org).

### From Policy to Practice: Implementing "Response to Intervention" and "Differentiated Instruction"

**Phil Daro**, America's Choice, San Francisco, California

From coast to coast, from elementary to secondary, the calls for Response to Intervention (RtI) and Differentiated Instruction are ringing in district offices and schools. Join us for a discussion that will answer the questions math leaders are grappling with as they implement these initiatives:

- How should a school or district approach RtI for mathematics?
- What does differentiated instruction mean in a mathematics classroom?
- How do RtI and differentiated instruction work together?
- What solutions are available today that can support these efforts?

**Phil Daro**, a Senior Fellow at America's Choice, guides their math interventions and consults with states and districts on their accountability systems and programs.

Daro has served as the Director of the California Mathematics Project and the New Standards Project. He has held leadership positions in mathematics curriculum development,

assessment, and professional development groups, including the following: Strategic Education Research Partnership (SERP), the California Department of Education, National Assessment of Educational Progress (NAEP) Validity Committee, RAND Mathematics Education Research Panel, ACHIEVE Mathematics Work Group, the Title 1 Commission organized by the Council of Chief State School Officers, and the Mathematical Sciences Education Board of the National Research Council.



Turn in event admission tickets you do not plan to use at the Registration Desk or near room 151.

### National Conversations Focused on Improving Student Achievement

**Kit Norris**, NCSM Position Papers Editor, Southborough, MA



This is an opportunity to recognize the significant contributions of those who have worked on the development of the NCSM Position Paper series *Improving Student Achievement* over the past few years. Recently released Position Papers include:

- *Improving Student Achievement by Leading Effective and Collaborative Teams of Mathematics Teachers* (Fall 2007)
- *Improving Student Achievement by Leading Sustained Professional Learning for Mathematics Content and Pedagogical Knowledge Development* (Fall 2007)
- *Improving Student Achievement by Leading the Pursuit of a Vision for Equity* (Spring 2008)
- *Improving Student Achievement in Mathematics for Students with Special Needs* (Fall, 2008)
- *Improving Student Achievement by Leading Highly Effective Assessment Practices* (Spring, 2009)

#### Primary Contributors

Alfinio Flores	Alice Krueger
Linda Fulmore	Steve Leinwand
Fred Gross	Suzanne Mitchell
Tim Kanold	Kit Norris
Grace Kelemanik	Janie Zimmer

#### Critical Friends/Reviewers

Jim Barta	Kay Gilliland
Robert Berry	Roberta Girardi
Diane Briars	Carol Greenes
Randy Charles	Rochelle Gutierrez
Grace Coates	Donna Karsten
Ralph Connelly	Henry Kepner
Jim Conrey	Lena Licon Khisty
Terry Coes	Jay Miller
Marda Cotton-Ramey	Gloria Moran
Jerry Cummins	Judit Moschkovich
Linda Dacey	Sara Munshin
Arlene Dowshen	Ileene Paul
Mark Driscoll	Cathy Seeley
José Franco	Tod Shockey
Shirley Frye	John Sutton



## Wednesday 8:00–9:00

### Session 175: Major Session

**General** **146AB**

#### **Two Brains (Human Plus Computer) Are Better Than One**

**David Moursund**, University of Oregon College of Education, Eugene, Oregon

This presentation explores the computer-related mathematics education challenges. It covers a number of ideas of things we can (and probably should) be doing now throughout our mathematics education system. The emphasis is on students learning to work effectively in a “two types of brain” environment.

*Presider:* Kay Gilliland, NCSM Past President, Oakland, CA



**David Moursund** is a mathematics and computer educator. He founded the International Society for Technology in Education in 1979 and ran it for 19 years. He has served on the Board of the Math Learning Center since its inception in 1976. He has authored or co-authored more than 50 books. He has been the major professor or co-major professor of more than 75 doctoral students.

Moursund’s recent work is being done through Information Age Education, a non-profit group. It has a goal of improving education at all levels and throughout the world. It currently provides a large amount of free resources through two websites and a newsletter. An overview of some of Moursund’s recent math education work is available at

[http://iaeopedia.org/Math\\_Education\\_Digital\\_Filing\\_Cabinet](http://iaeopedia.org/Math_Education_Digital_Filing_Cabinet).

Twenty-six of his books are available free on the Web at [http://iae-pedia.org/Free\\_Books\\_by\\_David\\_Moursund](http://iae-pedia.org/Free_Books_by_David_Moursund).

### Session 176

**General** **Strand 1** **143C**

#### **Implementing the PRIME Leadership Framework: Fostering Equity Leadership and Its Three Components**

We will share how leaders can address the achievement gap in mathematics of conventionally underrepresented populations through creating an effective equity plan that will address significant and meaningful learning experiences for ALL, as well as how to create a culture of accountability through addressing biases.

**Comfort Akwaji-Anderson**, Iowa City Community School District, Iowa City, IA

**Julie Williams**, Fremont Unified School District, Fremont, CA

### Session 177

**General** **Strand 7** **145B**

#### **Professional Development in Other Countries: What Can We Learn?**

How are mathematics teachers prepared and supported in other countries? Practices such as Japanese lesson study are familiar, but what else can we learn from international communities that might be useful for supervisors?

Discussion will focus on the professional development strand at the International Congress on Mathematics Education (ICME) 11.

**Linda Maples**, Earle School District, Earle, AZ

**Linda Sheffield**, Northern Kentucky University - Emeritus, Highland Heights, KY

**Beth Herbel-Eisenmann**, Michigan State University, East Lansing, MI

### Session 178

**General** **Strand 3** **146C**

#### **Mathematics Specialists, Teacher Specialists, and Coaches: Where Is This Going? What Do We Know?**

There is a growing interest in mathematics specialists. Who are they? What do they do? What do we know about their successes and challenges? This session will update this national initiative and provide suggestions for next steps—including recommendations from the National Mathematics Advisory Panel report.

**Francis (Skip) Fennell**, McDaniel College; NCTM Past President, Westminster, MD

### Session 179

**General** **Strand 4** **147A**

#### **Aligning Mathematics Assessment and Standards: How the Alignment Process Can Help Inform Instructional Practice**

This session discusses how understanding the process of aligning mathematics assessment with states’ academic content and performance standards can contribute to effective change in teaching practices. Participants will learn about and engage in an abbreviated alignment process and discuss how this process may improve mathematics instruction.

**Pamela Paek**, Center for Assessment, Austin, TX

### Session 180

**General** **Strand 2** **147B**

#### **PRIME Time: Strategies for Leadership in the Extended Community**

PRIME leaders are charged with winning support for equity, teaching and learning, and curriculum and assessment policies in their districts. Learn to network and collaborate with key audiences. Incorporate Internet, media, community resources, and allies in your plan to advocate for high-quality professional learning communities and excellence in mathematics education.

**Marianne Smith**, Writer & Consultant, Oakland, CA

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## Wednesday 8:00-9:00 (Regular continued)

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### Session 181

General Strand 3 150A

#### **Essential Understandings Book Series: Professional Development Tools for Engaging Teachers with Mathematics, Grades PreK-2**

An NCTM content series for teachers, *Essential Understandings* focuses on grade-band-specific topics that are mathematically important, difficult to understand and challenging to teach. This session will provide an overview of the books planned for grades PreK-2, and the first book in the series, *Number Concepts and Numeration*, will be discussed.

**Barbara Dougherty**, University of Mississippi, University, MS

**Alfinio Flores**, University of Delaware, Newark, DE

### Session 182

General Strand 1 150B

#### **A Leader's Responsibility: Creating Equitable Solutions for Optimal Mathematical Instructional Access**

Learn to lead in creating equitable solutions for providing optimal instructional access for culturally diverse learners. This presentation will describe our ongoing efforts to create culturally responsive curriculum and materials representing the mathematics of under-represented populations to students. We all gain when leaders teach the benefit of cultural inclusion.

**Jim Barta**, NCSM Western Region 1 Director, Utah State University, Salt Lake City, UT

**Susie Hakansson**, California Math Project, Los Angeles, CA

### Session 183

General Strand 7 151B

#### **Our Three-Year Intensive Professional Development Journey: How Did It Go? What Did We Learn? Where Do We Go from Here?**

This session will share our teacher training structure, time line, assessment tools, data used to measure results, and how all this came together to tell our story of how we develop teacher leaders in mathematics grades K-9 in our metropolitan school district of 10,000 students. Engaging activities will be shared.

**Kathleen Rieke**, Metropolitan School District - Washington Township, Indianapolis, IN

**Tammy Williams**, Metropolitan School District - Washington Township, Indianapolis, IN

**Nathan Keith**, Westlane Middle School, Metropolitan School District - Washington Township, Indianapolis, IN

Turn cell phones off or put on vibrate while in sessions.

### Session 184

General Strand 7 151A

#### **Powerful Learning Formats for Coaches and Teacher Leaders**

Limited budgets and time constraints have inspired us to create a powerful systemic approach to developing the capacity of coaches, teacher leaders, and administrators. Sessions are designed to immerse participants in “the work” and include working in real classes, in real time, and follow-up collaborations to ensure transference to practice.

**Lucy West**, Metamorphosis Teaching and Learning Communities, New York, NY

**Antonia Cameron**, Mathematics in the City, CCNY, CUNY, New York, NY

### Session 185

Primary (PK-2) Strand 2 145A

#### **Response to Intervention (RTI) for Teaching Number Concepts and Operations to Struggling K-4 Students**

The Response-To-Intervention (RTI) model for teaching groups of children with diverse learning needs will be explored during this session. Various RTI components will be addressed, including intervention tiers, strategies, and assessments. Attendees will participate in specific activities that can be differentiated for each “tier” and used in the classroom immediately.

**Kimberly Rimbey**, Rodel Foundation of Arizona, Scottsdale, AZ

### Session 186

Middle (6-8) Strand 7 144C

#### **Using NCTM Journals to Provide Professional Development to Mathematics Learning Communities**

Teacher leaders and coaches can use NCTM journals as a rich resource for professional development. One of the enhanced articles from the NCTM website, designed for secondary teachers, will be used as a focus to model a professional development session for teachers.

**Arlene Mitchell**, RMC Research Corporation, Denver, CO

**Monique Lynch**, National Council of Teachers of Mathematics, Reston, VA

### Session 187

Secondary (9-12) Strand 6 143AB

#### **Research on New Teacher Induction: Focus on Mathematics**

Induction and mentoring programs for beginning teachers abound, but how do they support the unique needs of mathematics teachers? Learn about and explore implications from our NSF-funded research on successful induction programs in the United States and other countries that focus specifically on the needs of mathematics teachers.

**Ralph Putnam**, Knowles Science Teaching Foundation, Moorestown, NJ

**Edward Britton**, WestEd, Redwood City, CA

## Wednesday 8:00–9:30 (Extended)

### Session 188

General Strand 4 144B

#### How Can All Districts Use High Stakes Assessment Data to Address Instructional Gaps?

Learn about and participate in a process of item analysis and error coding using assessment items and students' responses to reflect on instructional practices and mathematics content. This procedure lays the foundation for focused collegial conversation and provides an opportunity to share strategies that ultimately improve teaching and learning.

**Arlene Rosowski**, Buffalo Public Schools, Buffalo, NY

**James Williams**, Buffalo Public Schools, Buffalo, NY

**Lisa Sanders**, Buffalo Public Schools, Buffalo, NY

### Session 189

General Strand 7 149AB

#### Essential Understandings Book Series: *Professional Development Tools for Engaging Teachers with Mathematics*

An NCTM mathematics content series for PreK-12 teachers, *Essential Understandings* focuses on grade-band specific mathematics topics that are mathematically important, difficult to understand, and challenging to teach, such as numeration, multiplication, proportion, and function. Samples will be used to illustrate how the materials support teacher learning in various school contexts.

**Rose Zbiek**, Pennsylvania State University, University Park, PA

**Henry Kepner, Jr.**, University of Wisconsin-Milwaukee & NCTM President, Milwaukee, WI

**Patricia Wilson**, University of Georgia, Athens, GA

**Randall Charles**, San Jose State University, San Jose, CA

### Session 190

Intermediate (3–5) Strand 6 152B

#### Guiding and Assessing the Development of Mathematics Specialists

Our goal is to provide examples of strategies for guiding and assessing the development of mathematics specialists in mathematics content and pedagogy. This work is based on our on-going research in professional development. We will provide interactive activities used in the program for mathematics specialists that contributes to the research.

**Steve Klass**, San Diego State University, San Diego, CA

**Jane Gawronski**, San Diego State University, San Diego, CA

**Nadine Bezuk**, San Diego State University, San Diego, CA

### Session 191

Middle (6–8) Strand 3 152A

#### How Teachers Use Reform and More Traditional Curricula to Teach Algebraic Concepts in Middle School: Insights from a Longitudinal Study

Based on findings from more than 600 classroom observations and multiple assessments over three years, the presenters will provide research-based insights about how teachers use reform and more traditional curricula to teach algebraic concepts. Presenters and audience will explore implications of these research-based insights for improving instruction in their districts.

**John (Jack) Moyer**, Marquette University, Milwaukee, WI

**Jinfa Cai**, University of Delaware, Newark, DE

**Connie Laughlin**, Marquette University, Milwaukee, WI

**Bikai Nie**, University of Delaware, Newark, DE

### Session 192

Middle (6–8) Strand 2 154A

#### “Just In Time” Professional Development through Content-Specific On-site Mathematics Courses Augmented by Distance Learning Components and Lesson Study

Entire faculties of sixth and seventh grade mathematics and special education teachers participate in on-site courses, supplemented by distance learning components provided by mathematicians, matching instruction to the school's scope and sequence. The Tidewater Team's website will be explored, clips from the courses shown and discussed, and teacher products shared.

**Marguerite (Margie) Mason**, College of William and Mary, Williamsburg, VA

**Pamela Aerni**, College of William and Mary, Williamsburg, VA

**Rachael Cofer**, Mecklenburg County School Division, Boydton, VA

### Session 193

Secondary (9–12) Strand 2 140AB

#### Developing Teachers' Capacity to Engage Students in Reasoning and Proving Activities

In this session, participants will analyze an instructional case and student work related to reasoning and proving, and discuss the potential of the materials for helping teachers reconsider the role of reasoning and proving in the high school curriculum including how they can support their students engagement in these processes.

**Margaret Smith**, University of Pittsburgh, Pittsburgh, PA

**Fran Arbaugh**, University of Missouri, Columbia, MO

## Wednesday 8:00-9:30 (Extended continued)

### Session 194

Secondary (9–12) Strand 7 144A

#### Supporting Teachers of Mathematics Grades 6–12 to Increase Retention: Models and Research

Can professional development make a difference in teacher retention? This session addresses the challenge of supporting new teachers and teachers in hard-to-hire schools through a multi-dimensional examination of a state-wide project consisting of 10 sites by sharing models of support and research relative to the effect of the support.

**Barbara Pence**, San Jose State University, San Jose, CA  
**Relson Banas**, University of California, Irvine, CA  
**Pamela Hutchison**, University of California, Davis, CA  
**Janna Canzone**, Center for Educational Partnerships, Irvine, CA

### Session 195

Secondary (9–12) Strand 3 154B

#### NCTM's Focus in High School Mathematics: Reasoning and Sense Making

This session will provide an update on NCTM's High School Curriculum Project, including an overview of "Focus in High School Mathematics," which argues that reasoning and sense-making should be at the center of high school mathematics. We will also discuss other activities of the project, including follow-up publications.

**W. Gary Martin**, Auburn University, Auburn, AL  
**Gary Kader**, Appalachian State University, Boone, NC  
**Henry Kepner**, University of Wisconsin-Milwaukee, Milwaukee, WI  
**Eric Robinson**, Ithaca College, Ithaca, NY



## Wednesday 9:15–10:15

### Session 196: Major Session

General 146AB

#### What Are We Up Against? Experiences of Trying to Bring About Change in the United States and the United Kingdom

**Jo Boaler**, University of Sussex, Brighton, England, United Kingdom

This session will draw together findings from my work with a broader public, in the United States and the United Kingdom, to represent the understandings and concerns shared by the public, the questions they pose, and the ways we may work with them in the future to bring about change in mathematics teaching.

*President:* Sara Munshin, NCSM Western 2 Region Director, Los Angeles, CA



**Jo Boaler** is the Marie Curie Professor of Mathematics Education at the University of Sussex and is an elected fellow of the Royal Society of Arts. She works with members of the British Government to bring effective research-based approaches into schools.

Boaler's doctorate won the national award for educational research in the United Kingdom and she is the author of numerous articles and six books. Her most recent book aims to increase public understanding of effective mathematics approaches. She specializes in the impact of different mathematics teaching approaches upon student understanding, achievement, and equity.

Boaler was a professor at Stanford University, a researcher at London University, the deputy director of the National Consortium for Mathematics Testing and Assessment in the United Kingdom, and taught secondary school mathematics in diverse, inner London comprehensive schools. She was the recipient of an "early career award" from the National Science Foundation.

### Session 197

General Strand 1 145B

#### NCSM Position Papers: Improving Student Achievement Series

The new NCSM position papers, Equity and Students with Special Needs, are powerful statements and give NCSM members information and research to strengthen existing programs or design new ones. This session will provide the opportunity to discuss and share ways to use these papers, and others, to their fullest advantage.

**Kit Norris**, NCSM Position Papers Editor, Educational Consultant, Southborough, MA

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**Wednesday 9:15-10:15 (Regular continued)**

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**Session 198****General**                      **Strand 2**                      **147A****Partnering Practitioners for Developing Algebraic Thinking**

This session presents a professional development model for creating a mathematics learning community for K-6 administrators and teachers. The job-embedded professional development model includes “front-loaded” monthly cadre meetings/training for administrators prior to monthly professional development for teachers. Both groups critically examine curriculum, instruction, and assessment in context of algebraic thinking.

**Rhonda Allen**, University of Kentucky, Lexington, KY

**Vonda Stamm**, University of Kentucky, Lexington, KY

**Session 199****General**                      **Strand 2**                      **147B****Sustaining an Administrator Initiative for Observing and Coaching Mathematics Teachers**

Over a three-year period, each administrator spent two days learning strategies for observing and coaching mathematics instruction through a framework using the NCTM Process Standards. This presentation includes how the training can be replicated, and discussion of the successes and struggles associated with sustaining the training.

**Lawrence Linnen**, Douglas County School District, Castle Rock, CO

**Cindy Andrews**, Douglas County School District, Castle Rock, CO

**Session 200****General**                      **Strand 4**                      **144BC****Knowing and Modeling PRIME Assessment Leadership!**

This interactive session will provide participants with the opportunity to develop understanding of the Assessment Principle leadership actions as described in PRIME. Participants will use self-assessment tools to connect the Assessment actions into the context of their workplace. The latest PRIME Assessment Toolkit materials will also be provided.

**John Carter**, Adlai E Stevenson High School, Lincolnshire, IL

**Gwen Zimmermann**, NCSM Journal Editor; Adlai E. Stevenson High School, Lincolnshire, IL

**Session 201****General**                      **Strand 7**                      **150B****Using a Case-Based Model in Planning and Implementing a Professional Development Program**

The session uses a case-based model to focus on issues confronted by leaders as they plan and implement a professional development program. Participants engage in a mathematics task; use a video case to view teachers engaging in the same task, and subsequently analyze the case and the facilitator moves employed.

**Corinne Murawski**, Allegheny Intermediate Unit, Homestead, PA

**Michael Fierle**, Allegheny Intermediate Unit, Homestead, PA

**Session 202****General**                      **Strand 2**                      **151A****The Many Facets of Teacher Improvement**

How do perspectives on teacher improvement from various stakeholders compare? How do the realities of the classroom interface with recommendations for improvement from teacher educators and school administration? What can pre-service teachers do to establish patterns for professional development? Come listen to various perspectives and take part in a lively discussion!

**Tami Martin**, Illinois State University, Normal, IL

**Roger Day**, McGraw-Hill K-12 Mathematics, Pontiac, IL

**Brian Schmalzer**, Glenbrook South High School, Glenview, IL

**Session 203****Intermediate (3–5)**                      **Strand 7**                      **146C****Applying Results from Individual Assessments to Professional Development, Number and Operations, Grades K-6**

Key to mathematics instruction is developing students' understanding and their skills. Individual assessments are effective and powerful for gaining insights into students' thinking and reasoning. This session provides leaders specific ways to use results from individual assessments in professional development settings to develop teachers' mathematical and pedagogical understanding and skills.

**Marilyn Burns**, Math Solutions Professional Development, Sausalito, CA

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## Wednesday 9:15-10:15 (Regular continued)

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**Session 204**  
**Middle (6–8) Strand 5 143AB**  
**Mixing Mathematics, Movies, and Moodle: Online Professional Development Courses Combining Technology Training, Open-Source Software, Pedagogical Discussions, and Mathematical Growth**

This panel of online course developers, moderators, and participants will discuss experiences with innovative professional development courses that use Moodle, an open-source learning management system. In addition to training elementary, middle, and high school teachers in the use of dynamic mathematics software, these courses promote content knowledge and pedagogical discussion.

**Andres Marti**, Key Curriculum Press, Emeryville, CA  
**Geri Anderson-Nielsen**, Consultant, Washington, DC  
**Daniel Scher**, Key Curriculum Press, Emeryville, CA  
**Andrea Austin**, Luther Jackson Middle School, Fairfax County Public Schools, Falls Church, VA

**Session 205**  
**Middle (6–8) Strand 4 143C**  
**Supporting Teachers as They Create Diagnostic Assessments and Use Assessment Data for Planning Instruction**

Participants will create assessment item(s) using the information presented and will review teacher portfolios noting pre/post test data, activities used with students and the rationale for the activities, discussion of pre/post test data, and self-reflection on the use of diagnostic tests.

**Sue Brown**, University of Houston-Clear Lake, Houston, TX

**Session 206**  
**Middle (6–8) Strand 7 144C**  
**Infusing Mathematics into Science and Technology at the Middle School Level: A Professional Development Model**

Participants in this session will learn how to implement an innovative professional development model that facilitates collaborative learning communities among mathematics, science, and technology teachers. Participants will be provided with detailed explanations of model components, participate in hands-on activities, and discuss work and feedback from past teacher participants.

**Michael Hacker**, Hofstra University Center for Technological Literacy, Hempstead, NY  
**David Burghardt**, Center for Technological Literacy, Hempstead, NY  
**Deborah Hecht**, Center for Advanced Study in Education, New York City, NY

**Session 207**  
**Middle (6–8) Strand 3 145A**  
**Professional Learning Communities: Tackling Middle School Mathematics**

Richmond Public Schools, an urban school division, is working hard to address the issues in middle school mathematics: enhancing teacher quality, improving instruction, and sustaining teachers. Learn about the effective strategies that engage educators in examining their pedagogy, content knowledge, and knowledge of the urban student.

**Kenya Wallach**, Richmond Public Schools, Richmond, VA  
**Maria Crenshaw**, Richmond Public Schools, Richmond, VA

**Session 208**  
**Secondary (9–12) Strand 2 151B**  
**The Leader’s Role in Helping Secondary Teachers Implement Intervention Techniques Using Algebra Examples**

With increased requirements and advanced standards, more special-needs students are in mathematics classrooms. Leaders need researched-based instructional intervention resources to support teachers with quality instruction to help all students. The presentation will include placement and assessment, concept-development activities, practice, and problem-solving activities using the content of Algebra I.

**Larry Bradsby**, NCSM Past President, Math Education Consultant, Lakewood, CO

## Wednesday 10:00–11:30 (Extended)

**Session 209**  
**General Strand 7 140AB**  
**Cultivating a Mathematics Coaching Practice: What Are We Learning by Examining Coach-Authored Accounts of Practice?**

This session, designed for teacher leaders, coaches, and administrators responsible for math coaching programs, will examine the complex nature of coaching, and professional development that supports the cultivation of a reflective coaching practice. We will explore excerpts from coach-authored cases that represent a range of coaching models and district settings.

**Amy Morse**, Education Development Center, Newton, MA

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## Wednesday 10:00-11:30 (Extended cont)

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### Session 210

General Strand 7 144A

#### **K-8 Math Alliance: Connecting Teacher Content Knowledge with Formative Assessment Strategies to Impact Student Achievement within Professional Learning Communities**

Through a partnership of the Green River Regional Educational Cooperative, Carnegie Learning, and Measured Progress, over 220 teachers participated in a three-year initiative to impact student achievement through increased mathematics content knowledge and formative assessment strategies. The presentation will describe the professional development, impact on classroom pedagogy, and program design.

**Sandra Baker**, Green River Regional Educational Cooperative, Bowling Green, KY

**Sandy Bartle**, Carnegie Learning, Inc., Pittsburgh, PA

**Catherine Garrison**, Measured Progress, Dover, NH

**Amy Jones**, Carnegie Learning, Inc., Pittsburgh, PA

### Session 211

General Strand 3 154B

#### **What Do Focus, Attention, and Language Learning Have to Do with Problem Solving and Early Algebra?**

The way young children acquire language tells a lot about how they learn mathematics. Examples of activities and children's thinking will illustrate roles of attention, memory, and language processing in problem-solving, and how to use and develop these "non-mathematical" strengths. Examples include algebraic language and the language of word problems.

**E. Paul Goldenberg**, Education Development Center, Newton, MA

### Session 212

Intermediate (3–5) Strand 3 152A

#### **What's Your Problem?**

Help teachers to teach problem solving through number sense and the use of strategies. We will look at identifying rich problems, supporting student exploration through good questions, and enabling students to explain their thinking. All approaches are important components of a rich problem-solving (and mathematics) program.

**Linda Gojak**, NCSM Past President, John Carroll University, University Heights, OH

### Session 213

Intermediate (3–5) Strand 5 154A

#### **Develop Mathematical Understandings Using Visualization and the New Interactive Cabri Elementary Environment**

Through direct manipulation, engage students (K-8) in building number sense, algebraic and geometric thinking.

Within an integrated 2D/3D environment and using the new Cabri, developed especially for elementary school mathematics, teacher leaders will experience activities with "electronic manipulatives" (pattern blocks, tangrams, nets, counting, and operations) with real-time visual feedback.

**Colette Laborde**, University of Grenoble, Grenoble, France

**Barbara Pence**, San Jose State University, San Jose, CA

**Jean-Marie Laborde**, University of Grenoble, Grenoble, France

### Session 214

Middle (6–8) Strand 2 144B

#### **Exploring a Proposed Framework for Analyzing Geometric Pattern Tasks**

What makes geometric pattern tasks "easy" or "hard"? What kind of problem-solving process helps students analyze geometric pattern tasks? We will explore a number of different pattern tasks in light of these two questions.

**Susan Friel**, University of North Carolina - Chapel Hill, Chapel Hill, NC

**Kim Markworth**, University of North Carolina - Chapel Hill, Chapel Hill, NC

### Session 215

Middle (6–8) Strand 2 152B

#### **Why Similarity? Exploring the Importance of Mathematical Similarity throughout Middle Grades Mathematics by Analyzing Videocases Used to Foster Teacher Learning**

Learn why every middle grades teacher should pay attention to students' developing understanding of similarity, and explore how you can help teachers focus on this critical concept. Videocases will be analyzed and examined as a means for investigating how to spark conversations with teachers about the teaching of similarity.

**Nanette Seago**, WestEd, Riverside, CA

**Jennifer Jacobs**, Institute of Cognitive Science, Boulder, CO

### Session 216

Secondary (9–12) Strand 2 149AB

#### **Lessons Learned from a Secondary Professional Development Project on Formative Assessment and Reflection on Classroom Practice**

When students think, they learn. Thinking is confirmed by student communication. Analyzing student communication, assessing what students know and how they know it, is called formative assessment. A primary focus of an NSF-funded College Board professional development project was formative assessment. Lessons learned will be shared and discussed.

**James Choike**, Oklahoma State University, Stillwater, OK

**Eve Bois**, The College Board, New York, NY

**Lien Diaz**, The College Board, Duluth, GA

## Wednesday 10:30–11:30

### Session 217: Major Session

General

146AB

#### **Dialogues with Latino Parents: Implications for Leaders in Mathematics Education**

**Marta Civil**, University of Arizona, Tucson, AZ

This presentation draws on over a decade of work with Latino parents and mathematics education. Focusing on the concept of parents as intellectual resources, I discuss parents' perceptions about the teaching and learning of mathematics, valorization of knowledge, issues of language and mathematics, and implications for schools (teachers and administrators).

*Presider:* Jim Barta, NCSM Western 1 Region Director, Salt Lake City, UT



**Marta Civil** is a professor in the Department of Mathematics at the University of Arizona. She is currently the Principal Investigator for NSF-funded CEMELA (Center for the Mathematics Education of Latinos/as), a Center for Learning and Teaching. CEMELA is an interdisciplinary, multi-university

consortium focused on research and practice on the connections between the teaching and learning of mathematics and the cultural, social, and linguistic contexts of Latino/a students.

Her work encompasses teacher education, cultural and social aspects in the teaching and learning of mathematics, equity, and parental engagement in mathematics, primarily in working-class Latino communities. She has presented her work at national and international conferences and has several publications in her main areas of research.

Civil has directed several initiatives aimed at engaging children ages 8–13 in hands-on mathematics and science explorations in informal and after-school settings as well as directed programs focused on parental engagement in mathematics.

### Session 218

General

Strand 2

143C

#### **Hybrid Lead Teacher/Coach Roles: A Model for Developing School-Based Leaders in Mathematics**

How can a classroom teacher develop into an effective mathematics coach within a school year? What model will aid the transition from classroom teacher to coach? Presenters will examine the case of two New York City lead teachers and how they made the transition from teacher to coach.

**Antonia Cameron**, Co-Director of Mathematics in the City, CCNY, CUNY, New York, NY

**Danielle Iacoviello**, New York City Department of Education, Brooklyn, NY

**Sonal Malpani**, New York City Department of Education, Brooklyn, NY

### Session 219

General

Strand 4

145A

#### **Using Common Assessments as Formative Assessments to Raise Student Achievement Through Grade Level Professional Learning Communities**

The presenters will share their efforts to establish grade-level professional learning communities through the use of common assessments used as formative assessments to increase students' achievement in mathematics. Teachers establish trust and grow professionally when they are offered the opportunity to engage in professional learning communities.

**Karma Nelson**, Educational Consultant, Belgrade, MT

**Annette Moody**, Hardin School District, Hardin, MT

**Albert Peterson**, Hardin School District, Hardin, MT

**Roxanne NotAfraid**, Hardin School District, Hardin, MT

### Session 220

General

Strand 2

147B

#### **Promoting Leadership in Curriculum and Instruction: What Can NCSM and AMTE Do Together?**

This session will highlight ways that NCSM and AMTE members can work together to promote and develop leadership in curriculum and instruction and support the work of teachers.

**Barbara Reys**, University of Missouri, Columbia, MO

**Jennifer Bay-Williams**, University of Louisville, Louisville, KY

### Session 221

General

Strand 4

150B

#### **A Proven Process for Using Assessments to Specifically Change Instruction and Immediately Improve Achievement**

Learn and practice specific techniques to evaluate assessment results and then make decisions that are realistic to implement and have a high probability of improving student achievement. Participants will use one school's curriculum documents, common interim assessments, and test results to practice.

**Pam Berry**, The Learning Institute, Hot Springs, AR

**Kim Jones**, The Learning Institute, Hot Springs, AR



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## Wednesday 10:30-11:30 (Regular continued)

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### Session 222

Intermediate (3–5)      Strand 2      150A

#### **Collaboration in Inclusive K-5 Mathematics Classrooms: Special Education and Classroom Teachers Working Together**

We will discuss some of the principles and supports that lead to effective collaboration, based on examples from real practice. Through examining excerpts from conversations among collaborating teachers, participants will analyze strategies the teachers are using and how they might apply them to their own practice.

**Judith Storeygard**, TERC, Cambridge, MA  
**Marta Johnson**, Haw Creek Elementary School, Asheville, NC

### Session 223

Intermediate (3–5)      Strand 7      151A

#### **Supporting Teachers' English Language Learners in the Mathematics Class**

This session focuses on how mathematics supervisors can support teachers in helping English Language Learners be successful in mathematics class. Through session experiences participants will learn how to explicitly structure experiences and about specific strategies that are helpful to the ELL student.

**Marji Freeman**, Math Solutions, Sausalito, CA

### Session 224

Intermediate (3–5)      Strand 1      147A

#### **Sharing Our Success: Lessons from an Alaskan Program**

Math in a Cultural Context (MCC) is a long-term curriculum and professional development project that has been successfully implemented across distinct cultural groups in urban/rural Alaska. This project meets the “gold” standard of the U.S. Department of Education and project success has been well documented. We will share what works.

**Jerry Lipka**, University of Alaska Fairbanks, Fairbanks, AK  
**Anthony Rickard**, University of Alaska Fairbanks, Fairbanks, AK  
**Dora Andrew-Ihrke**, University of Alaska Fairbanks, Fairbanks, AK  
**Evelyn Yanez**, University of Alaska Fairbanks, Fairbanks, AK

### Session 225

Intermediate (3–5)      Strand 3      151B

#### **Equity and Access for ALL: Strategies for Helping Students Communicate Like Mathematicians**

Come learn how elementary teachers in 22 urban and suburban schools helped students think deeply about complex ideas and communicate their understanding.

Providing challenging tasks, establishing supportive environments, engaging in high-level discussions, and encouraging quality writing were hallmarks of these classrooms. Student work and practical strategies will be shared.

**Tutita Casa**, University of Connecticut, Storrs, CT  
**M. Katherine Gavin**, University of Connecticut, Storrs, CT

### Session 226

Middle (6–8)      Strand 3      146C

#### **State Standards for Grade 8 Algebra: Who Has the Answer?**

Many states require Algebra 1 in Grade 8. What are the standards for such a course? How do standards compare across the United States? Are concerns of the National Mathematics Advisory Panel Report addressed? As leaders, are we addressing the NCSM Curriculum Principle? These questions and others will be discussed.

**Don Balka**, Saint Mary's College, Notre Dame, IN

### Session 227

Secondary (9–12)      Strand 6      143AB

#### **Change Leadership in High School Mathematics**

This session will describe one high school mathematics department's journey to improve student achievement by reviewing its practices and comparing them to research on principles that need to be in place for effective systemic change. The actions of the leadership in facilitating and supporting these efforts will also be described.

**Linell Monson-Lasswell**, National-Louis University, Wheeling, IL

### Session 228

Secondary (9–12)      Strand 7      144C

#### **Mathematics Professional Community**

Are you wanting to start a professional learning community in your mathematics department, to increase your student achievement? In this session you will be given ideas on how to get teachers on board and how to create a professional learning environment.

**Becky Bird**, Garden City Public Schools, Unified School District, Garden City, KS  
**Stacey Powell**, Garden City Public Schools, Unified School District, Garden City, KS

### Session 229

Secondary (9 – 12)      Strand 2      145B

#### **What's the Problem? Professional Development Ideas to Help 9-12 Mathematics Teachers Understand the Importance of Task Design**

This session will explore several activities that can be used in professional development to help mathematics teachers learn more about how the design of a task affects what and how students learn. Participants will leave with copies of tasks that can be used in professional development.

**Leslie Dietiker**, Michigan State University, East Lansing, MI

## Wednesday Luncheon

**Session 230**

**Sponsored by CASIO America, Inc. and Houghton Mifflin Harcourt**

**Hall B**

**12:00 – 2:00 PM (ticket required)**

CASIO creates electronic products such as calculators, dictionaries, pianos, digital cameras, and cash registers with innovative functions for use in today’s educational settings. The company also provides professional development, support materials, down-loadable programs and the education rewards program for free products. This is consistent with CASIO’s creed, “creativity and contribution.”

Houghton Mifflin Harcourt, Microsoft’s 2008 Education Partner of the Year, publishes textbooks, instructional technology, assessments, and other educational materials for students and teachers. The company also publishes an extensive line of reference works and fiction and non-fiction books.

Visit CASIO America at Booth # 20 or at [www.Casio.com](http://www.Casio.com) and Houghton Mifflin Harcourt at Booth # 18 or at [www.Hmco.com](http://www.Hmco.com)

### Some Potentially Upside-Down Ideas on the Doing and Learning of Things Mathematical

**Anthony Harradine**, Director, Noel Baker Centre for School Mathematics, Prince Alfred College, Adelaide, Australia

Children of the current era learn best when what is expected of them occurs naturally. What does that mean? How might it look inside a classroom? How might it lead to more formal and traditional learning? Also, people’s early growth in manipulating symbolic representations is hampered, in part, by the absence of an environment in which they can test their thinking, get rapid feedback, immediately try out a modification of their thinking, and gain rapid feedback on the modification. What might such an environment look like?



**Anthony Harradine** is the director of the Noel Baker Centre for School Mathematics at Prince Alfred College in Adelaide, Australia. Currently his main work has been in the area of algebra and data analysis, testing ideas about animation (via interactive geometry) as a natural road to modeling with symbols and computer

algebra systems relation to symbolic skill development.

He has previously taught high school science, physics and mathematics; been head of mathematics in two schools; written standards for the State Assessment Board; been Chief Examiner in Mathematics for the State Assessment Board; and has written curriculum materials in a variety of projects.

### Your Leadership and NCSM: The Legacy of Our Future!

NCSM President Timothy D. Kanold passes the leadership gavel of the Presidency to Diane J. Briars. Together they will address the future and legacy of NCSM and its members.



Timothy D. Kanold,  
NCSM President,  
2007-2009



Diane J. Briars,  
NCSM President,  
2009-2011

### 27th Annual Presentation of the Glenn Gilbert National Leadership Award

Each year, the Glenn Gilbert National Leadership Award is presented in memory of a dedicated mathematics educator, Glenn Gilbert. Glenn was a mathematics teacher and leader from Boulder, Colorado. He was a long time member of NCSM and served as NCSM Treasurer for five years, from 1976 until his untimely death in 1981.

The Glenn Gilbert Award was first established in 1982 when Shirley Frye was NCSM President. At that time, Shirley wrote, “One of the special benefits of a professional organization is the association with unique individuals who set a standard of quality. Glenn Gilbert was such a person! He exemplified the respected mathematics educator who loves his/her work and students. Glenn’s positive attitude supported his beliefs that students can succeed and that teaching is a reward. His leadership will be recognized and remembered in NCSM through the annual Glenn Gilbert Award.”

In 1995, the name of the award was changed to the Glenn Gilbert National Leadership Award. This change was made in further recognition of Glenn’s legacy and in recognition of the respect and stature that the award symbolizes within the mathematics education community.

Today, we recognize another who, like Glenn, has demonstrated leadership in and has made outstanding, unique, and dedicated contributions to the field of mathematics education.

### Previous Glenn Gilbert Awardees

2008	James M. Rubillo	1992	Iris M. Carl
2007	Glenda T. Lappan	1991	Dorothy S. Strong
2006	L. Carey Bolster	1990	Stanley J. Bezuska
2005	Charleen Mitchell	1989	David R. Johnson
	DeRidder	1988	Tom Rowan
2004	Irvin E. Vance	1987	Al Shulte
2003	Mary Laycock	1986	Shirley Frye
2002	Miriam A. Leiva	1985	Ross Taylor
2001	Margaret (Peg) Kenney	1984	Alexander Tobin
2000	Francis (Skip) Fennell	1983	John Del Grande
1999	F. Joe Crosswhite		
1998	Robert B. Davis		
1997	Franklin Demana and Bert Waits		
1996	Marilyn Burns		
1995	James D. Gates		
1994	Zalman P. Usiskin		
1993	Dale Seymour		



James M. Rubillo  
2008  
Awardee

## In Memoriam Rev. Stanley J. Bezuszka, SJ



On December 27, 2008, NCSM lost a great friend, mathematics education leader, and former Glenn Gilbert Award winner, Rev. Stanley J. Bezuszka, SJ, also fondly referred to as 'Father B'. He was a mathematics teacher and department administrator at Boston College from 1939 until 2008. Father B was the director of the Boston College Mathematics Institute and a widely-recognized leader of national efforts to improve American mathematics and science programs.

"Since the summer of 1954, when I took my first course in mathematics with Father B, he has been a role model and friend," said Prof. Margaret (Peg) Kenney, assistant director of the Mathematics Institute. "He was truly a source of inspiration to thousands of mathematics teachers in this country and abroad," she said. "They attend his keynote sessions, courses, and institutes."

Fr. Bezuszka authored or co-authored more than 50 scholarly works on mathematics over the past 40 years. He received numerous awards for his contributions to the field, including the 1990 Glenn Gilbert Award for Leadership in Mathematics Education from the National Council of Supervisors of Mathematics.

Fr. Bezuszka frequently provided NCSM members with meaningful and humorous keynote messages at Annual Conferences that promoted effective learning of 'mathematics for all students' long before it became a popular politically correct phrase.

"His ideas about mathematics content and pedagogy continued to engage him until the end" recalled Kenney, who noted that Fr. Bezuszka was tutoring a local Boston high school student in basic math principles until shortly before his death. "He had just completed a transcript as illness overtook him at the end of June."

"His particular interest in mathematics was number theory. He often remarked 'The gift of number, like the gift of fire, has made the world much brighter,'" Kenney said.

NCSM applauds the work and effort of this remarkable person and leader. We will miss him.

## Wednesday 2:30–4:00 (Special Interest Group Meetings)

### Session 231

**Middle (6–8)      Math Olympiad Contests      144A**

#### **How Can the Math Olympiad Contests Strengthen Your Program?**

How? By offering a four-pronged approach: rich problems that develop mathematical thinking and improve high-stakes test scores, a series of five contests that build student (and teacher!) interest and knowledge, an inclusive structure that welcomes many students, and responsive support. The carryover from coaching to classroom teaching is undeniable. Come and engage in a discussion about how mathematics contests can enrich your mathematics program.

**Richard Kalman**, Math Olympiads for Elementary and Middle Schools, Bellmore, NY

### Session 232

**General      UMLN      144B**

#### **Urban Mathematics Leadership Network**

The Urban Mathematics Leadership Network (UMLN) is composed of the mathematics directors and other mathematics leaders from 21 large urban school districts. UMLN invites mathematics leaders from urban districts to join this open, participatory forum about issues that are of particular interest to mathematics leaders and teachers in urban school districts.

**Martin Gartzman**, University of Illinois at Chicago, Chicago, IL

**Susan Hudson Hull**, University of Texas Dana Center, Austin, TX

### Session 233

**General      AMTE      144C**

#### **Association of Mathematics Teacher Educators**

The Association of Mathematics Teacher Educators' (AMTE) focus is on the improvement of mathematics teacher education. Join us in this session for informal conversations on important and timely topics of mutual interests, such as mathematics specialists in the elementary grades, the National Mathematics Advisory Panel report, and K-12 mathematics leadership development.

**Nadine Bezuk**, San Diego State University, San Diego, CA  
**Barbara Reys**, University of Missouri, Columbia, MO

### Session 234

**General      PLCs      145B**

#### **Creating a Culture That Is Intentionally Focused on Three Critical Questions Built Around Professional Learning Communities (PLCs)**

Critical Questions:

1. How can you maintain the transformation to PLCs?
2. How do you sustain teacher leaders?
3. How do you get school and district level leaders to buy in and actively support the transformation?

**Jerry Cummins**, NCSM Past President, Hinsdale, IL

**Mona Toncheff**, NCSM Secretary, Phoenix Union High School District, Phoenix, AZ

### Session 235

**General      TODOS      145A**

#### **Equity in Mathematics Education: TODOS**

Do you have Latino/Hispanic students? Are you looking for assistance and support to make your mathematics instruction accessible to all kids? Do you want to learn with us and about us? We invite you to participate in the TODOS dialogue, and in shaping future discussions.

**Nora Ramirez**, TODOS/Arizona State University, Tempe, AZ

**Tod Shockey**, University of Maine/TODOS, Orono, ME

### Session 236

**General      Lesson Study Networking      147A**

#### **Lesson Study Networking: An Opportunity for Practitioners, Researchers, and Leaders to Share Lesson Study Resources, Findings, and Questions**

Lesson Study is growing rapidly in the United States, but most sites have few opportunities to share their work with others. Join others involved in lesson study to make network connections and identify common issues and challenges for future research. Bring resources to share. Those new to lesson study are welcome.

**Jane Gorman**, Education Development Center, Newton, MA

**June Mark**, Education Development Center, Newton, MA

**Johannah Nikula**, Education Development Center, Newton, MA

### Session 237

**General      Special Needs      147B**

#### **Improving Mathematics Education for Students with Special Needs**

Is your school district grappling with how to improve mathematics learning for students with disabilities? Share your strategies and challenges with mathematics leaders from other districts. Discuss common themes and gain new perspectives and resources on ways to address this pressing need. Join us!

**Amy Brodesky**, Education Development Center, Newton, MA

**Fred Gross**, Education Development Center, Newton, MA

**Emily Fagan**, Education Development Center, Newton, MA

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## Wednesday 2:30-4:00 (Special Interest Group Meetings continued)

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### Session 238

**General Promising Creative Students 150A**  
**Nurturing Mathematically Promising and Creative Students**

Are you interested in discovering, nurturing, and supporting mathematical talent for students from all backgrounds? Research shows that our most promising mathematics students frequently make the least academic progress. Join us so that together we can make a difference for students and teachers in classrooms, in policy-making and in advancing research.

**Linda Sheffield**, Northern Kentucky University - Emeritus, Highland Heights, KY  
**M. Katherine Gavin**, University of Connecticut, Storrs, CT

### Session 239

**General CLIME 150B**  
**Technology and Mathematics Integration 2.0: A Tipping Point toward More Significant Mathematics Achievement?**

The Internet and Web 2.0 are changing the way we communicate, collaborate, and learn mathematics. This session will be an opportunity to learn more about Web 2.0 and discuss how it could potentially be a tipping point towards more genuine mathematics learning and teaching. For more information visit <http://CLIME.org>.

**Ihor Charischak**, CLIME – Council for Technology in Mathematics Education, White Plains, NY

### Session 240

**General WME 151A**  
**Supporting and Encouraging Females in Mathematics (Women and Mathematics Education)**

Females have lower participation in mathematics and show weaker dispositions than males. This session will provide information on the current status of females in mathematics according to several important indicators. Session attendees will participate in discussions of strategies for supporting and encouraging females in mathematics. Handouts will be provided.

**Lynda Wiest**, University of Nevada, Reno, Reno, NV  
**Judy Werner**, Slippery Rock University, Slippery Rock, PA  
**Geri Anderson-Nielsen**, Mathematics Consultant, Washington, DC

### Session 241

**General NASGEm 151B**  
**Mathematics in a Cultural Context: Model of Ethnomathematics for Leadership, Instruction, and Curriculum in Mathematics Education for All**

Our 10th Reunion, sponsored by the North American Study Group on Ethnomathematics, features Lipka's Math in a Cultural Context model that successfully incorporates Yup'ik elders' knowledge, reform-oriented mathematics, and ethnomathematics into a mathematics education program. Discussion will help mathematics leaders in attendance adapt the MCC model to their locale.

**Frederick Silverman**, University of Northern Colorado, Greeley, CO

**Jerry Lipka**, University of Alaska Fairbanks, Fairbanks, AK

**Dora Andrew-Ihreke**, Dillingham Schools (retired) and University of Alaska, Anchorage, AK

**Evelyn Yanez**, University of Alaska Fairbanks, Fairbanks, AK

### Session 242

**General BBA 152A**  
**Benjamin Banneker Association (BBA): Envisioning Local Grassroots Movements in Mathematics Education for Black Children**

If access to high quality, relevant mathematics is called the new civil rights for Black children, what would happen if we built a new civil rights movement to make it happen? What can we learn from the civil rights movement that can be applied to schooling today? Join our discussion.

**Lou Matthews**, President, Benjamin Banneker Association, Atlanta, GA

**Jacqueline Leonard**, President-Elect, Benjamin Banneker Association, Philadelphia, PA