49TH NCSM ANNUAL CONFERENCE
APRIL 3-5, 2017 • SAN ANTONIO, TEXAS

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ENGAGING IN THE MISSION OF MATHEMATICS EDUCATION LEADERSHIP: HIGH QUALITY, MEANINGFUL AND RELEVANT MATHEMATICS FOR ALL

49th NCSM Annual Conference

April 3-5, 2017 • San Antonio, Texas

REGISTRATION

Registration takes place on the 4th Floor of the Grand Hyatt in the main hallway in front of the Texas Ballroom at the following times:

Sunday, April 2, 2:00 pm–6:00 pm
Monday, April 3, 6:45 am–5:00 pm
Tuesday, April 4, 6:45 am–5:00 pm
Wednesday, April 5, 7:30 am–10:30 am

SPONSOR DISPLAY AREA

Visit sponsors and engage in stimulating professional dialogue with colleagues on the 4th Floor in Texas A-C, during the following times:

Monday, April 3, 9:00 am–5:30 pm
Tuesday, April 4, 8:30 am–4:00 pm

We have also scheduled an extended passing period for visiting with our vendors on Monday from 10:30 am–11:15 am and Tuesday from 9:15 am–10:00 am. Please be sure to check out the latest resources available!

CAUCUSES

Caucuses for NCSM regions, International attendees, and Past Presidents will be held Tuesday, April 4 from 3:30 pm–4:30 pm. Details and a full schedule of caucuses are found at the end of Tuesday sessions.

NCSM BUSINESS MEETING

The Business Meeting will be held on Tuesday, April 4 from 4:45 pm–5:30 pm in Republic A-C. All members are invited and encouraged to attend and learn about the "State of the Organization" and opportunities for getting involved in NCSM.

TABLE OF CONTENTS

PRESIDENT'S MESSAGE

Engaging in the Mission of Mathematics Education Leadership: High Quality, Meaningful and Relevant Mathematics for All

On behalf of the NCSM Board of Directors and the San Antonio Conference Committee, it is my pleasure to welcome you to this year's annual meeting and invite you to join us in conversations around a clear and actionable vision of mathematics education leadership that increases access, excellence, and achievement for all students!

This year's theme, Engaging in the Mission of Mathematics Education Leadership: High Quality, Meaningful and Relevant Mathematics for All, is designed to provide you with a rich professional learning experience that will support leaders at all levels. It features an exciting mix of nearly 300 sessions given by mathematics education's most influential, provoking, and knowledgeable speakers and thought leaders. Sessions are organized in strands around these five critical topics:

- Powerful Mathematics Education Leadership
- Visionary Coaching Practices
- Motivational Mathematics Teaching and Learning
- Empowering Equity and Social Justice Leadership
- Exemplary Assessment Leadership

As you select your sessions, we believe that the flexible offerings will allow you to personalize your learning experience to support and inform your leadership needs over the next 12 months. I invite you to pay special attention to conference sessions that highlight the NCSM strategic initiatives:

- Connecting Leaders
- Leadership Learning
- Equity and Social Justice in Mathematics Education

In addition to the many sessions, we have built in dedicated time for you to network with our sponsors and other conference attendees.

As mathematics education leaders, we work continuously to improve our own professional practice so that we can better support and lead others. The 49th NCSM Annual Conference will allow you to further your professional growth as you develop networks and build relationships with national and international mathematics education leaders who will motivate, inspire, support, and challenge each of us to ensure that we complete the Mission—High Quality, Meaningful and Relevant Mathematics for All!

Thank you for joining us for another wonderful NCSM Annual Conference!

Sincerely,

John W. Staley
President

WELCOME TO SAN ANTONIO AND THE 49TH NCSM ANNUAL CONFERENCE

We are glad you have joined us for the 49th Annual Conference. These three days promise to be an exciting learning experience, offering you an opportunity to take advantage of almost 300 sessions and events. Here is a quick overview.

Monday, April 3, 2017

- *What's It All About? An Orientation for Those New to the NCSM Annual Conference,* provided for new attendees will be 7:30 am–8:00 am in Travis C-D.
- Monday morning is the Opening Session and Keynote Address with John Staley, NCSM President and Mona Toncheff, Program Chair. The Keynote Address *Knocking Down Barriers with Technology* will be by Eli Luberoff of Desmos.
- Following the opening session, there are a variety of Major Speakers, Spotlight Speakers, Sponsor Showcases, Technology Showcases, and regular sessions that address the conference strands across different grade levels.
- A special NCSM Coaching Kick-Off session will be offered at 11:15 am–12:15 pm in Bonham C for coaches, specialists, and teacher leaders.
- Sponsor Displays will be in Texas A-C. Be sure to visit often!
- Your first opportunity with Hot Topics will be from 2:00 pm–2:45 pm, located in Texas A-C, where you can discuss important issues for leaders in mathematics.
- NCSM State/Provincial Team Leaders Meeting with Regional Directors will be from 4:15 pm–5:15 pm in Lone Star D on the 2nd Floor.
- Join us for the ticketed reception at 5:30 pm, sponsored by Conceptua Math and Solution Tree.

Tuesday, April 4, 2017

- The first event is a ticketed breakfast sponsored by Pearson. If you do not receive a ticket you will be welcome to attend and hear the speaker after the breakfast.
- The day continues with numerous sessions and powerful speakers, as well as another opportunity to visit the Sponsor Display Area that is open from 8:30 am–4:00 pm.
- Hot Topics will be located in Texas A-C from 10:15 am–11:00 am where you will have the opportunity to visit personally with a number of the major speakers.
- There is a ticketed luncheon from 12:30 pm–2:00 pm, compliments of Texas Instruments. The Iris Carl Travel Grant recipients will be recognized.
- The afternoon brings another round of sessions, followed by NCSM Caucuses and the Business Meeting. At your Regional Caucus meeting you will meet your NCSM Regional Director and visit with other conference attendees from your region. At the NCSM Business meeting in Republic A-C you will have the opportunity to hear about the "State of the Organization" and honor the new Affiliates as they receive their official charters.
- The day ends with a ticketed reception at 5:30 pm sponsored by NCSM and DreamBox Learning.

Wednesday, April 5, 2017

- The first event is a ticketed breakfast sponsored by Origo and Ascend Math. Rather than a speaker, we will hold a facilitated Networking Event, so come prepared to share your expertise. If you do not receive a ticket you will be welcome to attend and participate in the Networking Event.
- The morning continues with a full complement of Major Speakers, Spotlight Speakers, and regular sessions.
- There is a ticketed luncheon from 12:30 pm–2:00 pm, sponsored by Discovery Education.
- The afternoon includes two additional rounds of sessions until 4:30 pm.

We want to thank:

- Our sponsors for breakfasts, lunches, receptions and their continued support of NCSM. The conference committee is grateful to all those whose interest and efforts help to make the conference a rewarding experience for all those in attendance.
- Those who submitted proposals to speak for your willingness to share your ideas and experience with your colleagues.
- Program proposal reviewers for your time and efforts in carefully reviewing the many proposals that were submitted for the program.
- On-site program committee for supporting our speakers and taking care of their on-site needs.
- Local support committee for helping to ensure a smooth-running conference.
- Volunteers for graciously giving of their time.
- The staff of the Grand Hyatt for supporting logistics and on-site needs.
- NCSM Office for their support throughout the planning process and "in the moment" at the conference, helping make things run ever so smoothly. Thank you!

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Paul D. Gray, Jr., *Regional Support Chair and Southern 2 Regional Director, Dallas, TX*

PROGRAM OVERVIEW

Stands

1. Powerful Mathematics Education Leadership Presentations in this strand will focus on research-affirmed leadership actions and thought processes to improve teaching and learning at the building, district, region and state/province levels.

2. Visionary Coaching Practices Presentations in this strand will focus on the coach's role in supporting all aspects of the teaching and learning of mathematics.

3. Motivational Mathematics Teaching and Learning Presentations in this strand will focus on engaging students in mathematics, sparking interest through meaningful tasks, dynamic technology, and strong curriculum that address the rigor, depth, and conceptual understanding of mathematical standards.

4. Empowering Equity and Social Justice Leadership Presentations in this strand will focus on equitable practices to support building, district, region and state/province level leaders that build all students' mathematical knowledge.

5. Exemplary Assessment Leadership Presentations in this strand will focus on research-affirmed assessment practices that support student and teacher engagement in reflective practices.

Visit the NCSM Website at *mathedleadership.org* for the latest information and complete listing of conference sessions.

SESSION TYPES

- Opening Session with Keynote Address—Monday morning
- NCSM State/Provincial Leaders Meeting—Monday afternoon
- Hot Topics Café—Monday afternoon and Tuesday morning
- Kay Gilliland Equity Lecture—Tuesday morning
- NCSM Caucus Sessions—Tuesday afternoon
- NCSM Annual Business Meeting— Tuesday afternoon
- Major Sessions—Monday, Tuesday, and Wednesday
- Spotlight Sessions—Monday, Tuesday, and Wednesday
- Regular Sessions—Monday, Tuesday, and Wednesday
- Sponsor Showcases—Monday and Tuesday
- Technology Showcases—Monday and Tuesday

SESSION NUMBER EXPLANATION

The first digit corresponds to the day of the week (1 for Monday, 2 for Tuesday, and 3 for Wednesday). The second digit corresponds to a common time span, for example on Monday, the 3 in the second digit corresponds to the time span of 11:15 am–12:15 pm. Finally, the last two digits correspond to a room, for example all sessions in Texas D will have a session number ending in 02. So session number 1302 is on Monday at 11:15 in Texas D.

Nominate a leader in mathematics education for the **Ross Taylor/Glenn Gilbert National Leadership Award.** See details in the section: About NCSM.

Attend your **Regional Caucus** on Tuesday afternoon. Details and a full schedule are found at the end of Tuesday sessions.

Look for an email next week inviting you to complete the **Online Conference Feedback Survey.**

Support the **Iris Carl Travel Grant Fund.** See the section in the back of this program book on NCSM Awards for more information.

GENERAL INFORMATION

EMERGENCY INFORMATION
The hotel internal emergency number is 55. The hotel has an emergency response team 24 hours a day. In the event of an actual emergency, calling the emergency number 55 will initiate the appropriate response.

FIRE CODE
Fire Code regulations apply to all conference session rooms. Sessions will be closed when seating capacity is reached. Regulations require that there is no standing, no sitting on the floor, and no moving of chairs from one room to another. We appreciate your cooperation in this matter.

SESSION SEATING
Rooms have been set to conform to Fire Code. As per fire marshal orders, only those seated in chairs will be allowed to remain in the meeting rooms. Seating at all sessions is on a first-come, first-served basis.

NON-SMOKING POLICY
The Annual Conference is a non-smoking event. Those who wish to smoke must do so outside the buildings in designated smoking areas.

CONFERENCE BADGES AND BAGS
2017 Annual Conference name badges must be worn by attendees for admittance to conference sessions, meal functions, and the sponsor display area. One NCSM Conference bag is given to each registered participant as long as supplies last. Replacement bags and extra bags will not be distributed at the conference.

CONFERENCE PLANNER
A conference planner, located at the back of the program, is for your use in choosing a schedule of sessions and events to attend. Because all rooms have a limited seating capacity, it is suggested that you select at least one alternate session for each time slot in case your first choice is full. This information will also be available on the Conference App.

TIPS FOR A SUCCESSFUL CONFERENCE
If this is your first Annual Conference, be sure to attend the **30-minute First Timer's Session** in Travis A-B on Monday morning at 7:30 am, prior to the Opening Session/Keynote. Special Gifts are planned for all first-timers attending this session. Here are some tips:

- Attend the First Timer's Sessions on Monday 7:30 am in Travis A-B.
- Become familiar with the locations of the session rooms and other conference venues.
- Visit the Sponsor Display Area in Texas A-C on Monday or Tuesday.
- Use the Conference Planner (at the back of this program) to outline your daily schedule.
- Network with colleagues and share experiences about the different sessions you attend.
- Turn off cell phones during sessions and functions.
- Attend the Technology Showcases in Independence and Sponsor Showcases in Presidio A to learn about the latest in educational products and materials.
- Post and tweet as much as you want! Share your experiences using #NCSM17 and #MTBoS.

SESSION CHANGES
The listings in this program book represent the latest conference information (as of publication) and supersede all previously printed information. Be sure to use the Conference App for any last-minute revisions. NCSM reserves the right to change speakers, facilities, or program content at any time.

CONFERENCE APP
We are very excited to announce the Conference App will be available to all attendees at the 2017 Annual Conference in San Antonio. This App will give you the ability to have the entire program available at your fingertips electronically on your cell phone, iPad, tablet, or computer. It will also allow you to plan and schedule your sessions and take notes right in the App. Look for details in your conference bag and posted at registration to have immediate access to this great experience.

TAPING, RECORDING, OR PHOTOGRAPHING SESSIONS
Written permission to tape, record, or photograph sessions must be obtained directly from the speaker(s) before the session begins. The request must contain a statement indicating the intended use of such a tape, recording, or photograph as well as your name and contact information. A copy of the request should be given to the lead speaker.

NCSM CAUCUSES
Caucuses for NCSM regions, International attendees, and Past Presidents will be held Tuesday, April 4 from 3:30 pm–4:15 pm. Details and a full schedule of caucuses are found at the end of Tuesday sessions.

The Caucuses are perfect opportunities for all conference attendees to network, collaborate, and communicate within each NCSM region. During the sessions, participants will:

- Identify and discuss national issues
- Enhance leadership capacity
- Share information on opportunities for Professional Development for mathematics leaders
- Enjoy networking among members from their region
- Explore avenues for becoming a contributing active member of NCSM!

NCSM BUSINESS MEETING
The NCSM Business Meeting will be held on Tuesday, April 4 from 4:30 pm–5:15 pm in Republic A-C. All members are invited and encouraged to attend and learn about the "State of the Organization" and opportunities for getting involved in NCSM.

Use the Conference Planner (at the back of this program) to outline your daily schedule.

GENERAL INFORMATION

COMMERCIAL SESSIONS

The conference program includes two types of commercial sessions that have become an integral part of the educational services NCSM provides conference attendees. These sessions will be held in Presidio A and Independence.

- **Sponsor Showcases** are provided by Elite Sponsors to share information about their products and materials.
- **Technology Showcases** focus on the latest products related to the use of technology in mathematics education.

SPONSOR DISPLAY AREA

The Sponsor Display Area is an important part of the educational services NCSM provides conference attendees. Attendees can examine current resources, explore trends and practices, review products and services, and engage in discussion with NCSM's sponsors. Be sure to make time in your schedule to visit the NCSM Sponsor Display Area in Texas A-C. Wear your conference name badge to gain entrance.

Hours: Monday April 3, 9:00 am–5:30 pm
Tuesday April 4, 8:30 am–4:00 pm

Extended time has been allotted to visit the Sponsor Display Area on Monday from 10:30 am–11:15 am and Tuesday from 9:15 am–10:00 am. All attendees are encouraged to visit the Sponsors during these times.

NCSM ANNUAL CONFERENCE SPONSORS

Many sponsors generously support NCSM and its membership throughout the year. Acknowledgement of all NCSM Sponsors for their contributions can be found at the back of this program.

We thank the following sponsors for their contributions to events related to the Annual Conference.

- Conference Bags – **Casio**
- Conference Neck Wallet – **CPM**
- Conference Signage – **Explore Learning**
- Literary Gift – **Math Solutions**
- Memberships and Registration – **Texas Instruments**
- Volunteer T-shirts – **Casio**
- Monday Evening Reception – **Conceptua Math & Solution Tree**
- Tuesday Breakfast **– Pearson**
- Tuesday Luncheon – **Texas Instruments**
- Tuesday Evening Reception **– NCSM & DreamBox Learning**
- Wednesday Breakfast – **Origo & Ascend Math**
- Wednesday Luncheon – **Discovery Education**

TICKETED FUNCTIONS

Attendees with tickets for events are encouraged to arrive promptly. Open seats will be available on a first-come, first-served basis after all attendees with tickets are seated.

FREQUENTLY ASKED QUESTIONS

Are meal function tickets automatically included in my registration? Meal functions are not included in the conference registration fee. Some of our sponsor partners graciously agree to host a meal function and provide a certain number of meals within their budget. If a seat was available for a function you selected when you registered, an admission ticket was provided in your registration packet.

I have a meal ticket. Does that guarantee me a seat no matter what time I show up? If you have a ticket, don't be late! Experience has shown that some people with tickets opt to make other plans at the last minute. In order to allow as many attendees as possible to enjoy the meal functions, when the ticketed line goes through, the waiting line will follow as soon as possible. If you are late, you may not get the meal for which you have a ticket.

What do I do with a meal function ticket I have, that I no longer need? You may turn in any tickets you won't use to the NCSM registration desk on the 4th Floor. This will enable someone without a ticket to get into the event. You may also hand extra tickets to any NCSM Board Member at any time during the conference.

Is there a waiting list/waiting line for meal functions? Again this year, those without tickets may wait in the special line that will form to the side of the ticketed line. The waiting line will be permitted to enter based on the available seats once the ticketed line goes through and the start time for the function is reached. Depending on the function, there is generally a good chance of getting in, especially if you get in line early!

SPOTLIGHT SPEAKERS!

Spotlight speakers are featured speakers with a larger room. These speakers have shared with us often at NCSM and always have important information to share.

STUDENT RECOGNITION CERTIFICATES

NCSM provides certificates as a means of honoring students who excel in the study of mathematics. All public, private, and parochial schools, as well as colleges and universities, that have at least one NCSM member on the faculty, are eligible to participate. Each school may receive up to two awards per year. Pick up certificates at the NCSM registration desk. More information about these certificates is available at *mathedleadership.org*.

CONFERENCE FEEDBACK

You will receive an email in the week following the conference inviting you to share your feedback with the conference committee. We encourage you to take the time to complete the online survey, as your thoughts and opinions will be helpful to the planners of the 50th Annual Conference to be held in Washington, D.C., April 23-25, 2018.

LOST AND FOUND

If you find an item you believe belongs to someone attending the NCSM Conference, please bring it to the NCSM registration desk on the 4th Floor. Articles will be held there until 10:30 am on Wednesday, at which time they will be turned over to the Grand Hyatt.

NCSM BOOKSTORE, MEMBERSHIP BOOTH, AND COACHING TABLE

Located on the 4th Floor near the NCSM registration desk, the **Coaching Table** hours are:

Sunday, April 2, 2:00 pm–5:00 pm
Monday, April 3, 9:00 am–5:00 pm
Tuesday, April 4, 8:30 am–4:00 pm

The **NCSM Bookstore** will have the same hours as above. The Bookstore will be located near the Coaching Table on Sunday and then relocated in Texas A-C on Monday and Tuesday. We have many NCSM publications and other items to support your leadership role. Join us at the Bookstore where you can order NCSM publications, books, and article by some of our speakers, and select NCTM publications to add to your professional library.

NCSM MEMBERSHIP BOOTH

NCSM Membership Booth will be located in Texas A-C on the 4th Floor during the following hours:

Monday, April 3, 9:00 am–5:00 pm
Tuesday, April 4, 8:30 am–4:00 pm

Remember to bring your **NCSM Gift Card** to redeem your special gift.

NCTM RESEARCH CONFERENCE, BOOKSTORE, AND OPENING

Registered NCSM Annual Meeting attendees wearing their NCSM Annual Meeting badge may attend the following NCTM events at no extra charge:

- The NCTM research Conference presentations on Wednesday. These sessions will be held in the Henry B. Gonzalez Convention Center (adjacent to the Grand Hyatt.)
- The NCTM Bookstore, which is open on Wednesday, April 5 from 10:00 am–7:00 pm, in the exhibit hall of the Henry B. Gonzalez Convention Center.
- The NCTM Opening Session on Wednesday, April 5 from 5:30 pm–7:00 pm in the Stars at Night Ballroom of the Henry B. Gonzalez Convention Center.

HOT TOPICS CONVERSATION CAFÉ NETWORKING AND ROUND TABLE DISCUSSIONS

Stop by the Hot Topic tables located in the Sponsor Display Area in **Texas A-C** to join casual conversations with many of the Major Speakers on Monday from 2:00 pm–2:45 pm and Tuesday from 10:15 am–11:00 am. Topics of interest to mathematics education leaders will include: having a positive impact, equity, access and relevance, addressing gaps in prerequisite knowledge, equity through a professional learning community, promoting growth mindsets, and approaches to acceleration and compression. **Seating is limited!**

2017 CONFERENCE SCHEDULE OVERVIEW

Note: Commercial Sessions = Sponsor Showcases & Technology Showcases • All Sessions – ***Grand Hyatt***

Date & Time	Event	Location
Monday, April 3		
6:45 am–5:00 pm	**Advance & On-Site Registration**	**4th Floor**
7:30 am–8:00 am	**First-Timers Session – Special Gifts**	**Travis A-B, 3rd Floor**
8:00 am–9:15 am	**Opening Session & Keynote** – Eli Luberoff	**Lone Star D-F, 2nd Floor**
9:00 am–5:30 pm	**Sponsor Displays**	**Texas A-C, 4th Floor**
9:00 am–5:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**Texas A-C, 4th Floor**
9:15 am–11:45 am	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
9:15 am–11:45 am	**Commercial Sessions**	**Presidio A and Independence**
10:30 am–11:15 am	**Special Focus on Sponsor Displays**	**Texas A-C, 4th Floor**
12:15 pm–5:15 pm	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
12:15 pm–5:15 pm	**Commercial Sessions**	**Presidio A and Independence**
2:00 pm–2:45 pm	**Hot Topic Café**	**Texas A-C, 4th Floor**
4:15 pm–5:15 pm	**State Team Leaders Meeting**	**Lone Star D, 2nd Floor**
5:30 pm–7:00 pm	**Reception – Conceptua Math & Solution Tree** *(Ticket Required)*	**Lone Star E-F, 2nd Floor**
Tuesday, April 4		
6:45 am–5:00 pm	**Advance & On-Site Registration**	**4th Floor**
7:00 am–8:00 am	**Breakfast – Pearson** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
8:30 am–4:00 pm	**Sponsor Displays**	**Texas A-C, 4th Floor**
8:30 am–4:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**Texas A-C, 4th Floor**
8:45 am–12:15 pm	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
8:45 am–12:15 pm	**Commercial Sessions**	**Presidio A and Independence**
9:15 am –10:00 am	**Special Focus on Sponsor Displays**	**Texas A-C, 4th Floor**
10:15 am–11:00 am	**Hot Topic Café**	**Texas A-C, 4th Floor**
12:15 pm–2:00 pm	**Luncheon – Texas Instruments** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
2:15 pm–3:15 pm	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
2:15 pm–3:15 pm	**Commercial Sessions**	**Presidio A and Independence**
3:30 pm–4:30 pm	**Caucus Meetings**	**2nd–4th Floors**
4:45 pm–5:30 pm	**NCSM Business Meeting & State of the Organization Report**	**Republic A-C, 4th Floor**
5:30 pm–7:00 pm	**Reception – NCSM & DreamBox Learning** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
Wednesday, April 5		
7:30 am–10:30 am	**Advance & On-Site Registration**	**4th Floor**
7:30 am–8:30 am	**Breakfast – Origo & Ascend Math** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
8:45 am–12:15 pm	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
12:30 pm–2:00 pm	**Luncheon – Discovery Education** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
2:15 pm–4:30 pm	**Major, Spotlight, and Regular Sessions**	**2nd–4th Floors**
3:30 pm–4:30 pm	**Ignite!**	**Texas D, 4th Floor**

NOTES

Introducing

A new K–5 intervention program

Bridges Intervention provides targeted instruction and support, addressing Tier 2 within the RTI framework. Each volume contains activities, games, and practice pages that can be used for re-teaching key numeracy skills and concepts. Placement and progress monitoring assessments are included.

BRIDGES®
INTERVENTION

To learn more, stop by The Math Learning Center booth or visit the link below.

mathlearningcenter.org/**intervention**

San Antonio River Walk Tile Steps

PROGRAM SUMMARY INFORMATION

MONDAY, APRIL 3

See page 5 for Conference Strand descriptions.

MONDAY SUMMARY

7:00–8:00: Session 1007: NCSM Affiliate Leaders Meeting, Travis A-B
7:30–8:00: Session 1008: Conference Orientation—First Timers Session, Travis C-D
8:00–8:30: Session 1021: Opening NCSM Session: Welcome for All, John W. Staley, Mona Toncheff, and Marisa B. Perez, Lone Star D-F
8:30–9:15: Session 1022: Keynote Presenter: Eli Luberoff, Session 1022, Lone Star D-F, Strand 3

	Lone Star D-F	Texas E-F	Texas D	Crockett A-B	Crockett C-D	Republic A-C
9:30–10:30	**Session 1100** Strand 3, General ***Boaler,*** *The Mindset Revolution: Teaching Mathematic s for a Growth Mindset*			**Session 1103** Strand 2, Elementary (K–5) ***Habecker,*** *Number Talks as Professional Development*		**Session 1105** Strand 3, Secondary (6–12) ***Bonin-Ducharme,*** *Convergent or Divergent Problem Solving?*
11:15–12:15		**Session 1301** Strand 4, General ***Bright,*** *Sticks and Stones: An Invitation to Consider the Impact of Language in Mathematics Education*	**Session 1302** Strand 3, High School (9–12) ***Wilson,*** *Slow Math: Look for and Make Use of Structure*	**Session 1303** Strand 2, General ***Hill, Gogolen, Booth,*** *From Research to Practice: the Story of MQI Coaching*	**Session 1304** Strand 3, Elementary (K–5) ***Newell,*** *This Math Was Made for Talking: Targeting Mathematics Discussions in the K–6 Classroom*	**Session 1305** Strand 3, Elementary (K–5) ***Kanter, Leinwand,*** *What Every Mathematics Leader Needs to Know and Be Able to Model to Support the Classroom Development of Numerical Fluency*
12:30–1:30		**Session 1501** Strand 3, General ***Dougherty,*** *Misconceptions and Students Who Struggle in Mathematics*	**Session 1502** Strand 3, General ***Fetter,*** *"Noticing and Wondering" as a Vehicle to Understanding the Problem*	**Session 1503** Strand 2, Secondary (6–12) ***Harris, Imm,*** *Problem Strings to Change Teaching Practice*	**Session 1504** Strand 1, Secondary (6–12) ***Steele,*** *Developing High School Mathematics Teacher Leaders: Lessons from a Content-Focused Professional Development Project*	**Session 1505** Strand 4, General ***Seabold, Owen-Rogers,*** *Leveraging TRU (Teaching for Robust Understanding of) Math Within Classroom Coaching to Increase Access and Equity*
1:45–2:45		**Session 1601** Strand 3, Elementary (K–5) ***Fletcher,*** *Three-Act Tasks: Filling the Void of Mathematical Modeling in the Elementary Grades*	**Session 1602** Strand 3, Secondary (6–12) ***Ani,*** *Mathematics as Telescope: Applying Concepts to Explore Our World*	**Session 1603** Strand 4, Primary (PK–2) ***Fuson,*** *Kindergarten and Grade 1 Children Living in Poverty Can Learn the CCSSM Number and Operations in Base Ten (NBT) Concepts*	**Session 1604** Strand 4, Elementary (K–5) ***Porter, Flores,*** *Building Leadership Structures*	**Session 1605** Strand 3, Middle (6–8) ***Neagoy,*** *Fostering Proportional Reasoning: From Fractions, Decimals, and Percents to Rations, Rates, and Special Linear Functions*
TEXAS A-C **2:00–2:45**		**Session 1630** Strand 1, General ***HOT TOPICS*** ***Boaler, Dixon, Dougherty***				
3:00–4:00		**Session 1701** Strand 1, General ***Leak,*** *Getting to the Magic: The Disney Keys to Unlocking Student Success*	**Session 1702** Strand 1, General ***Kanold,*** *Heartprint: Transforming the Way We Teach and Lead!*		**Session 1704** Strand 3, Primary (PK–2) ***Columba,*** *Picture Books to Invite Purposeful Math Talks*	**Session 1705** Strand 3, Middle (6–8) ***Rinehart,*** *Rethinking Expressions and Equations: Implications for Teacher Leaders*
4:15–5:15	**Lone Star D** **Session 1822** Strand 1, General ***Barnes,*** *Regional Directors and State Team Leaders Meeting* **MEETING**	**Session 1801** Strand 3, Elementary (K–5) ***Champagne,*** *Talk Less and Listen More*	**Session 1802** Strand 1, General ***Newsom,*** *Asset-Based Thinking: A Better Way to Lead*	**Session 1803** Strand 1, General ***Garneau, Olson,*** *Leveraging Technology to Enhance Professional Learning: The NCSM PLC App and the Connected Professional Culture Module*	**Session 1804** Strand 1, General ***Hamm, Smith, Fosnot, Abatie, Dolk,*** *The Use of a Blended Learning Model for Professional Development and Systemic Change*	**Session 1805** Strand 1, Secondary (6–12) ***Novak, Wray,*** *Strengthening Mathematics Leaders: Enhancing Practice with a Peer-to-Peer Coaching Protocol*

5:30–7:00: Session 1922: Reception (ticket required), Lone Star E-F, Co-Sponsored by *Conceptua Math* and *Solution Tree*

MONDAY SUMMARY

7:00–8:00: Session 1007: NCSM Affiliate Leaders Meeting, Travis A-B
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	Seguin A-B	Travis A-B	Travis C-D	Presidio A	Bonham B	Bonham C
9:30–10:30	**Session 1106** Strand 1, Secondary (6–12) ***Spencer, Mark, Nikula,*** *Professional Development That Immerses Teachers in the Standards for Mathematical Practice (SMP)*	**Session 1107** Strand 3, General ***Seitz,*** *NCTM's Mathematics Education Trust Provides Grants and Scholarships*	**Session 1108** Strand 5, High School (9–12) ***Bellman,*** *Helping Preservice and Novice Teachers Become Reflective, Continuous, Formative Assessments Users*			
11:15–12:15	**Session 1306** Strand 1, Elementary (K–5) ***Coulson, Reynolds,*** *Engaging Leadership: Supporting Mathematics Instruction*	**Session 1307** Strand 4, High School (9–12) ***Cunningham, Scott,*** *How to Create a System that Promotes Equity in a Large Urban District*	**Session 1308** Strand 5, Middle (6–8) ***Jackson, Trevino, Harris, Neiman, Kochmanski, Asturias, Slayton,*** *District Leaders', Coaches' and Teachers' Use of Practical Measures to Improve the Quality of Mathematics Teaching*	**Session 1309** Strand 3, Secondary (6–12) ***Reiners,*** *What's New at Casio: Our Latest Innovations to Support the Changing Landscape of Mathematics Education* **SPONSOR SHOWCASE**	**Session 1311** Strand 2, General ***Wallin,*** *Reviewing the Game Film: The Power of Coaching Through a Video Club Structure*	**Session 1312** Strand 2, General ***Karsten, McKillop, Brady, Gauthier,*** *NCSM: Coaching Kickoff*
12:30–1:30	**Session 1506** Strand 2, Elementary (K–5) ***Romero, Reynolds,*** *Shifting the Culture of Mathematics Through Professional Learning Communities*	**Session 1507** Strand 5, Secondary (6–12) ***Bishop, Seylar, Marshall,*** *Leading the Creation of District Cornerstone Mathematics Tasks*	**Session 1508** Strand 4, Elementary (K–5) ***Siegel, Woolley,*** *Everyone Has a Voice: Supporting English Language Learners Through Talk Protocols*	**Session 1509** Strand 3, Middle (6–8) ***Rinehart,*** *Seeing Things Differently: What Visual Mathematics Adds to the Equation* **SPONSOR SHOWCASE**	**Session 1511** Strand 2, General ***Coe, Sovde,*** *Addressing the Needs of Students Behind Grade Level*	**Session 1512** Strand 2, General ***Druitt, Hakuta, Fetzer, Resnick, Villeneuve,*** *Finally! Giving Students THE Voice in Mathematics Classrooms*
1:45–2:45	**Session 1606** Strand 5, General ***Ray, Edson, Grant, Phillips,*** *Student Work in Assessment: Opportunities to Assess Student Understanding of Mathematical Content and Practices*	**Session 1607** Strand 5, General ***Corley,*** *An In-Formative Assessment Framework*	**Session 1608** Strand 3, High School (9–12) ***Walters, Garrett, Heppen,*** *Making the Most of a Double Block: Early Lessons from a Rigorous Study of Intensified Algebra*	**Session 1609** Strand 2, Elementary (K–5) ***Dominick,*** *Using Number Talks to Foster a Growth Mindset* **SPONSOR SHOWCASE**	**Session 1611** Strand 2, General ***Martin, Carson, Foster,*** *Coaching from a Distance: Leveraging Technology to Provide High Quality Coaching for Rural Districts*	**Session 1612** Strand 2, Intermediate (3–5) ***Akers, Tellish, Sammons,*** *Questioning: Are Your Teachers Focusers or Funnelers?*
3:00–4:00	**Session 1706** Strand 1, Elementary (K–5) ***Huddlestun, Bidwell,*** *Digging Deeper for a Firm Foundation*	**Session 1707** Strand 3, Elementary (K–5) ***O'Connell,*** *What Are You Asking? Six Questions to Transform Mathematics Teaching*	**Session 1708** Strand 1, General ***Peyser, Stevens, Schrock, Martinie, Fast, Smith,*** *Courage from the Land of Oz*		**Session 1711** Strand 1, College ***Reeder, Utley,*** *Fostering Leadership Capacity Via an Elementary Mathematics Specialists Program* **PRESIDENT'S EXCHANGE**	**Session 1712** Strand 1, General ***Armstrong, Frandsen, Weber-Sickler, Resnick, Perry,*** *Do You Know It When You See It? CCSSM Implementation in K–8*
4:15–5:15	**Session 1806** Strand 4, General ***Smith,*** *The Pittsburgh Urban Teaching Corps: A School/University Partnership for Equity*	**Session 1807** Strand 3, Secondary (6–12) ***Sutoris, Spencer, Lemon,*** *Be Careful What You Ask For! Questions That Probe for Conceptual Understanding*	**Session 1808** Strand 1, Elementary (K–5) ***Barlow, Lischka, Strayer, Willingham,, Hartland, Gerstenschlager, Watson,*** *Double Demonstration Lessons: Supporting Teachers' Development of an Inquiry Stance*		**Session 1811** Strand 1, Elementary (K–5) ***Carroll, Seago, Weber-Sickler, Afgani,*** *From Professional Development (PD) to Classroom Practice: Using Classroom Observations as Formative Assessment of PD*	**Session 1812** Strand 2, Middle (6–8) ***Gittermann, Varlotta,*** *Do You Hear What I Hear? Sounds of Student Thinking*

5:30–7:00: Session 1922: Reception (ticket required), Lone Star E-F, Co-Sponsored by *Conceptua Math* and *Solution Tree*

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	Bonham D	Bonham E	Independence	Lone Star A	Lone Star B	Lone Star C
9:30–10:30		**Session 1114** Strand 3, General ***Palmer, Jordan,*** *Relationships, Rigor, and Relevance in the Mathematics Classroom*		**Session 1116** Strand 4, General ***Howard,*** *Principles to Action: Strengthening Girls' Mathematics Identity for the 21st Century Classroom and Workforce*	**Session 1117** Strand 2, General ***Chapman,*** *Changing Minds: Coaching for a Growth Mindset in Mathematics*	**Session 1118** Strand 1, Elementary (K–5) ***Whittington, Leslie,*** *Establishing Sustainable Leadership Structures: Capacity-Building Tools for Mathematics Leadership Teams*
11:15–12:15	**Session 1313** Strand 5, Secondary (6–12) ***Burrill,*** *Ten Strategies to Help Teachers Make Formative Assessment Integral to Their Teaching*	**Session 1314** Strand 1, General ***Agness,*** *Making It Work: Aligning Mathematics Individualized Education Plan Goals and Objectives to the Mathematical Practices*	**Session 1315** Strand 5, General ***Owens,*** *Mathematics Leadership to Impact Assessment Practices* **TECHNOLOGY SHOWCASE**	**Session 1316** Strand 2, Middle (6–8) ***Cerrahoglu, Cuarino,*** *Coaching Teachers on the Topics of Fractions, Ratios, and Rates*	**Session 1317** Strand 1, General ***Foster,*** *Fostering Problem Solving*	**Session 1318** Strand 1, General ***Davenport, Gibbons, Thorlichen, Henry,*** *Strengthening Mathematics Teaching and Learning in Grades 4–8: Using Math Labs to Improve Instruction*
12:30–1:30	**Session 1513** Strand 1, Elementary (K–5) ***Rigby, Lenges,*** *Imperfect Lessons: School Culture, Ambitious Instruction, and the Messy Process of Improvement*	**Session 1514** Strand 1, General ***Wuttig, Daml,*** *Change Mindsets of Teachers Using Blended Professional Development*	**Session 1515** Strand 3, General ***Cipkowski,*** *Going Blended: The Power of Teaching and Learning in a Personalized Classroom* **TECHNOLOGY SHOWCASE**	**Session 1516** Strand 1, Primary (PK–2) ***Atkins, Dyette, Nelson,*** *Expanding Parent and Teacher Notions of High Achievers in Mathematics in the Lower Primary Grades*	**Session 1517** Strand 2, Middle (6–8) ***Confrey, Marchese, McGowan,*** *Implementing a Learning Trajectories Approach with Digital Diagnostics in Middle Grades Mathematics: Lessons Learned*	**Session 1518** Strand 2, Intermediate (3–5) ***Abele-Austin, Hulbert,*** *"Now That I Know, What Do I Do?" Using Learning Progressions to Respond to Formative Assessment Information*
1:45–2:45	**Session 1613** Strand 1, General ***Parker,*** *Boosting Student Achievement and Revolutionizing Classroom Practice: A Statewide Mathematics Leadership Model*	**Session 1614** Strand 2, Middle (6–8) ***Gilligan, Placa,*** *Building Capacity Through Lesson Study*	**Session 1615** Strand 4, Elementary (K–5) ***Hearn, Nank, Chambers,*** *Deepen Student Understanding by Connecting Representatives*	**Session 1616** Strand 3, Secondary (6–12) ***Funderburk, McPherson,*** *Showcasing Mathematics Tasks for Coherence*	**Session 1617** Strand 3, Secondary (6–12) ***Hendrickson, Hilton,*** *A Framework for Thinking Through a Unit: Implications for Tasks, Instructional Practices and Student Outcomes*	**Session 1618** Strand 5, General ***Nolan,*** *Situating Formative Assessment in the Tasks, Questioning and Evidence (TQE) Process*
3:00–4:00	**Session 1713** Strand 3, Middle (6–8) ***Webb, Miller,*** *Principles for Technology Integration and Adaption that Promote Student Engagement and Learning*	**Session 1714** Strand 5, General ***Milou,*** *Engaging Formative Assessment Techniques with Technology*	**Session 1715** Strand 3, Elementary K–5 ***Kubiak,*** *Students Love Math with a Transition to Student Centered Learning* **TECHNOLOGY SHOWCASE**	**Session 1716** Strand 3, High School (9–12) ***Fitzpatrick, Cook,*** *College Ready or Not? Opportunities in the 12th Grade Mathematics Transition Course*	**Session 1717** Strand 3, Elementary (K–5) ***Dairyko, Flores, Porter, Capper,*** *I Have Selected a Challenging, Open-Response Mathematics Task–Now What?*	**Session 1718** Strand 1, General ***Bouck, Mills,*** *Professional Development Tools for Leaders to Tackle Mathematics Program Issues*
4:15–5:15	**Session 1813** Strand 3, Intermediate (3–5) ***Schuhl, Norris,*** *Engaging Strategies to Grow Student Learning*	**Session 1814** Strand 2, Elementary (K–5) ***Grandau, Fuson, Johnson,*** *Supporting Teachers to Systematically Analyze Students' Strengths and Struggles and Identify Next Instructional Moves*		**Session 1816** Strand 3, General ***Gojak, McGlone,*** *Global Math Stories: A Tool for Engaging Teachers and Students In Relevant Mathematics*	**Session 1817** Strand 4, Middle (6–8) ***Nikula, Buffington, DePiper,*** *Using Dynamic Artifacts of English Learners' Thinking and Communication in Teacher Professional Development*	**Session 1818** Strand 3, Secondary (6–12) ***Mark, Spencer, Goldenberg,*** *Making Sense of Algebra: A Mathematical Habits-of-Mind Approach to Preparing All Students for Success in Algebra*

5:30–7:00: Session 1922: Reception (ticket required), Lone Star E-F, Co-Sponsored by *Conceptua Math* and *Solution Tree*

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	Bowie A-C	Mission B
9:30–10:30	**Session 1119** Strand 4, Elementary (K–5) ***Zager,*** *Gut Instincts: Developing ALL Students' Mathematical Intuitions*	
11:15–12:15	**Session 1319** Strand 2, General ***Venenciano, Yagi, Zenigami,*** *Coaching Novice Teachers by Promoting Mathematics Curriculum as a Thinking Tool*	**Session 1320** Strand 2, High School (9–12) ***Packard, Mendolia,*** *Turning Observations into Actions: Translating Data into Student Growth*
12:30–1:30	**Session 1519** Strand 5, Secondary (6–12) ***Surti,*** *(Re)Considering Assessment for Depths of Knowledge in Secondary Mathematics*	**Session 1520** Strand 2, General ***Din, Clark, Chandrasekhar, Lin, Kobiela,*** *Coaching with a Camera Lens: Using Teachers' Own Classroom Videos as a Tool for Professional Learning*
1:45–2:45	**Session 1619** Strand 3, Secondary (6–12) ***Kinch,*** *Building Discourse to Foster Equity and Excellence in Mathematics* **PRESIDENT'S EXCHANGE**	**Session 1620** Strand 3, Secondary (6–12) ***Safi,*** *Examining the Role of Mathematical Content Knowledge in Using Dynamic Technology to Explore Meaningful Tasks*
3:00–4:00	**Session 1719** Strand 1, Middle (6–8) ***Grant, Trevino,*** *Powerful Classrooms Where All Students Reason and Communicate Proficiently in Mathematics*	**Session 1720** Strand 4, General ***Milam,*** *Empower Teachers to Reshape Student Outcomes! Applied Social Emotional Learning in the Classroom*
4:15–5:15	**Session 1819** Strand 5, Elementary (K–5) ***Gosen, Brady, Gauthier,*** *Assessment and Equity: Uniting Two Critical Issues to Help Children Learn Mathematics*	**Session 1820** Strand 2, General ***Baker, Bailey, Galanti,*** *From Book Club to Professional Learning Community: Transforming and Sustaining Coaching Capacity*

NOTES

5:30–7:00: Session 1922: Reception (ticket required), Lone Star E-F, Co-Sponsored by *Conceptua Math* and *Solution Tree*

MONDAY SESSIONS BY STRAND

STRAND 1: POWERFUL MATHEMATICS EDUCATION LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
1106	SEGUIN A-B	9:30–10:30
1118	LONE STAR C	9:30–10:30
1306	SEGUIN A-B	11:15–12:15
1314	BONHAM E	11:15–12:15
1317	LONE STAR B	11:15–12:15
1318	LONE STAR C	11:15–12:15
1504	CROCKETT C-D	12:30–1:30
1513	BONHAM D	12:30–1:30
1514	BONHAM E	12:30–1:30
1516	LONE STAR A	12:30–1:30
1613	BONHAM D	1:45–2:45
1630	TEXAS A-C	2:00–2:45
1701	TEXAS E-F	3:00–4:00
1702	TEXAS D	3:00–4:00
1706	SEGUIN A-B	3:00–4:00
1708	TRAVIS C-D	3:00–4:00
1711	BOHNAM B	3:00–4:00
1712	BONHAM C	3:00–4:00
1718	LONE STAR C	3:00–4:00
1719	BOWIE A-C	3:00–4:00
1802	TEXAS D	4:15–5:15
1803	CROCKETT A-B	4:15–5:15
1804	CROCKETT C-D	4:15–5:15
1805	REPUBLIC A-C	4:15–5:15
1808	TRAVIS C-D	4:15–5:15
1811	BONHAM B	4:15–5:15
1822	LONE STAR D	4:15–5:15

STRAND 2: VISIONARY COACHING PRACTICES PRESENTATIONS

SESSION	LOCATION	TIME
1103	CROCKETT A-B	9:30–10:30
1117	LONE STAR B	9:30–10:30
1303	CROCKETT A-B	11:15–12:15
1311	BONHAM B	11:15–12:15
1312	BONHAM C	11:15–12:15
1316	LONE STAR A	11:15–12:15
1319	BOWIE A-C	11:15–12:15
1320	MISSION B	11:15–12:15
1503	CROCKETT A-B	12:30–1:30
1506	SEGUIN A-B	12:30–1:30
1511	BONHAM B	12:30–1:30
1512	BONHAM C	12:30–1:30
1517	LONE STAR B	12:30–1:30
1518	LONE STAR C	12:30–1:30
1520	MISSION B	12:30–1:30
1609	PRESIDIO A	1:45–2:45
1611	BONHAM B	1:45–2:45
1612	BONHAM C	1:45–2:45
1614	BONHAM E	1:45–2:45
1812	BONHAM C	4:15–5:15
1814	BONHAM E	4:15–5:15
1820	MISSION B	4:15–5:15

STRAND 3: MOTIVATIONAL MATHEMATICS TEACHING AND LEARNING PRESENTATIONS

SESSION	LOCATION	TIME
1022	LONE STAR D-F	8:30–9:15
1100	LONE STAR D-F	9:30–10:30
1105	REPUBLIC A-C	9:30–10:30
1107	TRAVIS A-B	9:30–10:30
1114	BONHAM E	9:30–10:30
1302	TEXAS D	11:15–12:15
1304	CROCKETT C-D	11:15–12:15
1305	REPUBLIC A-C	11:15–12:15
1309	PRESIDIO A	11:15–12:15
1501	TEXAS E-F	12:30–1:30
1502	TEXAS D	12:30–1:30
1509	PRESIDIO A	12:30–1:30
1515	INDEPENDENCE	12:30–1:30
1601	TEXAS E-F	1:45–2:45
1602	TEXAS D	1:45–2:45
1605	REPUBLIC A-C	1:45–2:45
1608	TRAVIS C-D	1:45–2:45
1616	LONE STAR A	1:45–2:45
1617	LONE STAR B	1:45–2:45
1619	BOWIE A-C	1:45–2:45
1620	MISSION B	1:45–2:45
1704	CROCKETT C-D	3:00–4:00
1705	REPUBLIC A-C	3:00–4:00
1707	TRAVIS A-B	3:00–4:00
1713	BONHAM D	3:00–4:00
1715	INDEPENDENCE	3:00–4:00
1716	LONE STAR A	3:00–4:00
1717	LONE STAR B	3:00–4:00
1801	TEXAS E-F	4:15–5:15
1807	TRAVIS A-B	4:15–5:15
1813	BONHAM D	4:15–5:15
1816	LONE STAR A	4:15–5:15
1818	LONE STAR C	4:15–5:15

STRAND 4: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
1116	LONE STAR A	9:30–10:30
1119	BOWIE A-C	9:30–10:30
1301	TEXAS E-F	11:15–12:15
1307	TRAVIS A-B	11:15–12:15
1505	REPUBLIC A-C	12:30–1:30
1508	TRAVIS C-D	12:30–1:30
1603	CROCKETT A-B	1:45–2:45
1604	CROCKETT C-D	1:45–2:45
1615	INDEPENDENCE	1:45–2:45
1720	MISSION B	3:00–4:00
1806	SEGUIN A-B	4:15–5:15
1817	LONE STAR B	4:15–5:15

STRAND 5: EXEMPLARY ASSESSMENT LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
1108	TRAVIS C-D	9:30–10:30
1308	TRAVIS C-D	11:15–12:15
1313	BONHAM D	11:15–12:15
1315	INDEPENDENCE	11:15–12:15
1507	TRAVIS A-B	12:30–1:30
1519	BOWIE A-C	12:30–1:30
1606	SEGUIN A-B	1:45–2:45
1607	TRAVIS A-B	1:45–2:45
1618	LONE STAR C	1:45–2:45
1714	BONHAM E	3:00–4:00
1819	BOWIE A-C	4:15–5:15

SESSION 1007
STRAND 1

7:00 AM–8:00 AM

TRAVIS A-B
GENERAL

NCSM Affiliate Leaders Meeting

This meeting of NCSM affiliate leaders will focus on the critical work of NCSM for 2017-18. This meeting is for invited affiliate leaders.

Carol Matsumoto, NCSM Affiliates Coordinator, Winnipeg, Manitoba, Canada

CONFERENCE ORIENTATION – FIRST TIMERS SESSION

SESSION 1008
STRAND 1

7:30 AM–8:00 AM

TRAVIS C-D
GENERAL

What's It All About? An Orientation for Those New to the NCSM Annual Conference

This session is for those who are new to the NCSM Annual Conference. Participants will network with others, review the structure of the conference, explore the different conference options, set personal priorities and goals, and work on a personal plan of what to do and where to go during the conference.

Marc Garneau, NCSM Canadian Regional Director, Surrey, British Columbia, Canada

OPENING NCSM SESSION: WELCOME FOR ALL
8:00 AM–8:30 AM

SESSION 1021
STRAND 1

LONE STAR D-F
GENERAL

John W. Staley,
NCSM President
Towson, Maryland

Mona Toncheff
NCSM 1st Vice President
Phoenix, Arizona

Welcome to San Antonio and the 49th NCSM Annual Conference! Join us for greetings from the NCSM President, 2017 Program Chair, and remarks from the Texas State Board of Education member representing District 3/San Antonio.

Marisa B. Perez-Diaz
Texas State Board of Education
San Antonio, Texas

Marisa B. Perez-Diaz, the District 3 State Board of Education member, was born and raised in San Antonio. She is a product of Texas public schools and is a passionate advocate for equitable education for all students.

Perez-Diaz, a Democrat, was first elected to the State Board of Education in November 2012 and took office on Jan. 1, 2013. She is the youngest Latina, nationally, to have ever been elected to serve on a State Board of Education and is now serving her second term on the board. Perez-Diaz served on the Committee on Instruction from January 2013 to December 2016. Since January 2017, she will serve as the Vice Chair for the Committee on Initiatives.

Perez-Diaz holds her Bachelor of Arts degree in Sociology, with a minor in Psychology, from the University of Texas at Austin and a Master's degree in Educational Leadership and Policy Studies from the University of Texas at San Antonio. Perez-Diaz's cohort's research on the impact of the Urban School Leaders Collaborative (a social justice oriented principal training program) on the transformation of prospective K-12 administrators was presented at the University Council for Educational Administration's 2016 Convention in Detroit, MI. This research has been accepted for presentation at the American Educational Research Association's 2017 Annual Meeting: Knowledge to Action Achieving the Promise of Equal Educational Opportunity.

Perez-Diaz's passion for child advocacy and public service manifested itself in her tenure with the Texas Department of Family and Protective Services. Her training and certification in child welfare range from child development and advanced risk assessment to planning diversity initiatives and community engagement. From there, she went on to serve as the Governmental and Community Relations specialist for the San Antonio Independent School District, giving back to her alma mater, followed by service as the Director of External Affairs for IDEA Public Schools. Her years with TDFPS, and work in both a traditional and charter school setting have all culminated in a unique perspective of education, an understanding of the impact that a child's educational experience has on their development and the need to strengthen and support a high standard of care in public education. Perez-Diaz is now the Director of Government, Community and Judson Educational Foundation Relations at Judson Independent School District.

The arts have shaped Perez-Diaz's character, as she has been a student of Ballet Folklorico and Flamenco for over 29 years. She is currently an active member of The Guadalupe Dance Company. Perez-Diaz believes that a strong cultural, philanthropic and educational foundation have been key to her personal and professional development.

8:30 AM–9:15 AM

KEYNOTE PRESENTER

SESSION 1022 **LONE STAR D-F**
STRAND 3 **GENERAL**

Knocking Down Barriers with Technology

One-to-one. Accessibility. Personalization. Internationalization. Low floor. High ceiling. What do these all have in common? Each is targeted to making mathematics work for every student. Not just the confident students with engaged parents, not just the struggling students, every student. We will explore the technology and techniques that can open doors, challenge the bored, empower the disempowered, and turn every student into a mathematics student.

Eli Luberoff, Desmos, San Francisco, California

Desmos CEO **Eli Luberoff's** two dueling loves are learning and programming. He combined those loves in Desmos, a mathematics technology company used by millions of students and teachers around the world. Before Desmos, Eli studied mathematics and physics at Yale, where he graduated Summa Cum Laude with distinction in both majors. When not glued to his computer, Eli blows off steam by playing piano or kicking around a soccer ball—both mostly at random.

9:30 AM–10:30 AM

MAJOR PRESENTATION

SESSION 1100 **LONE STAR D-F**
STRAND 3 **GENERAL**

The Mindset Revolution: Teaching Mathematics for a Growth Mindset

In this major session, Jo will share recent and important research on the brain and mathematics learning that has profound implications for students' mathematics achievement.

Jo Boaler, Stanford University, Stanford, California

Presider, **Connie Schrock**, NCSM President Elect, Kansas City, Kansas

Dr. Jo Boaler is a Professor of Mathematics Education at Stanford University, and the co-founder of YouCubed. She is also an analyst for PISA testing in the OECD, and author of the first MOOC on mathematics teaching and learning. Former roles have included being the Marie Curie Professor of Mathematics Education in England, a mathematics teacher in London comprehensive schools and a lecturer and researcher at King's College, London. Her Ph.D. won the national award for educational research in the UK and her book *Experiencing School Mathematics* won the Outstanding Book of the Year award for education in Britain. She is an elected fellow of the Royal Society of Arts (Great Britain), and a former president of the International Organization for Women and Mathematics Education (IOWME). She is the recipient of a National Science Foundation Early Career Award and the NCSM Kay Gilliland Equity Award (2014). She is the author of nine books and numerous research articles. Her latest book is *Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching* (2016). She serves as an advisor to several Silicon Valley companies. She was an Aspen ideas speaker and a White House presenter on girls and STEM. Her work has been published in the *Times*, *The Telegraph*, *The Financial Times* and many other news outlets. She was recently named one of the eight educators "changing the face of education" by the BBC. She recently formed www.youcubed.org to give teachers, parents and student the resources and ideas they need to inspire and excite students about mathematics.

9:30 AM–10:30 AM CONT...

SESSION 1103 **CROCKETT A-B**
STRAND 2 **ELEMENTARY (K–5)**

Number Talks as Professional Development

We've all heard of using number talks to improve the number sense of our students. Number Talks are also an excellent way to build the computational fluency of our teachers, which in turn increases the likelihood of those teachers using visual representations with their students. Come learn how to use Number Talks as a safe, low-risk way to discuss mathematics and instructional strategies with your teachers.

Duane Habecker, Pleasanton Unified School District, Pleasanton, California

SESSION 1105 **REPUBLIC A-C**
STRAND 3 **SECONDARY (6–12)**

Convergent or Divergent Problem Solving?

As a teacher, should you converge to a single solution at the end of a lesson or diverge to different thinking with each student? Is an open-middle a better approach to an open-ended type problem? Through activities, you will be able to compare differences and similarities between both strategies.

Jules Bonin-Ducharme, Ontario Ministry of Education, Ottawa, Ontario, Canada

SESSION 1106 **SEGUIN A-B**
STRAND 1 **SECONDARY (6–12)**

Professional Development That Immerses Teachers in the Standards for Mathematical Practice (SMP)

Learn about aspects of the SMP that teachers find challenging and ways to support teacher learning about the SMP. Findings and resources will be shared from an NSF-funded research project that developed a Professional Development (PD) model that was tested in 20 districts across the country. Experience and discuss PD activities that include mathematical tasks, student dialogues, and planning and student work analysis protocols.

Deborah Spencer, Education Development Center, Waltham, Massachusetts

June Mark, Education Development Center, Waltham, Massachusetts

Johannah Nikula, Education Development Center, Waltham, Massachusetts

SESSION 1107 **TRAVIS A-B**
STRAND 3 **GENERAL**

NCTM's Mathematics Education Trust Provides Grants and Scholarships

As a leader, how can you promote opportunities to receive money through a grant or scholarship? Mathematics Education Trust provides this opportunity. MET supports teachers, students and schools with funds for materials, lesson development, professional development, and action research. Learn what's available. Hear tips for choosing the most appropriate award for your teacher(s) and enhancing their chances to win it.

Richard Seitz, Seitz Innovations, Helena, Montana

SESSION 1108 **TRAVIS C-D**
STRAND 5 **HIGH SCHOOL (9–12)**

Helping Preservice and Novice Teachers Become Reflective, Continuous, Formative Assessments Users

Look at a successful yearlong program used to develop preservice and novice teachers' use of timely formative information to make effective instructional decisions. Discuss a progression of activities that support teachers with setting instructional goals and then assessing student progression toward those goals. Various forms of lesson monitoring, flexible, dynamic, collaborative grouping practices, and differentiation will be discussed.

Allan Bellman, University of Mississippi, University, Mississippi

SESSION 1114 **BONHAM E**
STRAND 3 **GENERAL**

Relationships, Rigor, and Relevance in the Mathematics Classroom

Without positive relationships, you cannot achieve relevance with your students, and without relevance, learning cannot be truly rigorous. This session will examine the importance of relationships and introduce the Rigor/Relevance Framework®, a powerful tool for analyzing curriculum, instruction, activities, and assessments.

Pam Palmer, International Center for Leadership in Education, Rexford, New York

Linda Jordan, International Center for Leadership in Education, Rexford, New York

9:30 AM–10:30 AM CONT...

SESSION 1116 **LONE STAR A**
STRAND 4 **GENERAL**

Principles to Action: Strengthening Girls' Mathematics Identity for the 21st Century Classroom and Workforce

From an early age, girls are taught that mathematics success is an innate ability that they lack and being feminine and good at mathematics are mutually exclusive. We will review brain science, programs, strategies and techniques that support positive reinforcement of girls' mathematics identity and present best practices and general recommendations for what to do and not do when designing instructional strategies and programs to improve girls' mathematics identity.

Lorraine Howard, Wilkes University, Wilkes-Barre, Pennsylvania

SESSION 1117 **LONE STAR B**
STRAND 2 **GENERAL**

Changing Minds: Coaching for a Growth Mindset in Mathematics

Teachers' identities as mathematics learners and fundamental beliefs about the nature of mathematics play a critical role in shaping both the learning opportunities given to students and students' mathematics mindsets. We will examine the impact of mindset on teacher learning and instructional improvement. It will consider ways that coaching can help teachers reflect on their unconscious beliefs and take steps towards adopting a growth mindset.

Sue Chapman, University of Houston - Clear Lake, Houston, Texas

SESSION 1118 **LONE STAR C**
STRAND 1 **ELEMENTARY (K–5)**

Establishing Sustainable Leadership Structures: Capacity-Building Tools for Mathematics Leadership Teams

Leadership tools and routines can be useful and powerful for teacher leaders and administrators as they work together to support high-quality mathematics teaching and learning in their schools. We will share tools for mathematics leadership teams developed as part of our long-standing Principal and Teacher Leadership Institute including needs assessments, observation guides, and templates for school goal setting and planning for mathematics.

Alison Whittington, UChicago STEM Education, Chicago, Illinois

Debbie Leslie, The University of Chicago, Chicago, Illinois

SESSION 1119 **BOWIE A-C**
STRAND 4 **ELEMENTARY (K–5)**

Gut Instincts: Developing ALL Students' Mathematical Intuitions

We've long misunderstood mathematical intuition, assuming it's innate rather than developed through high-quality learning experiences. As a result, students who haven't yet had opportunities to foster their intuitions are often denied access to meaningful mathematics. Through analysis of powerful classroom teaching and learning, we'll explore three instructional strategies you can use to empower ALL students to grasp mathematics intuitively.

Tracy Zager, Stenhouse Publishers, Portland, Maine

11:15 AM–12:15 PM

MAJOR PRESENTATION

SESSION 1301 **TEXAS E-F**
STRAND 4 **GENERAL**

Sticks and Stones: An Invitation to Consider the Impact of Language in Mathematics Education

In what ways does our use of language in mathematics carry messages that may unintentionally privilege some students and families while marginalizing others? Recognizing that engaging in the work of social justice in mathematics education may require challenging and potentially painful shifts in practices, this session builds on the joint position statement on social justice, set forth by NCSM and TODOS: Mathematics for All, and serves as an invitation to consider purposeful steps to update our use of language, from the classroom to official policy documents. As such, drawing heavily from Critical Race Theory and employing critical discourse analysis, this session will explore some of the ways our words may land upon our students and their families, and encourage conversation around ways to reframe and recast what we write and say in all of our work related to mathematics education.

Anita Bright, Portland State University, Portland, Oregon

Presider, **Nancy Drickey,** NCSM W2 Regional Director, McMinnville, Oregon

Dr. Anita Bright is an Assistant Professor in the Department of Curriculum and Instruction at Portland State University in Portland, Oregon. Dr. Bright is the English for Speakers of Other Languages (ESOL) Program Supervisor, and teaches courses in ESOL, Social Justice, and Mathematics Education. A National Board Certified teacher in Early Adolescent Mathematics, with over 20 years of experience as a K–12 public school teacher, her primary research interests draw from critical theory and include a focus on tailoring mathematics instruction for English learners, and explorations into the ways curricular materials may function as reproducers of culture. Her research also includes a focus on the ways we, as educators, conceptualize ideas of social justice, and explores the ways we use discourse to explain, defend and justify thinking.

SPOTLIGHT SPEAKER

SESSION 1302 **TEXAS D**
STRAND 3 **HIGH SCHOOL (9–12)**

Slow Math: Look for and Make Use of Structure

We want all students to be able to say, "I can look for and make use of structure." But how do we provide opportunities for students to learn mathematics using structure? What expressions, equations, and diagrams require making what isn't pictured visible? This session will provide opportunities to engage in tasks for which making use of structure can provide an advantage and to think about how to provide that same opportunity for students.

Jennifer Wilson, Northwest Rankin High School, Flowood, Mississippi

Presider, **Maria Everett**, NCSM Secretary, Towson, Maryland

SESSION 1303 **CROCKETT A-B**
STRAND 2 **GENERAL**

From Research to Practice: the Story of MQI Coaching

Promising preliminary research findings indicate that MQI Coaching, a video-based coaching model based on the Mathematical Quality of Instruction rubric, helps mathematics teachers improve their practice. The MQI is a Common Core-aligned, math–specific rubric initially developed for research. As part of a randomized study, 3rd–8th grade mathematics teachers received coaching using the MQI to focus their discussions and guide their growth.

Heather Hill, Harvard University School of Education, Cambridge, Massachusetts

Claire Gogolen, MQI Coaching, Cambridge, Massachusetts

Samantha R. Booth, MQI Coaching, Cambridge, Massachusetts

SESSION 1304 **CROCKETT C-D**
STRAND 3 **ELEMENTARY (K–5)**

This Math Was Made for Talking: Targeting Mathematics Discussions in the K-6 Classroom

Number talks are powerful tools for building students' mathematical thinking, fluency and discourse, but there's more to them than just show and tell. Leverage your talks: analyze and use student strategies shared during number talks to plan and lead targeted follow-up discussions that reengage students in their mathematical thinking. Engage in a number talk, collaborate with peers, and gain a new planning tool for moving your practice forward.

Christine Newell, Stanislaus County Office of Education, Modesto, California

11:15 AM–12:15 PM CONT...

SESSION 1305 **REPUBLIC A-C**
STRAND 3 **ELEMENTARY (K–5)**

What Every Mathematics Leader Needs to Know and Be Able to Model to Support the Classroom Development of Numerical Fluency

This presentation will describe 10 pivotal ideas for developing numerical fluency and empower leaders to model and support these ideas. Participants will leave with a viable plan for developing numerical fluency in their schools without relying on timed tests.

Patsy Kanter, Mathematics Consultant, New Orleans, Louisiana

Steve Leinwand, American Institutes for Research, Washington, District of Columbia

SESSION 1306 **SEGUIN A-B**
STRAND 1 **ELEMENTARY (K–5)**

Engaging Leadership: Supporting Mathematics Instruction

Successful schools share a culture of learning, not just for students, but also for all staff. When leaders partner with coaches and teachers in the learning process, transformation is possible. Join us on one district's journey to engage the leadership in the mathematics instruction across the district.

Sandra Coulson, Math Solutions, Sausalito, California

Diane Reynolds, Math Solutions, Sausalito, California

SESSION 1307 **TRAVIS A-B**
STRAND 4 **HIGH SCHOOL (9–12)**

How to Create a System that Promotes Equity in a Large Urban District

Learn how a large urban school district has worked to create equity in mathematics classrooms across 17 high schools. The presenters will discuss the processes used to guarantee that all students regardless of teacher will learn the same content with the same rigorous expectations. Participants will learn how equity has been created and develop an implementation plan that meets the needs of their school or district.

Kris Cunningham, Phoenix Union High School District, Phoenix, Arizona

Jeanette Scott, Phoenix Union High School District, Phoenix, Arizona

SESSION 1308 **TRAVIS C-D**
STRAND 5 **MIDDLE (6–8)**

District Leaders', Coaches' and Teachers' Use of Practical Measures to Improve the Quality of Mathematics Teaching

This session describes a collective effort between mathematics education researchers and district and school leaders across three districts to develop and use practical measures, or measures that provide frequent, rapid feedback, to improve the quality of instruction. Coaches and district leaders will describe how they worked with teachers to use quick student surveys to assess and improve the quality of small-group and whole-class discussion.

Kara Jackson, University of Washington, Seattle, Washington

Emma Trevino, San Francisco Unified School District, San Francisco, California

Angela Harris, Jefferson County Public Schools, Louisville, Kentucky

Hannah Nieman, University of Washington, Seattle, Washington

Nicholas Kochmanski, Vanderbilt University, Nashville, Tennessee

Harold Asturias, Lawrence Hall of Science, University of California, Berkeley, California

Jessica Slayton, Metro Nashville Public Schools, Nashville, Tennessee

SPONSOR SHOWCASE

SESSION 1309 **PRESIDIO A**
STRAND 3 **SECONDARY (6–12)**

What's New at Casio: Our Latest Innovations to Support the Changing Landscape of Mathematics Education

1985: Students want a tool faster and more accurate than drawing. Casio releases the first graphing calculator. 2004: Teachers are concerned that calculator input/output doesn't match the language of mathematics. Casio develops Natural Display technology. 2010: High-res LCD technology becomes scalable and affordable. Casio releases the first full-color graphing calculator. 2017: Don't worry we've innovated again. You won't want to miss this.

Mike Reiners, Casio/Presenter, Dover, New Jersey

11:15 AM–12:15 PM CONT...

SESSION 1311 **BONHAM B**
STRAND 2 **GENERAL**

Reviewing the Game Film: The Power of Coaching Through a Video Club Structure

Sustainable teacher change is the goal of most mathematics coaches and specialists. Video clubs offer an opportunity to reduce teacher isolation, build stronger teams, and to enact powerful shifts in both school culture and instructional practice. This presentation will introduce a structure for conducting video clubs based on research collected at both the elementary and secondary levels. Resources will be provided.

Abraham Wallin, University of Idaho - CDA, Coeur d'Alene, Idaho

SSESSION 1312 **BONHAM C**
STRAND 2 **GENERAL**

NCSM: Coaching Kickoff

Come join us for a networking and celebration session designed to "kickoff" your conference right. You will see video resources available on the NCSM Coaching Corner website, as well as engage with actual stories from working coaches about successes in their work. You will also have time to share strategies and ideas for getting the most out of your NCSM conference. See you all there!

Donna Karsten, NCSM Volunteer Coordinator, Halifax, Nova Scotia, Canada

David McKillop, NCSM Historian, Truro, Nova Scotia, Canada

Denise Brady, NCSM Awards Chair, Corunna, Michigan

Jason Gauthier, NCSM C1 Regional Director, Allegan, Michigan

SESSION 1313 **BONHAM D**
STRAND 5 **SECONDARY (6–12)**

Ten Strategies to Help Teachers Make Formative Assessment Integral to Their Teaching

Formative assessment has been identified as a strategy for improving student learning. However, formative assessment as implemented is often inconsistent with the literature. Participants will consider how to help teachers design classroom opportunities using tasks and questioning strategies, often involving interactive dynamic technology, that can support teachers in refocusing instruction based on what their students say and do.

Gail Burrill, Michigan State University, East Lansing, Michigan

SESSION 1314 **BONHAM E**
STRAND 1 **GENERAL**

Making It Work: Aligning Mathematics Individualized Education Plan Goals and Objectives to the Mathematical Practices

How are needs of struggling learners and students with an Individualized Education Plan (IEP) addressed in mathematics classrooms? Schools in Howard County, Maryland, use a transformative tool created in partnership with mathematics and special education teachers and leaders. Learn how one tool has shifted IEP goals from low-level skills to high-cognitive-demand processes. Finally, a tool that unites us!

Joyce Agness, Howard County Public School System, Columbia, Maryland

TECHNOLOGY SHOWCASE

SESSION 1315 **INDEPENDENCE**
STRAND 5 **GENERAL**

Mathematics Leadership to Impact Assessment Practices

Today's assessment practices underscore the importance of innovation and problem-solving as indicators of college and career readiness. As mathematics leaders, we must provide professional learning that intentionally builds teacher capacity for effective use of technology. In this presentation, we will share work being done that develops instructional leadership qualities and effective practices that impact students' learning.

Matthew Owens, Richland School District 2, Columbia, South Carolina

SESSION 1316 **LONE STAR A**
STRAND 2 **MIDDLE (6–8)**

Coaching Teachers on the Topics of Fractions, Ratios, and Rates

What is the difference between a fraction, a ratio, and a rate? Have you been asked a similar question recently? How can we orchestrate teacher level conversations about the vocabulary and understanding around fractions, ratios, and rates? Let's explore this topic together through tasks from the Illustrative Mathematics website and materials from our forthcoming open education curriculum.

Vanessa Cerrahoglu, Orange County Department of Education, Costa Mesa, California

Jody Cuarino, Orange County Department of Education, Costa Mesa, California

11:15 AM–12:15 PM CONT...

SESSION 1317 **LONE STAR B**
STRAND 1 **GENERAL**

Fostering Problem Solving

The first Standard for Mathematical Practice is for students to make sense of problems and persevere, which should also be the first priority of every mathematics teacher. Yet engaging a heterogeneous classroom in problem solving and perseverance is the most difficult challenge for mathematics teachers. We will share strategies and tools for engaging students in high-cognitive problem solving. Research, materials and case studies are drawn from 20 years of experiences.

David Foster, Silicon Valley Mathematics Initiative, Morgan Hill, California

SESSION 1318 **LONE STAR C**
STRAND 1 **GENERAL**

Strengthening Mathematics Teaching and Learning in Grades 4–8: Using Math Labs to Improve Instruction

This session describes a teacher leadership project designed to provide school–based support for mathematics teaching and learning in Grades 4–8. This included co-planning lessons, shared opportunities to enact lessons together in classrooms with "time outs" to discuss next steps, and reflections on what was learned by trying out new practices with support from colleagues. Strategies for organizing and sustaining this work are also discussed.

Linda Davenport, Boston Public Schools, Boston, Massachusetts

Lynsey Gibbons, Boston University, Boston, Massachusetts

Peter Thorlichen, Boston Public Schools, Boston, Massachusetts

Connie Henry, Boston Public Schools, Boston, Massachusetts

SESSION 1319 **BOWIE A-C**
STRAND 2 **GENERAL**

Coaching Novice Teachers by Promoting Mathematics Curriculum as a Thinking Tool

Curriculum can be an effective vehicle for promoting new ideas when it engages teachers in looking for pedagogical potential, rather than viewed as an archive of mathematics content. Session participants will contrast examples of curriculum and identify opportunities for novice teachers to know curriculum as a tool for thinking about the mathematics and associated pedagogy.

Linda Venenciano, University of Hawai'i at Mānoa, Curriculum Research & Development Group, Honolulu, Hawaii

Seanyelle Yagi, University of Hawai'i, Honolulu, Hawaii

Fay Zenigami, University of Hawaii, Honolulu, Hawaii

SESSION 1320 **MISSION B**
STRAND 2 **HIGH SCHOOL (9–12)**

Turning Observations into Actions: Translating Data into Student Growth

Administrators and coaches spend a great deal of time observing classrooms, and translating those observations into student growth can be challenging. This interactive session will examine the experiences College Board district coaches have observed on classroom walkthroughs. The classroom walk data as well as research will be examined to identify targeted administrator actions that positively impact instruction and student achievement.

Dean Packard, SpringBoard, The College Board, New York, New York

Yvonne Mendolia, The College Board, Sunrise, Florida

12:30 PM–1:30 PM

MAJOR PRESENTATION

SESSION 1501 **TEXAS E-F**
STRAND 3 **GENERAL**

Misconceptions and Students Who Struggle in Mathematics

Students carry misconceptions with them across multiple grades and may apply them inappropriately. Some misconceptions begin in the early grades when students make generalizations that are not always true. Other misconceptions develop when rules that expire are given to students to help them perform a process. This session explores misconceptions that impact student performance particularly in algebra in middle and high school grades. Alternative ways to consider the content and instruction will be included with an emphasis on understanding variables, working with generalized quantities, and multiple representations.

Barbara Dougherty, University of Missouri, Columbia, Missouri

Presider, **Shawn Towle**, NCSM E1 Regional Director, Falmouth, Maine

Dr. Barbara Dougherty is a Research Professor in Mathematics Education at the University of Missouri-Columbia. Barb is a past member of the National Council of Teachers of Mathematics (NCTM) Board of Directors (2009–2012) and is past Chair of the NCTM Research Committee. She has conducted classroom and student-based curriculum research and development for more than 20 years. Dr. Dougherty has been a special education teacher K-12 for more than 10 years and has taught elementary, middle and high school mathematics for over 18 years. Barb is a co-author of conceptual measures for progress monitoring of students in attaining algebraic skills and concepts and on developing algebra readiness modules for middle grades students. Dr. Dougherty has developed, implemented and evaluated numerous professional development institutes for teachers PK–16, locally, nationally and internationally, with particular emphasis on teacher content knowledge and the implementation of effective, research-based instructional strategies.

SPOTLIGHT SPEAKER

SESSION 1502 **TEXAS D**
STRAND 3 **GENERAL**

"Noticing and Wondering" as a Vehicle to Understanding the Problem

The practices of Noticing and Wondering can help all students generate mathematical ideas and make connections between them. Noticing and Wondering pave the way for the development of other problem solving strategies and support a classroom culture that gives every student a way to contribute mathematically and treats mathematics as a creative process.

Annie Fetter, The Math Forum at NCTM, Swarthmore, Pennsylvania

Presider, **Natalie Crist**, NCSM Web Editor, Baltimore, Maryland

SESSION 1503 **CROCKETT A-B**
STRAND 2 **SECONDARY (6–12)**

Problem Strings to Change Teaching Practice

A problem string is a purposefully designed sequence of related problems that helps students mentally construct mathematical relationships and nudges them toward a major, efficient strategy, model, or big idea. We show how problem strings can be leveraged for changing teachers' practice. Because it puts students' ideas at the center, teachers are forced to listen deeply to kids and structure mathematics conversations around their thinking.

Pamela Harris, The University of Texas, Austin, Texas

Kara Imm, Math in the City, New York, New York

SESSION 1504 **CROCKETT C-D**
STRAND 1 **SECONDARY (6–12)**

Developing High School Mathematics Teacher Leaders: Lessons from a Content-Focused Professional Development Project

In this presentation, we describe the outcomes of a two-year professional development project for high school teachers across nine districts focused on developing teacher content knowledge, pedagogical practice, and leadership. We illuminate how teachers and facilitators used the PRIME Framework to co-construct leadership goals and engaged district colleagues in meaningful conversations about mathematics teaching and learning.

Michael Steele, University of Wisconsin, Milwaukee, Wisconsin

12:30 PM–1:30 PM CONT...

SESSION 1505 **REPUBLIC A-C**
STRAND 4 **GENERAL**

Leveraging TRU (Teaching for Robust Understanding of) Math Within Classroom Coaching to Increase Access and Equity

What happens to student achievement when teachers and coaches focus their collaborative work on equity for all students by using the dimensions of TRU Math? How does increased access to content and agency, authority, and identity impact students' ability to problem solve? Learn how the TRU Math dimensions and tools supported classroom-embedded coaching to impact student success in mathematics, especially for diverse student populations.

Danielle Seabold, Kalamazoo Regional Educational Service Agency, Portage, Michigan

Diane Owen-Rogers, Kalamazoo Regional Educational Service Area, Portage, Michigan

SESSION 1506 **SEGUIN A-B**
STRAND 2 **ELEMENTARY (K–5)**

Shifting the Culture of Mathematics Through Professional Learning Communities

Want Professional Learning Communities that run like clock work? Interested in seeing teachers collaboratively plan, teach, collect data, and reflect on the student learning that occurred? Join us to hear the story of Ramirez Thomas Elementary School in Santa Fe, NM. We will discuss how one school changed the culture of their own professional learning and in turn, shifted the culture of mathematics in their building.

Vanessa Romero, Santa Fe Public Schools, Santa Fe, New Mexico

Cassie Martin Reynolds, Carnegie Learning, Pittsburgh, Pennsylvania

SESSION 1507 **TRAVIS A-B**
STRAND 5 **SECONDARY (6–12)**

Leading the Creation of District Cornerstone Mathematics Tasks

In this session, participants will learn about the journey of one school district's mathematics leadership team to write a cornerstone task for each secondary mathematics course. The leaders will share how they promoted teacher buy-in and increased teacher content knowledge while creating cornerstone mathematics tasks. The 10-step process, task examples and professional development led by the leadership team will be shared with participants.

April Bishop, Washington County Public Schools, Hagerstown, Maryland

Amy Seylar, Washington County Public Schools, Hagerstown, Maryland

Nicole Marshall, Washington County Public Schools, Hagerstown, Maryland

SESSION 1508 **TRAVIS C-D**
STRAND 4 **ELEMENTARY (K–5)**

Everyone Has a Voice: Supporting English Language Learners Through Talk Protocols

English Language Learners (and many English dominant learners) need more than sentence frames and prompts to get them to become active participants during mathematics lessons. They need to be taught how to have mathematical conversations. We will examine video examples from Rachel's fourth grade classroom and discuss the power of structured talk protocols to support ALL students in productive mathematics conversation.

Eric Siegel, Generation Ready, New York, New York

Rachel Woolley, PS 24, Brooklyn, New York

SPONSOR SHOWCASE

SESSION 1509 **PRESIDIO A**
STRAND 3 **MIDDLE (6–8)**

Seeing Things Differently: What Visual Mathematics Adds to the Equation

How do the visuals we provide students support their understanding of math? This session focuses on motivating deeper mathematical thinking by encouraging teachers to draw upon visuals and classroom discourse to support learning. We will use materials that support a vertical progression of concepts through the middle grades to solidify our own understanding and push our thinking about practices in the classroom.

Michelle Rinehart, Region 18 Education Service Center, Midland, Texas

SESSION 1511 **BONHAM B**
STRAND 2 **GENERAL**

Addressing the Needs of Students Behind Grade Level

With the advent of College and Career Ready Standards, the assessments that go along with them, and ESSA, the focus on supporting students who are behind grade level is sharper than ever. In this session, participants will learn about practical tools and ways of thinking about how to address this problem using a framework, content guides, and curricular assets as they plan for upcoming professional learning and curriculum adjustment cycles.

Peter Coe, UnboundEd, New York, New York

Doug Sovde, UnboundEd, New York, New York

12:30 PM–1:30 PM CONT...

SESSION 1512 **BONHAM C**
STRAND 2 **GENERAL**

Finally! Giving Students THE Voice in Mathematics Classrooms

With the support of Dr. Kenji Hakuta, 10 California districts have collaborated for years identifying structures around monitoring student discourse, to maximize student CCSS mathematics achievement. They will share their incredible journeys in building the capacity of school sites in order to maximize student learning, in the second phase of their work.

Emma Druitt, Garden Grove Unified School District, Garden Grove, California

Kenji Hakuta, Stanford Graduate School of Education, Stanford, California

Mikila Fetzer, Sacramento City Unified School District, Sacramento, California

Nick Resnick, California Education Partners, San Francisco, California

Julie Villeneuve, Elk Grove Unified School District, Elk Grove, California

SESSION 1513 **BONHAM D**
STRAND 1 **ELEMENTARY (K–5)**

Imperfect Lessons: School Culture, Ambitious Instruction, and the Messy Process of Improvement

This study describes the instructional leadership actions of three principals who changed their schools' cultures through the use of an embedded professional development in mathematics. Each principal distinctly supported the learning and instructional improvement of their teachers in concert with changing school culture towards one where teachers felt safe to take risks, work collaboratively, and make their practice public.

Jessica Rigby, University of Washington, Seattle, Washington

Anita Lenges, University of Washington, Seattle, Washington

SESSION 1514 **BONHAM E**
STRAND 1 **GENERAL**

Change Mindsets of Teachers Using Blended Professional Development

How do you change the mindsets of teachers? Using books such as *Number Talks* and *Mathematical Mindsets* as a foundation for professional development during the school year, we will share how teachers have changed their teaching and their mindset. Participants will learn how we are using synchronous and asynchronous professional development to engage teachers and how the classroom is changing to engage students in mathematics.

Samantha Wuttig, Fairbanks North Star Borough School District, Fairbanks, Alaska

Michelle Daml, Fairbanks North Star Borough School District, Fairbanks, Alaska

TECHNOLOGY SHOWCASE

SESSION 1515 **INDEPENDENCE**
STRAND 3 **GENERAL**

Going Blended: The Power of Teaching and Learning in a Personalized Classroom

A blended classroom presents a host of unique challenges and opportunities. This workshop will present essential strategies to help educators transition to an effective blended classroom. Combining teacher-led instruction with computer-delivered instruction, blended instruction provides teachers with data to plan and implement practices that best meet the needs of English language learners, while providing students with personalized content.

Peter Cipkowski, Imagine Learning, Pittsburgh, Pennsylvania

SESSION 1516 **LONE STAR A**
STRAND 1 **PRIMARY (PK–2)**

Expanding Parent and Teacher Notions of High Achievers in Mathematics in the Lower Primary Grades

Hong Kong International School prides itself in providing a high quality standards-based curriculum for its PK-12 students. Our parents and teachers associate mathematics achievement with procedural fluency. We actively focus on expanding our notion of what it means to be a high achiever in mathematics. We will share our strategies for also valuing conceptual understandings, strategic competence, adaptive reasoning, and productive disposition.

Sandy Atkins, Creating AHAs, St. Petersburg, Florida

Denise Dyette, The Evergreen School, Shoreline, Washington

Maya Nelson, Hong Kong International School, Tai Tam, Hong Kong

SESSION 1517 **LONE STAR B**
STRAND 2 **MIDDLE (6–8)**

Implementing a Learning Trajectories Approach with Digital Diagnostics in Middle Grades Mathematics: Lessons Learned

Three middle schools in two diverse districts used Math-Mapper 6-8 to implement student-centered instruction informed by learning trajectories research using district leadership-designed professional development and modified lesson study by PLCs. We report on teachers' practices, noting impact on student learning and shifts in professional talk from focusing on levels of student performance to nuanced descriptions of student reasoning.

Jere Confrey, North Carolina State University, Raleigh, North Carolina

Charlene Marchese, Freehold Township Schools, Freehold, New Jersey

William McGowan, North Carolina State University, Raleigh, North Carolina

12:30 PM–1:30 PM CONT...

SESSION 1518 **LONE STAR C**
STRAND 2 **INTERMEDIATE (3–5)**

"Now That I Know, What Do I Do?" Using Learning Progressions to Respond to Formative Assessment Information

Using the research-based Ongoing Assessment Project learning progression for multiplicative reasoning, participants will analyze student work for developing understandings and instructional concerns. Participants will determine different instructional strategies to adjust classroom instruction to meet the needs of students and bring formative assessment into regular use in classrooms.

Mary Abele-Austin, Chittenden East Supervisory Union, Richmond, Vermont

Beth Hulbert, OGAPMathLLC, Moretown, Vermont

SESSION 1519 **BOWIE A-C**
STRAND 5 **SECONDARY (6–12)**

(Re)Considering Assessment for Depths of Knowledge in Secondary Mathematics

In this session we will explore structures that have been used to support teachers in exploring and integrating thinking-based assessment tasks in the secondary mathematics classroom. Along with exploring the professional learning framework that was used with teachers, we will consider teacher-produced tasks that inspire deeper conceptual understanding, provoke discourse, and bump up the depth of knowledge in secondary school mathematics.

Mishaal Surti, Thames Valley District School Board, London, Ontario, Canada

SESSION 1520 **MISSION B**
STRAND 2 **GENERAL**

Coaching with a Camera Lens: Using Teachers' Own Classroom Videos as a Tool for Professional Learning

How can videos of teachers' teaching be used to support their professional learning? We share our work engaging teachers in video clubs to reflect upon video excerpts of their own teaching to support shifts within their practice and thinking. By watching videos of our work with teachers, participants will have opportunities to consider planning for and facilitating video clubs with the teachers they work with to improve classroom teaching.

Saba Din, Sir Wilfrid Laurier School Board, Rosemère, Quebec, Canada

Peter Clark, Sir Wilfrid Laurier School Board, Rosemère, Quebec, Canada

Vandana Chandrasekhar, McGill University, Montreal, Quebec, Canada

Terry Wan Jung Lin, University of Alberta, Edmonton, Alberta, Canada

Marta Kobiela, McGill University, Montreal, Quebec, Canada

1:45 PM–2:45 PM

MAJOR PRESENTATION

SESSION 1601 **TEXAS E-F**
STRAND 3 **ELEMENTARY (K–5)**

Three-Act Tasks: Filling the Void of Mathematical Modeling in the Elementary Grades

As elementary educators we've misinterpreted the term "model" as simply the use of manipulatives. This is causing our students to miss the mark when it comes to the Standards for Mathematical Practice, in particular Model with Mathematics. Through the use of Three-Act Tasks we will explore what mathematical modeling is, what it looks like, and how we can support this work in our elementary classrooms.

Graham Fletcher, Griffin-Spalding Schools, Griffin, Georgia

Presider, **Marc Garneau**, NCSM Canadian Regional Director, Surrey, British Columbia, Canada

Graham Fletcher has worked in education for over 10 years as a classroom teacher, mathematics coach, and currently as a district mathematics specialist. He graduated from the University of Georgia where he earned his Specialist Degree in Mathematics Education. Graham's passion for conceptual understanding through problem-based lessons has led him to present throughout Canada and the United States. He continues to be an advocate for best practice and a change agent for elementary mathematics.

SPOTLIGHT SPEAKER

SESSION 1602 **TEXAS D**
STRAND 3 **SECONDARY (6–12)**

Mathematics as Telescope: Applying Concepts to Explore Our World

The CCSSM require that teachers include "real-world applications" in their instruction, but what does this mean? Many educators assume an application task is simply one that involves a context. In this presentation, we'll distinguish between conceptual understanding and applications tasks, and model two lessons in which students apply mathematical concepts to explore the world around them.

Karim Ani, Mathalicious, Austin, Texas

Presider, **Sharon Rendon**, NCSM Membership & Marketing Chair, Summerset, SD

SESSION 1603 **CROCKETT A-B**
STRAND 4 **PRIMARY (PK–2)**

Kindergarten and Grade 1 Children Living in Poverty Can Learn the CCSSM Number and Operations in Base Ten (NBT) Concepts

We summarize a sequence of learning opportunities experienced by Kindergarten and Grade 1 children from backgrounds of poverty that led to learning the CCSSM NBT content at a high level. Children's performance on tasks assessing deep understanding of NBT concepts will be shared. Participants will discuss videos showing children explaining their own mathematics drawings and will identify mathematics practices in action in these videos.

Karen Fuson, Northwestern University, Fallbrook, California

SESSION 1604 **CROCKETT C-D**
STRAND 4 **ELEMENTARY (K–5)**

Building Leadership Structures

In a network of schools in which needs and resources vary greatly by school, how do you build and support leadership structures equitably? See how a five-year project has built capacity and sustainable leadership structures centered on high-quality teaching and learning. Structures, tools and strategies will be shared as a result of the work within the project.

Denise Porter, UChicago STEM Education, Chicago, Illinois

Kathryn Flores, UChicago STEM Education, Chicago, Illinois

SESSION 1605 **REPUBLIC A-C**
STRAND 3 **MIDDLE (6–8)**

Fostering Proportional Reasoning: From Fractions, Decimals, and Percents to Ratios, Rates, and Special Linear Functions

Proportional reasoning (PR) is a milestone in students' mathematical development. It's both a capstone of elementary mathematics and a foundation for advanced mathematics, including algebra and geometry. Guided by the research on proportional reasoning, the talk unpacks the components of PR, addresses common misconceptions, and discusses pedagogical approaches—supported by powerful examples, challenging tasks, and computer apps.

Monica Neagoy, Monica Neagoy Mathematics Consulting Services, Arlington, Virginia

1:45 PM–2:45 PM CONT...

SESSION 1606 **SEGUIN A-B**
STRAND 5 **GENERAL**

Student Work in Assessment: Opportunities to Assess Student Understanding of Mathematical Content and Practices

Student work provides a potentially new context for teachers to assess students' abilities to compare, analyze, and critique the mathematical approaches and arguments of others. Participants will interact with examples of student work in assessment tasks and collaboratively discuss how assessment items could be adapted to include student work.

Amy Ray, Michigan State University, East Lansing, Michigan

Alden Edson, Michigan State University, East Lansing, Michigan

Yvonne Grant, Portland Middle School, Portland, Michigan

Elizabeth Phillips, Michigan State University, East Lansing, Michigan

SESSION 1607 **TRAVIS A-B**
STRAND 5 **GENERAL**

An In-Formative Assessment Framework

This session will present a framework for making formative assessment practices in the classroom more in-formative for you, your teachers, and their students. The information presented will draw on psychometric principles, including validity and reliability, as a foundation. We will then offer insights around item construction, form building, and reflective data interpretation practices from a curriculum-based mastery measurement perspective.

Drew Corley, Amplify, Raleigh, North Carolina

SESSION 1608 **TRAVIS C-D**
STRAND 3 **HIGH SCHOOL (9–12)**

Making the Most of a Double Block: Early Lessons from a Rigorous Study of Intensified Algebra

This session presents early findings from the Double-Dose Algebra Study, a rigorous experimental evaluation of Agile Mind's Intensified Algebra program. The blended program is designed to maximize extended instructional time for at-risk students and their teachers. The study team will share implementation findings from the first study cohort of 25 high schools as part of a larger discussion with participants on this topic.

Kirk Walters, American Institutes for Research, Washington, District of Columbia

Rachel Garrett, American Institutes for Research, Chicago, Illinois

Jessica Heppen, American Institutes for Research, Washington, District of Columbia

SPONSOR SHOWCASE

SESSION 1609 **PRESIDIO A**
STRAND 2 **ELEMENTARY (K–5)**

Using Number Talks to Foster a Growth Mindset

This session will explore how to foster a growth mindset in students through Number Talks. We will use classroom videos and examples of student thinking to analyze teacher moves that encourage a productive disposition, perseverance in problem solving, and a willingness to explore and investigate ideas.

Ann Dominick, University of Alabama at Birmingham, Birmingham, Alabama

SESSION 1611 **BONHAM B**
STRAND 2 **GENERAL**

Coaching from a Distance: Leveraging Technology to Provide High Quality Coaching for Rural Districts

How do you build capacity within rural districts when the distance is great and the resources are limited? We will describe our work supporting teachers in a rural school as they examine their own practice through virtual coaching cycles. This session will consider the technology and processes used to develop relationships that allow teachers to identify and analyze individual content and pedagogical goals based on student understanding.

Stephanie Martin, University of Rochester, Rochester, New York

Cynthia Carson, Warner School of Education, Rochester, New York

Genie Foster, University of Rochester, Rochester, New York

SESSION 1612 **BONHAM C**
STRAND 2 **INTERMEDIATE (3–5)**

Questioning: Are Your Teachers Focusers or Funnelers?

We know the significance of teacher questioning in the classroom, yet 95% of questions asked by teachers are recall or information gathering (Boaler and Brodie, 2004). In this session leaders will distinguish between focusing and funneling questions and how to use rich tasks as a basis for developing questions that help students clarify their ideas and make their thinking visible. Techniques for advancing teacher questioning will be explored.

Cheryl Akers, Howard County Public School System, Ellicott City, Maryland

Joan Tellish, Howard County Public School System, Ellicott City, Maryland

Kay Sammons, Howard County Public School System, Ellicott City, Maryland

1:45 PM–2:45 PM CONT...

SESSION 1613 **BONHAM D**
STRAND 1 **GENERAL**

Boosting Student Achievement and Revolutionizing Classroom Practice: A Statewide Mathematics Leadership Model

Teachers (Grades 4–14) learned mathematics, transformed their classrooms, raised student achievement, and now lead CCSS-based workshops throughout Washington State. An overview of the project and results will be shared. Participants will experience first-hand as learners the kinds of changes in practice that resulted in significant increases in student performance on the Smarter Balanced Asssessments.

Ruth Parker, Mathematics Education Collaborative (MEC), Ferndale, Washington

SESSION 1614 **BONHAM E**
STRAND 2 **MIDDLE (6–8)**

Building Capacity Through Lesson Study

Investigative, interesting, practical, engaging, these were some of the words our teachers used to describe lesson study. Come learn how we made lesson study a reality in an urban middle school. We will watch videos from our work, share best practices and provide tools to implement lesson study in your school to build capacity and improve teacher practice.

Carol Ann Gilligan, New York City Department of Education, Bronx, New York

Nicora Placa, Hunter College, New York, New York

TECHNOLOGY SHOWCASE

SESSION 1615 **INDEPENDENCE**
STRAND 4 **ELEMENTARY (K–5)**

Deepen Student Understanding by Connecting Representations

Encouraging students to solve problems in multiple ways is only one piece of the understanding puzzle. Students must also learn to look for and make connections between representations and solution approaches. We will examine student work samples, generate and reflect on commentary, and discuss connections among student work and how they can have a profound impact on mathematics discussions in the classroom.

Meghan Hearn, Mathematics Instruction Expert, LearnZillion, Washington, District of Columbia

Sean Nank, California State University San Marcos, San Marcos, California

Colette Chambers, Regional Account Director, LearnZillion, Washington, District of Columbia

SESSION 1616 **LONE STAR A**
STRAND 3 **SECONDARY (6–12)**

Showcasing Mathematics Tasks for Coherence

When instruction follows the sequence and depth of mathematics itself, students' success with increasingly abstract and complex mathematics is enhanced. In this session, participants will engage with tasks that illustrate a progression in the concept of proportional reasoning from middle school through high school, and will explore how using a set of tasks can contribute to depth of understanding for both teachers and students.

Joanie Funderburk, Student Achievement Partners, New York, New York

Karen McPherson, Buncombe County Schools, Asheville, North Carolina

SESSION 1617 **LONE STAR B**
STRAND 3 **SECONDARY (6–12)**

A Framework for Thinking Through a Unit: Implications for Tasks, Instructional Practices and Student Outcomes

The Comprehensive Mathematics Instruction Framework developed by the Brigham Young University Public School Partnership informs teachers in making decisions regarding the selection and sequencing of tasks, in implementing instructional practices that intentionally align with the nature and purpose of the tasks, and in assessing expected student outcomes. Classroom video and student work will be used to illustrate the Framework.

Scott Hendrickson, Brigham Young University, Provo, Utah

Sterling Hilton, Brigham Young University, Provo, Utah

SESSION 1618 **LONE STAR C**
STRAND 5 **GENERAL**

Situating Formative Assessment in the Tasks, Questioning and Evidence (TQE) Process

For teachers to best gauge student levels of mathematics understanding, they need to be able to continually assess where students are located along clearly defined learning progressions. Learn how carefully selected tasks, planned questioning, and guided evidence collection help teachers and students create supportive learning environments.

Edward Nolan, Towson University, Towson, Maryland

1:45 PM–2:45 PM CONT...

PRESIDENT'S EXCHANGE

SESSION 1619 **BOWIE A-C**
STRAND 3 **SECONDARY (6–12)**

Building Discourse to Foster Equity and Excellence in Mathematics

This session will engage participants in discussion and activities that foster equity and excellence in mathematics. As the role of the teacher moves from talker to listener the nature of classroom interactions change. Collaboration among students in language rich environments begins to become the norm. We will use the idea of proportional thinking to illustrate this change as we read, write, listen and speak about mathematics.

Diane Kinch, TODOS: Mathematics for ALL, Pomona, California

SESSION 1620 **MISSION B**
STRAND 3 **SECONDARY (6–12)**

Examining the Role of Mathematical Content Knowledge in Using Dynamic Technology to Explore Meaningful Tasks

Engaging in purposeful explorations and tasks that connect algebraic and geometric concepts and representations provides valuable opportunities for students to enhance their conceptual understanding of mathematics. In this interactive presentation, participants will explore technology-enhanced tasks that emphasize the content and coherence of mathematics and highlight strategies to empower students as they delve into meaningful mathematics.

Farshid Safi, University of Central Florida, Orlando, Florida

2:00 PM–2:45 PM

HOT TOPICS CONVERSATION CAFÉ

SESSION 1630 **TEXAS A-C**
STRAND 1 **GENERAL**

Hot Topics I

Table 1 Dr. Boaler will discuss what brain science means for mathematics teaching.

Table 2 Dr. Dixon will discuss teacher evaluations and the Tasks, Questions, and Evidence process (TQE). Are teacher evaluations worth the time and effort they require? How can leaders describe and support quality teaching for mathematics-focused and worthwhile evaluations?

Table 3 Dr. Dougherty will discuss effective tasks and assessments. What tasks and assessments offer the most useful information about what students know and can do?

Jo Boaler, Stanford University, Stanford, California

Juli Dixon, University of Central Florida, Orlando, Florida

Barbara Dougherty, University of Missouri, Columbia, Missouri

3:00 PM–4:00 PM

MAJOR PRESENTATION

SESSION 1701 **TEXAS E-F**
STRAND 1 **GENERAL**

Getting to the Magic: The Disney Keys to Unlocking Student Success

As leaders we spend a great deal of time focusing on vision, mission and strategic planning. With that work there is an underlying sense of movement to student success. This session will focus the leader on the keys to move from the idea to the actions that truly create that student success. We will focus on the seven keys to Disney's success and how they can assist mathematics education leaders with simplifying our approach to increased student success. Participants will leave with a new lens of leadership as they head to their respective schools and districts.

Donna Simpson Leak, Community Consolidated Schools District 168, Sauk Village, Illinois

Presider, **Steven Viktora**, NCSM Nominations Chair, Wilmette, Illinois

Dr. Donna Simpson Leak is the Superintendent of Community Consolidated Schools District 168 in Sauk Village, IL. Previously, she served as the Superintendent of Rich Township High School District 227, in Matteson, IL. Dr. Leak began her career as a 6th-grade mathematics teacher and went on to teach high school mathematics, serve as department chair, international mathematics consultant, associate principal, and assistant superintendent before becoming Superintendent. Dr. Leak also serves in the role of consultant for CCSSM and PLCs at Work. In addition, she has served in multiple roles on the Board of Directors for NCSM as well as a member of the Annual Conference Program Committee for NCTM. Her contributions to mathematics education leadership include being a co-author for NCSM's CCSSM *Curriculum Materials Analysis Tools* used across the nation.

Dr. Leak has worked with the Department of Defense and American Community Schools in Western Europe, Asia, and South America providing professional learning for thousands of teachers not only abroad but also in large domestic areas such as New York, Detroit, Los Angeles, Atlanta, and Memphis. She has spoken at more than 200 conferences worldwide and represented the United States at the International Congress on Mathematical Education in Seville, Spain.

3:00 PM–4:00 PM CONT...

SPOTLIGHT SPEAKER

SESSION 1702 **TEXAS D**
STRAND 1 **GENERAL**

Heartprint: Transforming the Way We Teach and Lead!

How do you and I become fully formed, fully engaged professionals? In this inspirational session, we will examine why we decided to give our work life to the teaching and leading of others and measure our heartprint on them. "Do we have the right HEART for the work?" is an important question. Our response will become the legacy of our time, treasure, talent and effort! This is the ART of our life's work!

Timothy Kanold, Loyola University, Chicago, Illinois

Presider, **Comfort Akwaji-Anderson**, NCSM C2 Regional Director, Iowa City, Iowa

SESSION 1704 **CROCKETT C-D**
STRAND 3 **PRIMARY (PK–2)**

Picture Books to Invite Purposeful Math Talks

Explore strategies that mathematics coaches can use in professional development and classrooms for structuring and guiding young learners in discourse with children's literature as the springboard. Participants will examine strategies such as PEER, Wh-prompts, CROWD, and a Reader's Guide to engage children in purposeful discussions. Preparing for student participation, making discursive moves and holding students accountable will be discussed.

Lynn Columba, Lehigh University, Bethlehem, Pennsylvania

SESSION 1705 **REPUBLIC A-C**
STRAND 3 **MIDDLE (6–8)**

Rethinking Expressions and Equations: Implications for Teacher Leaders

How are one- and two-variable expressions, one- and two-variable equations, and the standard form of a line connected in a powerful way? How might this progression support student learning of these "tough-to-teach/tough-to-learn" ideas? Explore the underlying theme that unifies these seemingly disparate topics using a technology-leveraged approach. Consider research and the role of teacher leaders in developing real understanding of these topics.

Michelle Rinehart, Region 18 Education Service Center, Midland, Texas

SESSION 1706 **SEGUIN A-B**
STRAND 1 **ELEMENTARY (K–5)**

Digging Deeper for a Firm Foundation

How can teachers be supported in developing a deeper understanding of standards? It is necessary for teachers to have a deep understanding of the mathematics students are to master in order to provide instruction that supports the development of a firm foundation and conceptual understanding of mathematics. Come hear how professional learning was provided for K–5 teachers in an urban system to increase teacher content and pedagogical knowledge.

Denise Huddlestun, Metro Regional Education Service Agency, Smyrna, Georgia

Carla Bidwell, Metro Regional Education Service Agency, Smyrna, Georgia

SESSION 1707 **TRAVIS A-B**
STRAND 3 **ELEMENTARY (K–5)**

What Are You Asking? Six Questions to Transform Mathematics Teaching

We have focused attention in recent years on asking more questions in class, yet it can still be hard for many mathematics teachers to decide which questions to ask and how to ask them. What are the questions that should be routinely asked in class? How can these questions be built into lessons across all mathematics content? Discover six questions that spur insights, challenge students' thinking, and produce proficient mathematicians.

Susan O'Connell, Quality Teacher Development, Millersville, Maryland

3:00 PM–4:00 PM CONT...

SESSION 1708 **TRAVIS C-D**
STRAND 1 **GENERAL**

Courage from the Land of Oz

The courage of one small, naive question of "Where are our 8th-grade Algebra students going?" led a district to challenge the status quo of acceleration practices. Using data, research and collaboration with districts and universities, the State Department of Education of Kansas developed a statewide recommendation for re-thinking these practices. Participants will receive the white paper and Math Pathways guide to develop their own solutions.

Elizabeth Peyser, Wichita Public Schools and KSDE, Vancouver, Washington

Sarah Stevens, Wichita Public Schools, Wichita, Kansas

Connie Schrock, Emporia State University, Emporia, Kansas

Sherri Martinie, Kansas State University, Manhattan, Kansas

Melissa Fast, Kansas State Department of Education, Topeka, Kansas

Susanne Smith, Wichita Public Schools, Wichita, Kansas

PRESIDENT'S EXCHANGE

SESSION 1711 **BONHAM B**
STRAND 1 **COLLEGE**

Fostering Leadership Capacity Via an Elementary Mathematics Specialist Program

Building leadership capacity in teachers has been an important focus of the mathematics education community for several decades. Research on the impact of an Elementary Mathematics Specialist Program on teachers' leadership capacity will be shared. Additionally, the features of the program that the teachers believe most impacted their leadership development will be presented.

Stacy Reeder, University of Oklahoma, Norman, Oklahoma

Juliana Utley, Oklahoma State University, Stillwater, Oklahoma

SESSION 1712 **BONHAM C**
STRAND 1 **GENERAL**

Do You Know It When You See It? CCSSM Implementation in K–8

How can we as teacher leaders, coaches and administrators gauge the degree to which teachers are shifting their practice as we support them in understanding the shifts in CCSSM? We will explore how districts across the state have been working to address this issue over the past three years with the support of Dr. Timothy Kanold and Dr. Dylan William.

Vicky Armstrong, Dinuba Unified School District, Dinuba, California

Eric Frandsen, Oceanside Unified School District, Oceanside, California

Kyoko Weber-Sickler, Long Beach Unified School District, Signal Hill, California

Nick Resnick, California Education Partners, San Francisco, California

Rebecca Perry, WestEd, San Francisco, California

SESSION 1713 **BONHAM D**
STRAND 3 **MIDDLE (6–8)**

Principles for Technology Integration and Adaptation that Promote Student Engagement and Learning

To effectively guide student learning with online technology resources, teachers must find ways to integrate these resources so that students have opportunities to discuss, reflect and make sense of the mathematics concepts they are exploring. Using several examples of online mathematics activities and related classroom vignettes, we will exemplify key principles that should be considered when supporting teacher use of technology.

David Webb, University of Colorado Boulder, Boulder, Colorado

Susan Miller, University of Colorado Boulder, Boulder, Colorado

SESSION 1714 **BONHAM E**
STRAND 5 **GENERAL**

Engaging Formative Assessment Techniques with Technology

This session will have teachers engaging in several formative assessment tasks using free technology from Desmos to Kahoot! to Nearpod. The tasks will demonstrate that we can engage students in their learning and assess their understanding in real time using such technology.

Eric Milou, Rowan University, Glassboro, New Jersey

3:00 PM–4:00 PM CONT...

TECHNOLOGY SHOWCASE

SESSION 1715 **INDEPENDENCE**
STRAND 3 **ELEMENTARY (K–5)**

Students Love Math with a Transition to Student Centered Learning

Lee's Summit R7 School District rolled out growth mindset and TenMarks Math as they shifted to standards-based grading over the last two years. This fundamental shift also included a one-to-one rollout. Join Julie Kubiak, Elementary Mathematics Curriculum Coordinator, to learn about the steps they took, the professional development involved, the shift in student and teacher thinking, and the hurdles they overcame.

Julie Kubiak, Elementary Mathematics Curriculum Specialist, Lee's Summit, Missouri

SESSION 1716 **LONE STAR A**
STRAND 3 **HIGH SCHOOL (9–12)**

College Ready or Not? Opportunities in the 12th Grade Mathematics Transition Course

States are seeing an opportunity in twelfth grade to finish preparing students for college mathematics through "transition courses." Come learn about the modernization of mathematics in higher education, how the move to multiple mathematics pathways affects this key transition point, recommended content for transition courses, and strategies for engaging twelfth graders who have struggled in mathematics.

Lindsay Fitzpatrick, Charles A. Dana Center, The University of Texas, Austin, Texas

Kathi Cook, Charles A. Dana Center, The University of Texas, Austin, Texas

SESSION 1717 **LONE STAR B**
STRAND 3 **ELEMENTARY (K–5)**

I Have Selected a Challenging, Open-Response Mathematics Task—Now What?

Selecting high-quality tasks is important, but implementing them effectively can be challenging. In this session we will explore ways to support productive struggle with open-response tasks. We will plan a sample task by previewing embedded mathematics content and practices and brainstorming students' strategies, misconceptions, and challenges. We will also discuss collaborative groupings that encourage students to articulate their reasoning.

Ellen Dairyko, UChicago STEM Education, Chicago, Illinois

Kathryn Flores, UChicago STEM Education, Chicago, Illinois

Denise Porter, UChicago STEM Education, Chicago, Illinois

Jean Capper, UChicago STEM Education, Chicago, Illinois

SESSION 1718 **LONE STAR C**
STRAND 1 **GENERAL**

Professional Development Tools for Leaders to Tackle Mathematics Program Issues

This session will offer mathematics leaders the opportunity to examine a new suite of free professional learning tools to help tackle persistent and challenging program issues, e.g., System Coherence, Challenging Classroom Cultures, and Formative Assessment. These materials were developed with Gates Foundation support by the Mathematics Assessment Project's design team and are complete with Powerpoints, handouts, video, and facilitator notes.

Mary Bouck, Michigan State University, East Lansing, Michigan

Valerie L. Mills, Oakland Schools, Waterford, Michigan

SESSION 1719 **BOWIE A-C**
STRAND 1 **MIDDLE (6–8)**

Powerful Classrooms Where All Students Reason and Communicate Proficiently in Mathematics

Teachers need ongoing support to implement rigorous and engaging mathematics. One challenge includes creating and maintaining a vision of a classroom that provides opportunities for students to participate in a powerful mathematics-learning environment. Using observation resources, we will watch video and discuss elements of classrooms where all students are given the opportunity to reason and communicate proficiently in mathematics.

Yvonne Grant, Portland Middle School, Portland, Michigan

Emma Trevino, San Francisco Unified School District, San Francisco, California

SESSION 1720 **MISSION B**
STRAND 4 **GENERAL**

Empower Teachers to Reshape Student Outcomes! Applied Social Emotional Learning in the Classroom

The beliefs that students hold about themselves and their abilities, the approaches they take in academic situations, and the support they receive from adults have profound influence over their academic success. In this session participants will explore the connection between the Standards for Mathematical Practice and problem solving skills that challenge mindset, attending to both—non-cognitive need and the rigor of today's academic standards.

Aurelia Milam, Agile Mind, Grapevine, Texas

4:15 PM–5:15 PM

MAJOR PRESENTATION

SESSION 1801 **TEXAS E-F**
STRAND 3 **ELEMENTARY (K–5)**

Talk Less and Listen More

It's a simple, and very complex, idea that great teachers do and do well. Genuinely listening to students can yield incredible opportunities for teachers to not only know and connect with their students, but also increase the quality of teaching and learning that happens in the classroom. Join us as we explore the power of listening to students and using that information to inform our instruction. We'll also explore strategies to help provide the supportive conditions and frameworks to help leaders support teachers in doing this work. We'll do this through examining video clips of students sharing their mathematical ideas and consider what listening affords and what questions could be asked to further their mathematical thinking.

Zachary Champagne, Florida Center for Research in Science, Technology, Engineering, and Mathematics (FCR-STEM) at Florida State University, Tallahassee, Florida

Presider, **Jon Manon**, NCSM Treasurer, Newark, Delaware

Zachary Champagne is an Assistant in Research at the Florida Center for Research in Science, Technology, Engineering, and Mathematics (FCR-STEM) at Florida State University. He previously taught for thirteen years as an elementary school teacher with a specialization in mathematics. During this time, he received many state and national awards for excellence in teaching, including the Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST), Duval County Teacher of the Year, and Finalist for Macy's Florida Teacher of the Year. Zachary is the current President of the Florida Council of Teachers of Mathematics (FCTM) and is also serving on the Editorial Board of *Teaching Children Mathematics*, an elementary mathematics journal published by the National Council of Teachers of Mathematics (NCTM). He is currently interested in learning how young students think about mathematics and how to help them understand that mathematics makes sense. He tweets at @zakchamp.

SPOTLIGHT SPEAKER

SESSION 1802 **TEXAS D**
STRAND 1 **GENERAL**

Asset-Based Thinking: A Better Way to Lead

As leaders supporting educators at different levels of the system, what would be the impact if we modeled and applied the practice of focusing on our strengths rather than our weaknesses? Would we be able to obtain the mathematics program we strive to achieve for both teachers and students? Explore ways asset-based thinking can help shape a new approach for your teachers and students.

Brian Newsom, Charles A. Dana Center, The University of Texas, Austin, Texas

Presider, **Cynthia L. Schneider**, NCSM Conference Coordinator, Austin, Texas

SESSION 1803 **CROCKETT A-B**
STRAND 1 **GENERAL**

Leveraging Technology to Enhance Professional Learning: The NCSM PLC App and the Connected Professional Culture Module

The NCSM PLC app moves professional learning experiences flexibly and powerfully into today's digital landscape. It allows leaders to analyze readiness, collaboratively learn, share, and make action plans. Come explore the Connected Professional Culture module, designed to explore new ways of building local and online educator communities including digital techniques for engaging teams, assessing needs, tracking progress, and supporting change.

Marc Garneau, NCSM Canadian Regional Director, Surrey, British Columbia, Canada

Travis Olson, NCSM Associate Journal Editor, Las Vegas, Las Vegas, Nevada

4:15 PM–5:15 PM CONT...

SESSION 1804 **CROCKETT C-D**
STRAND 1 **GENERAL**

The Use of a Blended Learning Model for Professional Development and Systemic Change

A blended model of professional learning involving both an online support system for lesson planning and in-class coaching and lesson studies with Professional Learning Communities was employed in a large urban district to support the implementation of the Standards for Mathematical Practice. This session presents the details of the implementation and the powerful systemic effects occurring after only one year of implementation.

Janan Hamm, Math in the City, New York, New York

Lindsey Smith, Success Academy Charter Schools, New York, New York

Catherine Fosnot, New Perspectives on Learning, New London, Connecticut

Carla Abatie, The Center for Mathematical Inquiry, Santa Barbara, California

Maarten Dolk, New Perspectives Online, New London, Connecticut

SESSION 1805 **REPUBLIC A-C**
STRAND 1 **SECONDARY (6–12)**

Strengthening Mathematics Leaders: Enhancing Practice with a Peer-to-Peer Coaching Protocol

The current era of education reform demands that we develop high-quality, effective leaders (It's Time, 2014). In this engaging session, participants investigate innovative strategies to engage leaders and coaches in goal-setting, professional development, and reflection of their practice using a Peer-to-Peer Coaching Protocol. Participants gain access to professional development resources to improve mathematics instruction and leadership.

Jenny Novak, Delaware Department of Education, Dover, Delaware

Jon Wray, Howard County Public School System, Ellicott City, Maryland

SESSION 1806 **SEGUIN A-B**
STRAND 4 **GENERAL**

The Pittsburgh Urban Teaching Corps: A School/ University Partnership for Equity

Every student deserves a great teacher. Due to teacher shortages, attrition, and inadequate preparation for the unique challenges of teaching in urban schools, many students in low-income communities do not have access to high quality, meaningful and relevant mathematics. This session will detail the partnership between a district and a local university; designed to recruit, develop, and retain high need/high quality teachers.

Lindsey Smith, Propel Schools, Pittsburgh, Pennsylvania

SESSION 1807 **TRAVIS A-B**
STRAND 3 **SECONDARY (6–12)**

Be Careful What You Ask For! Questions That Probe for Conceptual Understanding

Conversations for learning are crucial for developing understanding. Students who can verbalize their own mathematical ideas and interact with their classmates' ideas are building a sure foundation for their mathematical understanding. This session will outline the types of questions teachers can pose to tease out rich classroom discussions that begin with conceptual understanding but lead to procedural fluency.

Janet Sutorius, Mathematics Vision Project, Murray, Utah

Mike Spencer, Juab School District, Nephi, Utah

Travis Lemon, Mathematics Vision Project, Lehi, Utah

SESSION 1808 **TRAVIS C-D**
STRAND 1 **ELEMENTARY (K–5)**

Double Demonstration Lessons: Supporting Teachers' Development of an Inquiry Stance

Double Demonstration Lessons (DDLs) extend the brief-teach-debrief cycle of the traditional demonstration lesson to include the opportunity for revision and re-teaching of the lesson. In this session, we will describe the DDL process and provide evidence of impact regarding teachers' adoption of an inquiry stance towards teaching. Video and artifacts drawn from a sample DDL will be examined.

Angela Barlow, Middle Tennessee State University, Murfreesboro, Tennessee

Alyson Lischka, Middle Tennessee State University, Murfreesboro, Tennessee

Jeremy Strayer, Middle Tennessee State University, Murfreesboro, Tennessee

James Willingham, James Madison University, Harrisonburg, Virginia

Kristin Hartland, Middle Tennessee State University, Murfreesboro, Tennessee

Natasha Gerstenschlager, Western Kentucky University, Bowling Green, Kentucky

Lucy Watson, Middle Tennessee State University, Murfreesboro, Tennessee

4:15 PM–5:15 PM CONT...

SESSION 1811 **BONHAM B**
STRAND 1 **ELEMENTARY (K–5)**

From Professional Development (PD) to Classroom Practice: Using Classroom Observations as Formative Assessment of PD

Classroom observations provide a window into instruction that can illuminate what teachers learn in PD and how they apply that learning. As PD leaders, we can use observation data in a formative assessment cycle of design, revision, and refinement of the opportunities we offer teachers. We share our experience of observing teachers use ideas from PD in their practice and invite discussion of how a formative assessment lens can help improve PD.

Catherine Carroll, WestEd, Redwood City, California

Nanette Seago, WestEd, Riverside, California

Kyoko Weber-Sickler, Long Beach Unified School District, Signal Hill, California

Rebecca Afghani, Long Beach Unified School District, Signal Hill, California

SESSION 1812 **BONHAM C**
STRAND 2 **MIDDLE (6–8)**

Do You Hear What I Hear? Sounds of Student Thinking

The session will focus on coaching teachers through the process of interpreting purposefully collected evidence of student thinking during a lesson. Participants will examine coaching techniques that support teachers as they identify key indicators of student understanding and make decisions that will aid in strengthening students' conceptual understanding, build towards procedural fluency, and account for common misconceptions.

Megan Gittermann, Howard County Public School System, Ellicott City, Maryland

AnnMarie Varlotta, Howard County Public Schools, Ellicott City, Maryland

SESSION 1813 **BONHAM D**
STRAND 3 **INTERMEDIATE (3–5)**

Engaging Strategies to Grow Student Learning

Students learn most deeply when they grow the habits of mind needed to be mathematical thinkers and problem solvers. This means lessons need to include purposeful tasks and strategies to maximize student involvement. Which strategies best support student interactions, perseverance, and logical reasoning? In this session, explore strategies to easily incorporate in lessons that promote student learning of content through purposeful engagement.

Sarah Schuhl, On Target Student Learning, LLC, Gresham, Oregon

Kit Norris, Consultant, Hudson, Massachusetts

SESSION 1814 **BONHAM E**
STRAND 2 **ELEMENTARY (K–5)**

Supporting Teachers to Systematically Analyze Students' Strengths and Struggles and Identify Next Instructional Moves

We will prepare mathematics education leaders to use a simple but powerful tool for developing teachers' abilities to identify individual, whole-class, and whole-grade problem-solving strategies; examine complexities; analyze repeated errors; and plan follow-up instructional moves for all students. Using this tool at grade-level meetings emphasizes in-depth, collaborative teacher learning and helps teachers connect CCSSM practices to content.

Laura Grandau, Erikson Institute, Chicago, Illinois

Karen Fuson, Northwestern University, Fallbrook, California

Donna Johnson, Erikson Institute, Chicago, Illinois

SESSION 1816 **LONE STAR A**
STRAND 3 **GENERAL**

Global Math Stories: A Tool for Engaging Teachers and Students in Relevant Mathematics

Global Math Stories is a website that brings the world into the mathematics classroom giving students the opportunity to solve rich problems with countries worldwide and social justice issues as the context. We will explore how leaders and coaches can use this site with teachers to pique student interest in doing mathematics, and how teachers and their students can use these stories as a model for creating their own global math stories.

Linda Gojak, Mathematics Consultant, Willowick, Ohio

Chadd McGlone, Teachers2Teachers-International, Chapel Hill, North Carolina

SESSION 1817 **LONE STAR B**
STRAND 4 **MIDDLE (6–8)**

Using Dynamic Artifacts of English Learners' Thinking and Communication in Teacher Professional Development

Empowering students who are English Learners (ELs) to be active participants in classroom mathematical discourse communities requires teachers to attend and respond appropriately to students' mathematical thinking and mathematical communication. Learn about professional development practices that build teachers' understanding and skills in working with ELs by featuring dynamic artifacts of ELs' use of mathematics visual representations.

Johannah Nikula, Education Development Center, Waltham, Massachusetts

Pamela Buffington, Education Development Center, Gardiner, Maine

Jill DePiper, Education Development Center, Waltham, Massachusetts

4:15 PM–5:15 PM CONT...

SESSION 1818 **LONE STAR C**
STRAND 3 **SECONDARY (6–12)**

Making Sense of Algebra: A Mathematical Habits-of-Mind Approach to Preparing All Students for Success in Algebra

Learn about resources that help all students succeed in algebra by building the logic of algebra, interconnecting arithmetic pattern and algebraic structure. Engage with activities that develop Standards for Mathematical Practice 7 (seeking and using structure) and 8 (describing regularity in repeated reasoning). Mathematical puzzles and dialogues from Transition to Algebra, an algebra support course for underprepared students, will be used.

June Mark, Education Development Center, Waltham, Massachusetts
Deborah Spencer, Education Development Center, Waltham, Massachusetts

E. Paul Goldenberg, Education Development Center, Waltham, Massachusetts

SESSION 1819 **BOWIE A-C**
STRAND 5 **ELEMENTARY (K–5)**

Assessment and Equity: Uniting Two Critical Issues to Help Children Learn Mathematics

Too often our assessment practices primarily help us notice where potential inequities exist within our school systems instead of helping us address these inequities. Explore how elementary teachers and coaches are working together to use interview-based assessments, shared instructional practices, and common mathematical tools to close holes in students' learning so that they have increased access to mathematics.

Dana Gosen, Oakland Schools, Waterford, Michigan

Denise Brady, Shiawassee Regional Educational Service District, Corunna, Michigan

Jason Gauthier, Mathematics Education Consultant, Allegan, Michigan

SESSION 1820 **MISSION B**
STRAND 2 **GENERAL**

From Book Club to Professional Learning Community: Transforming and Sustaining Coaching Capacity

Mathematics coaches often work in isolation to enact and sustain meaningful change. We will discuss how our university-facilitated professional development evolved from cohorts exploring NCTM's *Principles to Action*s effective teaching practices to transformative professional learning communities. In an environment of shared passion and emerging trust, coaches reflected on experiences and increased their capacity to impact student achievement.

Courtney Baker, George Mason University, Fairfax, Virginia

Pamela Bailey, Mary Baldwin College, Richmond, Virginia

Terrie Galanti, George Mason University, Fairfax, Virginia

MEETING

SESSION 1822 **LONE STAR D**
STRAND 1 **GENERAL**

Regional Directors and State Team Leaders Meeting

This meeting of the appointed NCSM State Team Leaders and NCSM Regional Directors will focus on the critical work of NCSM for 2016–2017. In particular, we will discuss future plans for state and provincial meetings, Regional Leadership Seminars, and professional development ideas using new NCSM products. This meeting is for invited team leaders.

Bill Barnes, NCSM E2 Regional Director, Ellicot City, Maryland

MONDAY RECEPTION

5:30 PM–7:00 PM

SESSION 1922 **TICKET REQUIRED** **LONE STAR E-F**
STRAND 1 **GENERAL**

Monday Night Reception

Join us for some relaxing fun at Monday's reception co-sponsored by Conceptua Math and Solution Tree.

John W. Staley, NCSM President, Towson, Maryland

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NOTES

MATH in PRACTICE

A GRADE-BY-GRADE GUIDE FOR TEACHERS

from **Susan O'Connell** and Colleagues

Guide students into deeper math understanding

Respond to the challenges of your math program

Support students who are struggling, excelling, and anywhere in between

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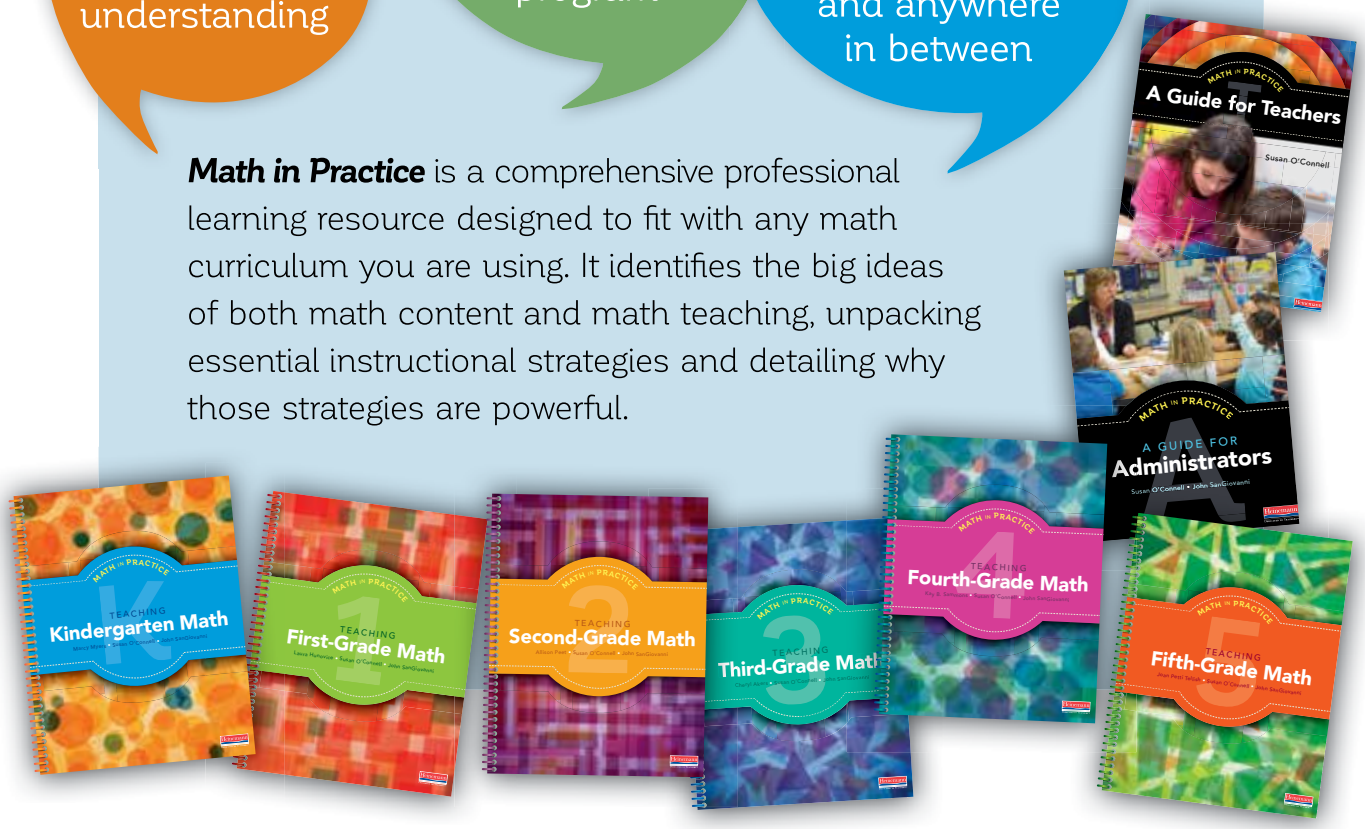

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PROGRAM SUMMARY INFORMATION

TUESDAY, APRIL 4

See page 5 for Conference Strand descriptions.

TUESDAY SUMMARY

7:00–8:00: Session 2022: Tuesday Breakfast (ticket required), Lone Star D-F, Conceptual Understanding and Exploration in Mathematics Via Desmos, Sponsored by *Pearson*

	Texas E-F	Texas D	Crockett A-B	Crockett C-D	Republic A-C	Seguin A-B
8:15–9:15	**Session 2101** Strand 1, General ***Staley,*** *NCSM Vision 2020, Mathematics Education Leadership: "Surviving" the Journey!*	**Session 2102** Strand 4, General ***Zimba,*** *Tracking, Equity, and the Many Paradoxes of Algebra II*	**Session 2103** Strand 4, Primary (PK–2) ***Keller, Greene,*** *Understanding Multi-Tiered System of Supports (MTSS) in Mathematics*	**Session 2104** Strand 1, General ***Gaun, Mays,*** *Mathematics Leadership in a Department of One: Moving a System Forward to Increase Student Achievement*	**Session 2105** Strand 5, Elementary (K–5) ***Fennell, Kobett, Wray,*** *Assessing to Inform and Transform: Using the Show Me and Hinge Question Formative Assessment Techniques EVERYDAY*	**Session 2106** Strand 1, General ***Larsen, Bailey, Baker,*** *Professional Development for Elementary Mathematics Specialists: Supporting Research-Based Principles and Practices*
10:00–11:00	**Session 2201** Strand 4, General ***Glanfield,*** *Kay Gilliland Equity Lecture: Learning About Equity in Mathematics Education Through the Lens of Indigenous Perspectives*	**Session 2202** Strand 3, General ***Leinwand,*** *10 Instructional Tweaks Every Mathematics Leader Needs to Advocate for and Be Able to Model*	**Session 2203** Strand 5, Secondary (6–12) ***Hudson,*** *Assessing Proficiency Without Percentages: Creating Grading Systems That Cause Reflection Instead of "Point-Grubbing"*	**Session 2204** Strand 3, Middle (6–8) ***Weimar,*** *Taking Student Work Seriously: Facilitating Development of Mathematical Practices and Collaborative Learning*	**Session 2205** Strand 1, General ***Briars,*** *From Principles to Actions: High-Leverage Leadership Actions to Improve Mathematics Teaching and Learning*	**Session 2206** Strand 4, General ***Avila, Bennett,*** *Supporting All Teachers: Developing Instructional Leaders by Attending to Students' Mathematical Thinking*

TEXAS A-C
10:15–11:00

Session 2230
Strand 1, General
HOT TOPICS
Berry, Champagne, Seeley

11:15–12:15	**Session 2301** Strand 4, General ***Berry,*** *Using Identity and Agency to Frame Access and Equity*	**Session 2302** Strand 1, General ***Seeley,*** *Are We Giving Up on High School?*	**Session 2303** Strand 4, General ***Larson,*** *Empowerment WITH Access and Equity* **PRESIDENT'S EXCHANGE**	**Session 2304** Strand 3, Middle (6–8) ***Gilliam, Wuttig, Zook,*** *Implementing Growth Mindset in Summer School to Prepare Students for Future Coursework*	**Session 2305** Strand 4, Elementary (K–5) ***Caban, Shink, Harriman,*** *No Opt Out: Collaborative Coaching, Teaching, and Learning Are Essential for Establishing Equitable Mathematics Classes*	**Session 2306** Strand 2, Middle (6–8) ***Knudsen, Stevens, Lara-Meloy,*** *Designing Mathematics Professional Development Through Successive Approximations of Practice*

12:30–2:00: Session 2422: Tuesday Luncheon (ticket required), Lone Star D–F, Winning the Game in Mathematics Leadership, and 12th Annual Presentation of the Iris Carl Travel Grants, Sponsored by *Texas Instruments*

2:15–3:15	**Session 2501** Strand 4, General ***Dixon, Dixon, Dixon,*** *Redefining Success: Supporting All Students to Reach Their Full Potential*	**Session 2502** Strand 3, Secondary (6–12) ***Ellis, Burrill,*** *Teaching Mathematics with Interactive Dynamic Technology: Six Principles That Support Learning*	**Session 2503** Strand 1, Middle (6–8) ***Smith, Steele,*** *Supporting Middle Grades Teachers' Development and Use of the Eight Effective Mathematics Teaching Practices*	**Session 2504** Strand 3, Secondary (6–12) ***Usiskin,*** *Approaching Ten Tough Mathematics Ideas for High School Students*	**Session 2505** Strand 3, Middle (6–8) ***Ristroph, Brown,*** *Building Conceptual Understanding with Virtual Manipulatives*	**Session 2506** Strand 1, General ***Bezuk, Bay-Williams, Clements, Martin,*** *Preparing the Next Generation of Teachers of Mathematics: Implications for Mathematics Leaders*
3:30–4:30	**Session 2601** Caucuses, General ***Gray,*** *NCSM Regional Caucus: Southern Region 2*				**Session 2605** Caucuses, General ***Staley,*** *NCSM Internatinal Caucus*	**Session 2606** Caucuses, General ***Schrock,*** *NCSM Past-President Caucus*
4:45–5:30					**Session 2705** Strand 1, General ***Staley, Manon,*** *NCSM Annual Business Meeting and State of the Organization Report*	

5:30–7:00: Session 2822: Reception (ticket required), Lone Star D-F, Co-Sponsored by *NCSM* and *DreamBox*

TUESDAY SUMMARY

7:00–8:00: Session 2022: Tuesday Breakfast (ticket required), Lone Star D-F, Conceptual Understanding and Exploration in Mathematics Via Desmos, Sponsored by *Pearson*

	Travis A-B	Travis C-D	Presidio A	Presidio B-C	Bonham B	Bonham C
8:15–9:15	**Session 2107** Strand 1, General ***Mills, Briars, Gojak, Greenes, Leinwand, Kepner, Kanold,*** *Ross Taylor Past Presidents' Session: Speed Chats for Leaders Around Critical Challenges and Effective Solutions*	**Session 2108** Strand 3, Secondary (6–12) ***Gasque, Hicks,*** *Using STEM Activities to Motivate Mathematical Discussions*	**Session 2109** Strand 2, Elementary (K–5) ***Parrish,*** *Using Number Talks to Foster a Growth Mindset* **SPONSOR SHOWCASE**	**Session 2110** Strand 1, General ***Timmons, Evans,*** *Mathematics Education Online Learning and the Expanded Learning Community*	**Session 2111** Strand 4, Elementary (K–5) ***McLeod, Melnick,*** *Reaching Diverse Learners in the Mathematics Classroom: The Principal's Role*	**Session 2112** Strand 2, Elementary (K–5 ***Portier, Luster,*** *Instructional Coaches: Transformers–More Than Meets the Eye*
10:00–11:00	**Session 2207** Strand 3, Primary (PK–2) ***Buffington, Coburn, Shaw, Larsen, McCormick,*** *Using One-to-One (1-1) Mobile Technology to Promote Mathematical Discourse, Reasoning, and Engagement in K–2 Classrooms*	**Session 2208** Strand 3, General ***Akwaji-Anderson, Krouse,*** *In Motivating Students a Productive Struggle for Your Teachers?*	**Session 2209** Strand 3, General ***Vennebush,*** *Exploring Rich Problems with Technology and Online Resources* **SPONSOR SHOWCASE**	**Session 2210** Strand 2, General ***Callard, Martin, Robb,*** *Leading Change: A New Coach's Journey Supporting Research into Practice to Improve Instruction*	**Session 2211** Strand 2, General ***Seitz, Pugalee,*** *Coaching with Great Tasks to Engage in Equity: Taking Great Tasks to a New Level*	**Session 2212** Strand 4, General ***Lucenta, Kelemanik,*** *Routines for Reasoning: Ensuring All Students Are Mathematica Thinkers*
11:15–12:15	**Session 2307** Strand 2, General ***Humphreys,*** *Letting Go: Cultivating Agency and Authority Through Number Talks in the Secondary Mathematics Classroom*	**Session 2308** Strand 3, General ***Palmer, Corrigan,*** *Using Authentic Performance Tasks Effectively in the Mathematics Classroom*		**Session 2310** Strand 1, Elementary (K–5) ***Taylor, Cameron,*** *Designing Systems to Support Effective Mathematics Teaching K–5: The Role of Leadership Teams in Creating Change*	**Session 2311** Strand 2, General ***Guarino., Baltramini, Gray,*** *Getting to the Mathematics in a Professional Learning Community*	**Session 2312** Strand 3, General ***Tanner,*** *Tricks of the Trade: Motivating Students in the Mathematics Classroom* **PRESIDENT'S EXCHANGE**

12:30–2:00: Session 2422: Tuesday Luncheon (ticket required), Lone Star D–F, Winning the Game in Mathematics Leadership, and 12th Annual Presentation of the Iris Carl Travel Grants, Sponsored by *Texas Instruments*

2:15–3:15	**Session 2507** Strand 1, Intermediate (3–5) ***Greenstein, Franza, Garcon, Forsman,*** *Improving Alignment of Instructional Materials: A Collaboration Across Districts*	**Session 2508** Strand 2, General ***Stephan, Pugalee,*** *Lesson Imaging as an Alternative to Lesson Planning*		**Session 2510** Strand 3, Middle (6–8) ***Edson, Phillips, Grant,*** *Arc of Learning: How Students' Understanding Develops Across a Connected Sequence of Mathematics Problems*	**Session 2511** Strand 1, Elementary (K–5) ***Bill, Huinker,*** *Supporting Elementary Teacher Development in Using the Eight Effective Mathematics Teaching Practices*	**Session 2512** Strand 2, Elementary (K–5) ***Mendola, Busch, Scholla, Gabrielson,*** *Coaching Practices to Increase Teacher Reflection and Support Implementation Following Professional Development*
3:30–4:30	**Session 2607** Caucuses, General ***Towle,*** *NCSM Regional Caucus: Eastern Region 1*	**Session 2608** Caucuses, General ***Akwaji-Anderson,*** *NCSM Regional Caucus: Central Region 2*		**Session 2610** Caucuses, General ***Garneau,*** *NCSM Regional Caucus: Canadian Region*		

5:30–7:00: Session 2822: Reception (ticket required), Lone Star D-F, Co-Sponsored by *NCSM* and *DreamBox*

TUESDAY SUMMARY

7:00–8:00: Session 2022: Tuesday Breakfast (ticket required), Lone Star D-F, Conceptual Understanding and Exploration in Mathematics Via Desmos, Sponsored by *Pearson*

	Bonham D	Bonham E	Lone Star A	Lone Star B	Lone Star C	Bowie A-C
8:15–9:15	**Session 2113** Strand 2, Middle (6–8) ***Placa,*** *Building Capacity by Coaching Coaches*	**Session 2114** Strand 2, Intermediate (3–5) ***Crawford-Ferre, Trakas,*** *Intensification Lab: A Coaching and Professional Development Opportunity for Intermediate Teachers*	**Session 2116** Strand 2, Intermediate (3–5) ***Ray-Riek,*** *Using Archived Student Work to Practice Planning for Intentional Talk*	**Session 2117** Strand 1, Elementary (K–5) ***SanGiovanni, Dyer, Conroy,*** *District Approaches to Exemplary Mathematics: Principles to Actions and the Danielson Framework*	**Session 2118** Strand 3, General ***Jensen-LeHew, Longley,*** *I figured it Out! Student Discovery and Ownership in an Online Environment*	**Session 2119** Strand 1, Elementary (K–5) ***Bastable, Schifter,*** *Expanding Mathematical Knowledge as Number Domains Change: What Do Mathematics Coaches Need to Know? A Division Example*
10:00–11:00	**Session 2213** Strand 5, Elementary (K–5) ***Riley, Hirschmann,*** *Assessing Process for Reflective Teaching Practices in Mathematics*	**Session 2214** Strand 3, High School (9–12) ***Manon,*** *STEM Comes Alive Through Interdisciplinary Problem-Based Learning*	**Session 2216** Strand 1, Elementary (K–5) ***Null, Antill,*** *Change Your Thinking + Change Your Practice = Positive Changes in Student Performance*	**Session 2217** Strand 4, Middle (6–8) ***Silbey,*** *Empowering Equity in Problem Solving*	**Session 2218** Strand 1, General ***Toncheff, Barnes,*** *Building Systems for Strengthening Mathematics Leadership Capacity*	**Session 2219** Strand 3, Elementary (K–5) ***Felling,*** *Mathematics Games That Build the Brain Matter*
11:15–12:15	**Session 2313** Strand 3, Middle (6–8) ***Greenes,*** *Creating MATHadazzles and MATH Adventures: Update and Motivate Teachers to Learn and Teach More Advanced Mathematics*	**Session 2314** Strand 3, Primary (PK–2) ***Bobo,*** *The Early Childhood Language of Mathematics: How to Cultivate Communication to Enhance Mathematics Understandings*	**Session 2316** Strand 2, Secondary (6–12) ***Mertens, O'Roark,*** *Collaborative Coaching to Develop Authentic Teacher Agency*	**Session 2317** Strand 3, General ***Dockterman,*** *Feeding the Brain's (Affective and Cognitive) Subcommittees for Mathematics Learning*	**Session 2318** Strand 4, High School (9–12) ***Zimmermann, Sushinski, Bowen, Scanio, Vazquez,*** *Barriers to Equity: Changing Educator Actions*	**Session 2319** Strand 1, General ***Andrews, Kobett,*** *Powerful, Active, and Engaged Mathematics Professional Learning!*

12:30–2:00: Session 2422: Tuesday Luncheon (ticket required), Lone Star D–F, Winning the Game in Mathematics Leadership, and 12th Annual Presentation of the Iris Carl Travel Grants, Sponsored by *Texas Instruments*

2:15–3:15	**Session 2513** Strand 1, High School (9–12) ***Boston, Dillon, Miller,*** *Supporting High School Teachers' Development and Use of the Eight Effective Mathematics Teaching Practices*	**Session 2514** Strand 5, Middle (6–8) ***Weinberg, LaLonde,*** *Formative Assessment: Helping Teachers and Students Become Partners in the Support of Student Learning*	**Session 2516** Strand 1, General ***Lin, Din, Clark, Cantin, Kobiela, Merovitz,*** *Coaching Coaches for the Development of Facilitation Practices: Impactful Structure, Support, and Learning Opportunities*	**Session 2517** Strand 4, General ***Akwaji-Anderson, Chuang, Brown,*** *Equity and Social Justice in Mathematics Education*	**Session 2518** Strand 3, Elementary (K–5) ***Resnick,*** *Fact Fluency, Moving from Memorization to Understanding: What Administrators Should be Looking for in the Classroom*	**Session 2519** Strand 4, Intermediate (3–5) ***Russell,*** *Mathematical Argument: Elementary Teachers Focus on Equity While Engaging Students in a Central Mathematics Practice*
3:30–4:30			**Session 2616** Caucuses, General ***Gilliam,*** *NCSM Regional Caucus: Western Region 1*	**Session 2617** Caucuses, General ***Barnes,*** *NCSM Regional Caucus: Eastern Region 2*	**Session 2618** Caucuses, General ***Crocker,*** *NCSM Regional Caucus: Southern Region 1*	**Session 2619** Caucuses, General ***Gauthier,*** *NCSM Regional Caucus: Central Region 1*

5:30–7:00: Session 2822: Reception (ticket required), Lone Star D-F, Co-Sponsored by *NCSM* and *DreamBox*

NOTES

TUESDAY SUMMARY

7:00–8:00: Session 2022: Tuesday Breakfast (ticket required), Lone Star D-F, Conceptual Understanding and Exploration in Mathematics Via Desmos, Sponsored by *Pearson*

Mission B

8:15–9:15

Session 2120
Strand 3, High School (9–12)
Davis, Thornton, *Teaching High School Students to Speak the Language of Mathematics*

10:00–11:00

Session 2220
Strand 2, Elementary (K–5)
Reddick, Rogers, *Designing a Job-Embedded Professional Learning Series That Supports a Growth Mindset of All Stakeholders*

11:15–12:15

Session 2320
Strand 3, Middle (6–8)
Rumack, *Literacy-Based Strategies for Mathematical Problem Solving*

12:30–2:00: Session 2422: Tuesday Luncheon (ticket required), Lone Star D–F, Winning the Game in Mathematics Leadership, and 12th Annual Presentation of the Iris Carl Travel Grants, Sponsored by *Texas Instruments*

2:15–3:15

Session 2520
Strand 1, Secondary (6–12)
Nguyen, Marti, *Beyond the Detracking Policy: The Nuts and Bolts of Supporting Heterogeneous Classes*

LONE STAR D-F

3:30–4:30

Session 2621
Caucuses, General
Drickey, *NCSM Regional Caucus: Western Region 2*

5:30–7:00: Session 2822: Reception (ticket required), Lone Star D-F, Co-Sponsored by *NCSM* and *DreamBox*

NOTES

TUESDAY SESSIONS BY STRAND

STRAND 1: POWERFUL MATHEMATICS EDUCATION LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
2101	TEXAS E-F	8:15–9:15
2104	CROCKETT C-D	8:15–9:15
2016	SEGUIN A-B	8:15–9:15
2107	TRAVIS A-B	8:15–9:15
2110	PRESIDIO B-C	8:15–9:15
2117	LONE STAR B	8:15–9:15
2119	BOWIE A-C	8:15–9:15
2205	REPUBLIC A-C	10:00–11:00
2216	LONE STAR A	10:00–11:00
2218	LONE STAR C	10:00–11:00
2230	TEXAS A-C	10:15–11:00
2302	TEXAS D	11:15–12:15
2306	SEGUIN A-B	11:15–12:15
2310	PRESIDIO B-C	11:15–12:15
2319	BOWIE A-C	11:15–12:15
2422	LONE STAR D-F	12:30–2:00
2503	CROCKET A-B	2:15–3:15
2506	SEGUIN A-B	2:15–3:15
2507	TRAVIS A-B	2:15–3:15
2511	BONHAM B	2:15–3:15
2513	BONHAM D	2:15–3:15
2516	LONE STAR A	2:15–3:15
2520	MISSION B	2:15–3:15

STRAND 2: VISIONARY COACHING PRACTICES PRESENTATIONS

SESSION	LOCATION	TIME
2109	PRESIDIO A	8:15–9:15
2112	BONHAM C	8:15–9:15
2113	BONHAM D	8:15–9:15
2114	BONHAM E	8:15–9:15
2116	LONE STAR A	8:15–9:15
2210	PRESIDIO B-C	10:00–11:00
2211	BONHAM B	10:00–11:00
2220	MISSION B	10:00–11:00
2307	TRAVIS A-B	11:15–12:15
2311	BONHAM B	11:15–12:15
2316	LONE STAR A	11:15–12:15
2508	TRAVIS C-D	2:15–3:15
2512	BONHAM C	2:15–3:15

STRAND 3: MOTIVATIONAL MATHEMATICS TEACHING AND LEARNING PRESENTATIONS

SESSION	LOCATION	TIME
2022	LONE STAR D-F	7:00–8:00
2108	TRAVIS C-D	8:15–9:15
2118	LONE STAR C	8:15–9:15
2120	MISSION B	8:15–9:15
2202	TEXAS D	10:00–11:00
2204	CROCKETT C-D	10:00–11:00
2207	TRAVIS A-B	10:00–11:00
2208	TRAVIS C-D	10:00–11:00
2209	PRESIDIO A	10:00–11:00
2214	BONHAM E	10:00–11:00
2219	BOWIE A-C	10:00–11:00
2304	CROCKETT C-D	11:15–12:15
2308	TRAVIS C-D	11:15–12:15
2312	BONHAM C	11:15–12:15
2313	BONHAM D	11:15–12:15
2314	BONHAM E	11:15–12:15
2317	LONE STAR B	11:15–12:15
2320	MISSION B	11:15–12:15
2502	TEXAS D	2:15–3:15
2504	CROCKETT C-D	2:15–3:15
2505	REPUBLIC A-C	2:15–3:15
2510	PRESIDIO B-C	2:15–3:15
2518	LONE STAR C	2:15–3:15

STRAND 4: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
2102	TEXAS D	8:15–9:15
2103	CROCKETT A-B	8:15–9:15
2111	BONHAM B	8:15–9:15
2201	TEXAS E-F	10:00–11:00
2206	SEQUIN A-B	10:00–11:00
2212	BONHAM C	10:00–11:00
2217	LONE STAR B	10:00–11:00
2301	TEXAS E-F	11:15–12:15
2303	CROCKETT A-B	11:15–12:15
2305	REPUBLIC A-C	11:15–12:15
2318	LONE STAR C	11:15–12:15
2501	TEXAS E-F	2:15–3:15
2517	LONE STAR B	2:15–3:15
2519	BOWIE A-C	2:15–3:15

STRAND 5: EXEMPLARY ASSESSMENT LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
2105	REPUBLIC A-C	8:15–9:15
2203	CROCKETT A-B	10:00–11:00
2213	BONHAM D	10:00–11:00
2514	BONHAM E	2:15–3:15

7:00 AM–8:00 AM
TICKET REQUIRED

SESSION 2022
STRAND 3

LONE STAR D-F
GENERAL

Conceptual Understanding and Exploration in Mathematics Via Desmos

Learn how to engage middle and high school students via collaboration and technology and help them build conceptual understanding of mathematics. Attendees will examine how Desmos, a powerful online tool set, can be incorporated to help showcase multiple representations of concepts, provide students and teachers with instantaneous feedback on the accuracy of their work, and enhance the learning of mathematics.

Eric Milou, Rowan University, Glassboro, New Jersey

Sponsored by

Pearson

8:15 AM–9:15 AM

MAJOR PRESENTATION

SESSION 2101 **TEXAS E-F**
STRAND 1 **GENERAL**

NCSM Vision 2020, Mathematics Education Leadership: "Surviving" the Journey!

In April 2016, my president's message entitled "NCSM Vision 2020 – Mathematics Education Leadership" began a conversation focused on "How Might We—the NCSM membership—chart a course to change the future?" During my talk we discussed 10 ideas for the future of NCSM. This year we will take a look at "How Might We" grow and support mathematics education leaders at all levels. As leaders we all realize that surviving the leadership journey (or *our* leadership journey) is vital for any vision to become a reality, especially when it involves mathematics. Our children are depending on us—current and future leaders—to make a difference in the teaching and learning of mathematics so that all students: access high quality mathematics learning experiences; achieve at high levels and grow academically; engage in mathematics that is meaningful, relevant, and accessible; graduate college and career-ready; and contribute to society as mathematically literate citizens.

John Staley, NCSM President, Towson, Maryland

Presider, **Bill Barnes**, NCSM E2 Regional Director, Ellicot City, Maryland

Dr. John W. Staley currently serves as the Director of Mathematics PK-12 for Baltimore County Public Schools. Just one year away from three decades in mathematics education, he has taught in the private and public PK-12 and post-secondary settings in Pennsylvania, Virginia, and Maryland, beginning his teaching career at a male juvenile correctional facility just outside of his home town of Philadelphia.

A graduate of the Philadelphia Public School system, he has degrees from University of Maryland, College Park (B.S., Mathematics); Temple University (M. Ed., Secondary Education); and George Mason University (Ph.D., Mathematics Education Leadership). During his career he has presented at state, national, and international conferences; served on many committees and tasks forces; and conducted workshops and professional development sessions on a variety of topics. He also received the Presidential Award for Excellence in Teaching Mathematics and Science. Most importantly, John truly believes that each teacher can make a difference and ALL students can be successful in mathematics.

SPOTLIGHT SPEAKER

SESSION 2102 **TEXAS D**
STRAND 4 **GENERAL**

Tracking, Equity, and the Many Paradoxes of Algebra II

What is Algebra II good for? For whom is it good? Phil Daro raised these and other questions for the Carnegie-Institute for Advanced Study Commission. Fast forward to now, and the debate about 'what mathematics and why' has found its way into the pages of the popular press. Is there anything district leaders can learn from this conversation? How might a district leader who prizes equity think about the question of tracking in school mathematics?

Jason Zimba, Student Achievement Partners, New York, New York

Presider, **Jason Gauthier**, NCSM C1 Regional Director, Allegan, Michigan

SESSION 2103 **CROCKETT A-B**
STRAND 4 **PRIMARY (PK–2)**

Understanding Multi-Tiered System of Supports (MTSS) in Mathematics

Response to Instruction—what do we know? Why does it work? Entering first grade with weak knowledge of number concepts and operations is a sign that early intervention is necessary. The foundational building block of MTSS is screening for at-risk status, particularly in the primary grades.

Amy Keller, Grant Wood Area Education Agency, Cedar Rapids, Iowa

Janet Greene, Grant Wood Area Education Agency, Cedar Rapids, Iowa

SESSION 2104 **CROCKETT C-D**
STRAND 1 **GENERAL**

Mathematics Leadership in a Department of One: Moving a System Forward to Increase Student Achievement

Are you the only mathematics specialist at your school or in your entire district? Join us as we explore ideas for creating a shared vision for mathematics, establishing a shared leadership approach and for moving a K–12 system through all the changes needed during this exciting time for mathematics education.

Jane Gaun, Flagstaff Unified School District, Flagstaff, Arizona

Betsy Mays, Paradise Valley Unified School District, Phoenix, Arizona

8:15 AM–9:15 AM CONT...

SESSION 2105 **REPUBLIC A-C**
STRAND 5 **ELEMENTARY (K–5)**

Assessing to Inform and Transform: Using the Show Me and Hinge Question Formative Assessment Techniques EVERYDAY

Participants will be engaged in use of classroom-based formative assessment techniques. The Formative 5: observations, interviews, show me, hinge questions, and exit tasks, inform teacher planning and instruction everyday and make a difference. The session will focus on a professional learning plan for use of the show me and hinge question techniques, and consider ways to integrate these techniques with observations, interviews, and exit tasks.

Francis (Skip) Fennell, McDaniel College, Westminster, Maryland

Beth Kobett, Stevenson University, Stevenson, Maryland

Jon Wray, Howard County Public School System, Ellicott City, Maryland

SESSION 2106 **SEGUIN A-B**
STRAND 1 **GENERAL**

Professional Development for Elementary Mathematics Specialists: Supporting Research-Based Principles and Practices

School districts are increasingly employing Elementary Mathematics Specialists (EMS) as embedded professional development for teachers. But what type of professional development are the EMS receiving in order to prepare them for this role? In this presentation we will share how three different universities support Mathematics Specialists as they in turn support classroom teachers in implementing high-leverage principles and practices.

Shannon Larsen, University of Maine at Farmington, Farmington, Maine

Pamela Bailey, Mary Baldwin College, Richmond, Virginia

Courtney Baker, George Mason University, Fairfax, Virginia

SESSION 2107 **TRAVIS A-B**
STRAND 1 **GENERAL**

Ross Taylor Past Presidents' Session: Speed Chats for Leaders Around Critical Challenges and Effective Solutions

Join us as participants and former NCSM Presidents meet to explore critical leadership issues in the charged and engaging session format of Speed Chats. The brief series of small group conversations will allow colleagues to discuss critical issues facing mathematics education today and to share possible solutions to benefit leaders at all levels. This session is designed for new and experienced users alike!

Valerie L. Mills, Oakland Schools, Waterford, Michigan

Diane Briars, National Council of Teachers of Mathematics, Reston, Virginia

Linda Gojak, Mathematics Consultant, Willowick, Ohio

Carole Greenes, Arizona State University, Tempe, Arizona

Steve Leinwand, American Institutes for Research, Washington, District of Columbia

Henry Kepner, University of Wisconsin, Milwaukee, Wisconsin

Timothy Kanold, Loyola University, Chicago, Illinois

SESSION 2108 **TRAVIS C-D**
STRAND 3 **SECONDARY (6–12)**

Using STEM Activities to Motivate Mathematical Discussions

Experience a STEM activity that can help students make mathematics and science connections as they plan an experiment and interpret their data in a real context. We'll explore how this type of activity can provide opportunities for teachers to use students' thinking to guide mathematics discussions and make mathematics more understandable.

Betty Gasque, Charleston, South Carolina

Judy Hicks, Arvada, Colorado

SPONSOR SHOWCASE

SESSION 2109 **PRESIDIO A**
STRAND 2 **ELEMENTARY (K–5)**

Using Number Talks to Foster a Growth Mindset

This session will explore how to foster a growth mindset in students through Number Talks. We will use classroom videos and examples of student thinking to analyze teacher moves that encourage a productive disposition, perseverance in problem solving, and a willingness to explore and investigate ideas.

Sherry Parrish, Author and Consultant, Birmingham, Alabama

8:15 AM–9:15 AM CONT...

SESSION 2110 **PRESIDIO B-C**
STRAND 1 **GENERAL**

Mathematics Education Online Learning and the Expanded Learning Community

As online professional learning gains importance in the mathematics education realm, what role does a district or school leader play in its design and implementation? There are key elements of building online professional learning opportunities in mathematics that strengthen learning and empower participants. This session will dive into the choices leaders have when looking to build strong mathematics communities of practice.

Ryan Timmons, Charles A. Dana Center, The University of Texas, Austin, Texas

Linda Evans, Charles A. Dana Center, The University of Texas, Austin, Texas

SESSION 2111 **BONHAM B**
STRAND 4 **ELEMENTARY (K–5)**

Reaching Diverse Learners in the Mathematics Classroom: The Principal's Role

Reaching diverse learners in a mathematics classroom has long been a priority of professional development (PD) for teachers. What is the principal's role in supporting the teachers in this endeavor? In Chicago Public Schools, a team from EDC and Bank Street College is studying the effects of PD on teachers and building a structure for principal support for the teachers. Come hear about the PD, the work with principals and the lessons learned.

Matthew McLeod, Education Development Center, Inc., Chicago, Illinois

Hal Melnick, Bank Street College, New York, New York

SESSION 2112 **BONHAM C**
STRAND 2 **ELEMENTARY (K–5)**

Instructional Coaches: Transformers—More Than Meets the Eye

Do you utilize your instructional coaches as agents of change on your campus and in your district? As the educational landscape changes, so do the roles instructional coaches play in supporting district initiatives, campus goals and classroom instruction. Come away with an overview of how our district supports, adjusts, and transforms the framework of its Instructional Coaching program in order for this powerful impact to affect student learning.

Marlene Portier, Katy Independent School District, Katy, Texas

Michelle Luster, Katy Independent School District, Katy, Texas

SESSION 2113 **BONHAM D**
STRAND 2 **MIDDLE (6–8)**

Building Capacity by Coaching Coaches

Mathematics coaches often do not receive the training that they need to do their job. Come learn how to transition teachers in your school to coaches to help build capacity. We will share systems and strategies from our work coaching coaches in urban middle schools. We will discuss specific ways we helped coaches develop skills in the following areas: building relationships, developing a common lens for viewing instruction and giving feedback.

Nicora Placa, Hunter College, New York, New York

SESSION 2114 **BONHAM E**
STRAND 2 **INTERMEDIATE (3–5)**

Intensification Lab: A Coaching and Professional Development Opportunity for Intermediate Teachers

Explore the importance of coaching teachers to think about intensification instead of remediation. We will share our lab-like setting for professional development, including strengths and areas for improvement. This session will engage participants in exploring some big ideas, strategies, and models to help support students' construction of multiplicative reasoning while using research-based intensification strategies.

Heather Crawford-Ferre, State of Nevada, Department of Education, Carson City, Nevada

Denise Trakas, Washoe County School District, Reno, Nevada

SESSION 2116 **LONE STAR A**
STRAND 2 **INTERMEDIATE (3–5)**

Using Archived Student Work to Practice Planning for Intentional Talk

Intentional Talk by Hintz and Kazemi provides powerful routines and templates for teachers and coaches to use student thinking to plan instruction. Looking at archived student work on contextualized problems helps teachers who want to use "Intentional Talk" practice the skills of making sense of student thinking, anticipating and comparing multiple strategies, and predicting ways students might explain and justify their thinking.

Max Ray-Riek, The Math Forum at NCTM, Swarthmore, Pennsylvania

8:15 AM–9:15 AM CONT...

SESSION 2117 **LONE STAR B**
STRAND 1 **ELEMENTARY (K–5)**

District Approaches to Exemplary Mathematics: *Principles to Actions* and the Danielson Framework

Exemplary mathematics is grounded in first instruction. *Principles to Actions* identifies effective teaching practices for mathematics. Yet, many districts also rely on the Danielson Framework for Teaching. Participants will learn about one district's approach to providing a mathematics lens to the Danielson Framework. Resources for cohesive professional learning, curriculum resources, and classroom look-fors will be shared.

John SanGiovanni, Howard County Public School System, Ellicott City, Maryland

Heather Dyer, Howard County Public Schools, Ellicott City, Maryland

Connie Conroy, Howard County Public Schools, Ellicott City, Maryland

SESSION 2118 **LONE STAR C**
STRAND 3 **GENERAL**

I Figured It Out! Student Discovery and Ownership in an Online Environment

What is the right balance between discovery and structure in mathematics? What roles do gamification and mathematical communication play? See what the research on virtual manipulatives, guided discovery, gamification, and self-explanation shows. Engage in sequenced online activities to discover a big idea, and discuss how technology can help transform student ownership and authorship through interactivity, targeted feedback, and choice.

Amy Jensen-LeHew, TenMarks Education (Amazon), Burlingame, California

Victoria Longley, TenMarks Education (Amazon), Burlingame, California

SESSION 2119 **BOWIE A-C**
STRAND 1 **ELEMENTARY (K–5)**

Expanding Mathematical Knowledge as Number Domains Change: What Do Mathematics Coaches Need to Know? A Division Example

Teacher leaders will explore meanings of division and how they are exemplified through story contexts, consider what modifications are needed to work with fractions, examine the connections across story situation, equations and visual representations, and discuss the implications of this work for the teachers with whom they work. The session is based on the professional development curriculum *Developing Mathematical Ideas*.

Virginia Bastable, Mount Holyoke College, South Hadley, Massachusetts

Deborah Schifter, Education Development Center, Waltham, Massachusetts

SESSION 2120 **MISSION B**
STRAND 3 **HIGH SCHOOL (9–12)**

Teaching High School Students to Speak the Language of Mathematics

Teaching kids to speak the language of mathematics can seem daunting, but high school students can learn to participate in meaningful discussion when they have the instructional support they need. Come see "math talk" in real classrooms and explore a set of principles that provide support for young mathematicians as they learn to articulate their own ideas, consider the perspectives of peers, and construct mathematical understandings.

Mary Davis, Charles A. Dana Center, The University of Texas, Austin, Texas

Denise Thornton, Charles A. Dana Center, The University of Texas, Austin, Texas

10:00 AM–11:00 AM

MAJOR PRESENTATION

SESSION 2201 **TEXAS E-F**
STRAND 4 **GENERAL**

Kay Gilliland Equity Lecture: Learning About Equity in Mathematics Education Through the Lens of Indigenous Perspectives

While there are numerous perspectives situated in languages and origin stories, among Indigenous communities around the world and in North America, there are threads of commonality. I will introduce you to some of the threads that I've come to learn from my Indigenous Elders, Knowledge Holders, and teachers. I will then invite you to imagine the ways in which the threads might inform the recurring equity issues in mathematics education. We've been at this work for years now yet we still see little difference in results. Perhaps we need to 'look' and 'see' differently and be informed by perspectives that are situated in teachings of relationships, balance, and commonalities in order to imagine a new way to think about equity. These perspectives, and our subsequent actions as leaders and educators, will help us to collectively achieve the goals outlined in the NCSM/TODOS joint position statement, "Mathematics Education Through the Lens of Social Justice."

Florence Glanfield, University of Alberta, Edmonton, Alberta, Canada

Presider, **John Staley,** NCSM President, Townson, Maryland

Presider, **Denise Brady,** NCSM Awards Chair, Corunna, Michigan

Dr. Florence Glanfield is of Indigenous ancestry from Northeastern Alberta and is a professor of mathematics education, and chair of the Department of Secondary Education, at the University of Alberta in Edmonton Canada.

Glanfield's research interests explore the experiences that individuals (teachers and learners) as well as collectives/communities have with mathematics and learning mathematics. Glanfield collaborates with colleagues in all research projects and is currently engaged in research with Canadian Indigenous communities, urban Indigenous youth, elementary and secondary mathematics teachers, and primary teachers and teacher educators in Tanzania.

Glanfield's career has included opportunities to work with students and teachers in Canada, the U.S., and Tanzania, teach high school mathematics, develop provincial mathematics curriculum, participate in implementation of provincial curriculum, develop student assessment materials, write secondary school mathematics textbooks, and organize national and international fora.

Glanfield's been actively involved in professional organizations and has served in leadership roles in provincial, national, and international professional organizations such as NCSM, NCTM, and TODOS: Mathematics for ALL. Glanfield received the 2014 Iris Carl Equity and Leadership Award from TODOS.

SPOTLIGHT SPEAKER

SESSION 2202 **TEXAS D**
STRAND 3 **GENERAL**

10 Instructional Tweaks Every Mathematics Leader Needs to Advocate for and Be Able to Model

In so many lessons the difference between good and great is only a matter of thoughtful and intentional shifts or tweaks. In this session we will discuss and model a set of these instructional actions including ratcheting up the depth of our questioning, more deliberately conducting review, shifting how we expect students to "practice" and how we gather evidence of learning in every lesson.

Steve Leinwand, American Institutes for Research, Washington, District of Columbia

Presider, **Kimberly Morrow-Leong**, NCSM 2nd Vice President and 2017 Recruitment and Volunteer Chair, Fairfax, Virginia

SESSION 2203 **CROCKETT A-B**
STRAND 5 **SECONDARY (6–12)**

Assessing Proficiency Without Percentages: Creating Grading Systems That Cause Reflection Instead of "Point-Grubbing"

When students engage in "point-grubbing" or computing the score they need on the next test to "keep their grade," it's clear that percentage-based assessment systems and the averages in grade books are preventing students from focusing on what matters most: the mathematics outcomes in our curriculum. Learn how to improve achievement and student reflection in any course by hearing how Algebra 1 teachers created innovative assessment practices.

Tim Hudson, Vice President of Learning, DreamBox Learning, Bellevue, Washington

SESSION 2204 **CROCKETT C-D**
STRAND 3 **MIDDLE (6–8)**

Taking Student Work Seriously: Facilitating Development of Mathematical Practices and Collaborative Learning

We will explore ways to use student work from computer-supported collaborative contexts to orchestrate effective discussions and design empowering interventions that help students get better at mathematical practices. We will investigate tasks and online collaborative learning environments that facilitate a focus on thinking. Participants will engage in research that informs the new PISA assessment of collaborative mathematics problem solving.

Stephen Weimar, The Math Forum at NCTM, Swarthmore, Pennsylvania

10:00 AM–11:00 AM CONT...

SESSION 2205 **REPUBLIC A-C**
STRAND 1 **GENERAL**

From *Principles to Actions:* High-Leverage Leadership Actions to Improve Mathematics Teaching and Learning

NCTM's *Principles to Actions: Ensuring Mathematical Success for All* presents eight research-informed effective teaching practices and essential conditions and policies to implement these practices successfully. Where do leaders start with implementation? Learn high-leverage leadership actions—those with the greatest impact for your effort—to implement the teaching practices and guiding principles, along with resources to support your work.

Diane Briars, National Council of Teachers of Mathematics, Reston, Virginia

SESSION 2206 **SEGUIN A-B**
STRAND 4 **GENERAL**

Supporting All Teachers: Developing Instructional Leaders by Attending to Students' Mathematical Thinking

Teacher evaluation protocols often focus on learning environments and teacher actions and rarely on evidence of students' learning, leading to vague feedback on actual learning. In this session we share what we have learned from a two-year study in one school district to help K-12 administrators notice students' mathematical thinking and how that has changed administrators' practices in providing focused and equitable support to each teacher.

Christine Avila, Kings County Office of Education, Hanford, California

Cory Bennett, Idaho State University, Pocatello, Idaho

SESSION 2207 **TRAVIS A-B**
STRAND 3 **PRIMARY (PK–2)**

Using One-to-One (1-1) Mobile Technology to Promote Mathematical Discourse, Reasoning, and Engagement in K–2 Classrooms

For two years, a partnership of teachers, school leaders, and researchers, implemented Design-Based Implementation Research to co-investigate how 1-1 mobile technology combined with best practices in teaching mathematics improves K–2 students' learning. Viewing video clips of lessons and student work using screen-casting apps, we will engage the audience in a discussion around how teachers use this technology to support students' learning.

Pamela Buffington, Education Development Center, Gardiner, Maine

Lisa Coburn, Auburn School Department, Auburn, Maine

Laura Shaw, Auburn School Department, Auburn, Maine

Shannon Larsen, University of Maine at Farmington, Farmington, Maine

Kelly McCormick, University of Southern Maine, Portland, Maine

SESSION 2208 **TRAVIS C-D**
STRAND 3 **GENERAL**

Is Motivating Students a Productive Struggle for Your Teachers?

Teachers often ask how they can motivate their students. This is a difficult question to answer because we cannot force students to be motivated. However, by creating classrooms that are conducive to learning (Blanstein & Noguera, 2016), "we can provide a learning environment that encourages students to be curious, persistent, and confident" (Gojak, 2013). How do you encourage and motivate your teachers to create this kind of environment?

Comfort Akwaji-Anderson, NCSM C2 Regional Director, Iowa City, Iowa

Janice Krouse, Waterloo Community School District, Waterloo, Iowa

SPONSOR SHOWCASE

SESSION 2209 **PRESIDIO A**
STRAND 3 **GENERAL**

Exploring Rich Problems with Technology and Online Resources

What's the maximum product for a set of numbers with a constant sum? Not just how far, but how much, can you see with a telescope? Which basketball player would you choose to take a free throw at the end of a game? When technology is used to tackle rich problems like these, the mathematical insights that can be gained are extraordinary. Come have fun while you investigate Discovery Education, Math Techbook™, and a variety of mathematics tools.

Patrick Vennebush, Discovery Education, Silver Spring, Maryland

10:00 AM–11:00 AM CONT...

SESSION 2210 **PRESIDIO B-C**
STRAND 2 **GENERAL**

Leading Change: A New Coach's Journey Supporting Research into Practice to Improve Instruction

The CCSSM require students to have a deeper understanding of mathematics concepts, which means teachers need to shift their own thinking. Leading this change is difficult, but necessary. We will share a new coach's journey to facilitate this change and build district capacity for leadership. Participants will consider how to develop coaches using research and professional development to support these instructional shifts.

Cynthia Callard, University of Rochester, Rochester, New York

Stephanie Martin, University of Rochester, Rochester, New York

Heidi Robb, Victor Central School, Victor, New York

SESSION 2211 **BONHAM B**
STRAND 2 **GENERAL**

Coaching with Great Tasks to Engage in Equity: Taking Great Tasks to a New Level

Using the NCSM Great Tasks as a starting point, trainers of teachers and mathematics coaches will engage in strategies for problem solving directed at equity and social justice. Participants will review, critique, discuss, and suggest how they as coaches could improve the types and methods of problem presentation in teacher workshops.

Richard Seitz, Seitz Innovations, Helena, Montana

David Pugalee, University of North Carolina at Charlotte, Center for Science, Technology, Engineering, and Mathematics (STEM) Education, Charlotte, North Carolina

SESSION 2212 **BONHAM C**
STRAND 4 **GENERAL**

Routines for Reasoning: Ensuring All Students Are Mathematical Thinkers

Instructional routines embody research-based best practices for struggling learners, especially when they focus on the Standards for Mathematical Practice and include 'baked in' supports for special populations. Participants will explore a universally designed instructional routine, Connecting Representations, and learn how to leverage it to develop teachers' capacity to ensure development of ALL students' mathematical practices.

Amy Lucenta, Mathematics Education Consultant, Natick, Massachusetts

Grace Kelemanik, Kelemanik Consulting, Natick, Massachusetts

SESSION 2213 **BONHAM D**
STRAND 5 **ELEMENTARY (K–5)**

Assessing Process for Reflective Teaching Practices in Mathematics

A primary purpose of assessment is to inform and guide instruction. Most assessments focus on the product of student learning. What if assessments focused on how students learn? During our session, we will share how our district is assessing students' metacognitive processes with the goal of igniting teacher reflection on best instructional practices conducive to learning by understanding and not only by procedures.

Kathy Riley, Fort Bend Independent School District, Sugar Land, Texas

Lara Hirschmann, Fort Bend Independent School District, Sugar Land, Texas

SESSION 2214 **BONHAM E**
STRAND 3 **HIGH SCHOOL (9–12)**

STEM Comes Alive Through Interdisciplinary Problem-Based Learning

This session will feature an innovative STEM project in which school-based teams of mathematics and science teachers design and implement interdisciplinary problem-based lessons in a lab setting. Mathematics teachers learn science, science teachers learn mathematics, and students experience an authentic engagement in the STEM practices. Examples of lessons include the design of microbial fuel cells and a spectroscopic analysis of sunscreens.

Jon Manon, NCSM Treasurer, Newark, Delaware

SESSION 2216 **LONE STAR A**
STRAND 1 **ELEMENTARY (K–5)**

Change Your Thinking + Change Your Practice = Positive Changes in Student Performance

How do we motivate teachers to embrace best practices? This session will focus on how a group of mathematics coaches and teacher leaders engaged their teachers in thinking differently about their pedagogy by using rich mathematical problem-solving tasks with their students. By building teachers' experiences in authentic mathematics and seeing student engagement and learning explode, teachers' belief systems will begin to change.

Linda Null, Southeast Regional Professional Development Center, Cape Girardeau, Missouri

Julie Antill, Southeast Regional Professional Development Center, Cape Girardeau, Missouri

10:00 AM–11:00 AM CONT...

SESSION 2217 **LONE STAR B**
STRAND 4 **MIDDLE (6–8)**

Empowering Equity in Problem Solving

Research indicates that minority students can compete with and outperform their peers if given the opportunity to discuss mathematics problems, talking about how they choose solution methods and why they work. This interactive session teaches a process that is entirely student-centered and uses discourse as the pathway from understanding the problem and comparing solution plans to solving and making sense of the process. All students succeed!

Robyn Silbey, Robyn Silbey Professional Development, Gaithersburg, Maryland

SESSION 2218 **LONE STAR C**
STRAND 1 **GENERAL**

Building Systems for Strengthening Mathematics Leadership Capacity

What systems are in place to build capacity of every teacher, coach, leader, and beyond to ensure increased student achievement in mathematics? During this collaborative session, leaders will investigate the four keys to effective district leadership. Leaders will work together to examine tools and structures designed to improve mathematics teaching and learning and build leadership capacity at every level.

Mona Toncheff, NCSM 1st Vice President, Phoenix, Arizona

Bill Barnes, Howard County Public School System, Ellicott City, Maryland

SESSION 2219 **BOWIE A-C**
STRAND 3 **ELEMENTARY (K–5)**

Mathematics Games That Build the Brain Matter

Teachers use games all the time but often struggle with how to have students do meaningful response activities and may have difficulty selecting appropriate activities. As mathematics leaders our role is to model lessons that show the potential for using games. Participants will receive coaching tools to use with staff for using games throughout a weekly cycle and ideas for how to differentiate activities to meet the needs of all students.

Jane Felling, Box Cars and One-Eyed Jacks, Edmonton, Alberta, Canada

SESSION 2220 **MISSION B**
STRAND 2 **ELEMENTARY (K–5)**

Designing a Job-Embedded Professional Learning Series That Supports a Growth Mindset of All Stakeholders

Improving the quality of students' mathematical experiences, in conjunction with the intentionality of the Common Core, is not relegated to the teacher. If you are seeking a proven method for fostering meaningful mathematical experiences for students, come learn a multi-pronged coaching cycle of support that facilitates content-based, instructional, pedagogical, and mindset growth in teachers, instructional coaches, administrators, and parents.

Stephanie Reddick, Atlanta Public Schools, Atlanta, Georgia

Lisa Rogers, Math Solutions, Sausalito, California

10:15 AM–11:00 AM

HOT TOPICS II CONVERSATION CAFÉ

SESSION 2230 **TEXAS A-C**
STRAND 1 **GENERAL**

Table 1 Dr. Berry will discuss culturally responsive teaching and how to move from theory to mathematics teaching practices.

Table 2 Zak Champagne will discuss the importance of counting and the other early numeracy ideas, which deserve to be at the forefront of the mathematics education conversation. How is early numeracy situated in the research and literature, and what are the implications at the leadership and classroom level?

Table 3 Fixing High School: Dr. Seeley will identify and consider the most compelling systemic issues related to improving mathematics teaching and learning to meet the needs of all high school students.

Robert Q. Berry, III, University of Virginia, Charlottesville, Virginia

Zachary Champagne, Florida Center for Research in Science, Technology, Engineering, and Mathematics (FCR-STEM) at Florida State University, Tallahassee, Florida

Cathy Seeley, Charles A. Dana Center, The University of Texas (retired), Austin, Texas

11:15 AM–12:15 PM

MAJOR PRESENTATION

SESSION 2301 **TEXAS E-F**
STRAND 4 **GENERAL**

Using Identity and Agency to Frame Access and Equity

This session will use vignettes and the voices of students, teachers, and other school personnel to highlight NCTM's *Principles to Actions* Access and Equity Principle. Specifically, the session will use identity and agency as framework for discussing the obstacle and ways to overcome these obstacles as described in *Principles to Actions*. For this session, mathematics identity includes beliefs about one's self as a mathematics learner; one's perceptions of how others perceive them as a mathematics learner, beliefs about the nature of mathematics, engagement in mathematics, and perception of self as a potential participant in mathematics. Agency is identity in action and the presentation of one's identity to the world. This session will conclude with a discussion of teaching practices that cultivate identity and agency to support Access and Equity.

Robert Q. Berry, III, University of Virginia, Charlottesville, Virginia

Presider, **Donna Karsten,** NCSM Volunteer Coordinator, Halifax, Nova Scotia, Canada

Dr. Robert Q. Berry, III is an Associate Professor of Mathematics Education at the University of Virginia in the Curry School of Education with an appointment in the Curriculum Instruction and Special Education department, where he serves as the coordinator of the Elementary Education program. Dr. Berry teaches elementary and special education mathematics methods courses in the teacher education program. His research focuses on equity issues in mathematics education, with a particular focus on African-American boys. Additionally, he does research on mathematical instructional quality. Berry has published over 75 articles, book chapters, and proceedings. His articles have appeared in the *Journal for Research in Mathematics Education, Journal of Teacher Education,* American Educational Research Journal*, Mathematics Teaching in the Middle School, Teaching Children Mathematics,* and others. He was on the writing team for NCTM's landmark publication *Principles to Actions: Ensuring Mathematical Success for All* (2014). Berry is a past member of the National Council of Teachers of Mathematics (NCTM) Board of Directors (2011–2014), was the recipient of NCTM's Linking Research to Practice Publication Award, and currently serves on the board for the Virginia Council of Teachers of Mathematics.

SPOTLIGHT SPEAKER

SESSION 2302 **TEXAS D**
STRAND 1 **GENERAL**

Are We Giving Up on High School?

With all the emphasis on accumulating college credits in high school via Advanced Placement (AP), early college courses, etc., are we missing the opportunity to do a better job of offering students a rich high school education that's both broad and deep? Too many students are leaving high school unprepared for whatever comes next. How can we truly give all students the kind of mathematics education that prepares them to thrive after high school?

Cathy Seeley, Charles A. Dana Center, The University of Texas (retired), Austin, Texas

Presider, **Lynn Columba,** NCSM Newsletter Editor, Northampton, Pennsylvania

PRESIDENT'S EXCHANGE

SESSION 2303 **CROCKETT A-B**
STRAND 4 **GENERAL**

Empowerment WITH Access and Equity

While NCTM's messages on standards, curriculum, instruction, and assessment have evolved; messages on *access* and *equity* have remained static. Our messages around access and equity could do much more to better serve marginalized students and challenge structural obstacles. This session will address the critical need to shape and broaden the discourse around access and equity and NCTM's related actions.

Matt Larson, National Council of Teachers of Mathematics, Lincoln, Nebraska

SESSION 2304 **CROCKETT C-D**
STRAND 3 **MIDDLE (6–8)**

Implementing Growth Mindset in Summer School to Prepare Students for Future Coursework

How can the design of a summer school based on Jo Boaler's work on growth mindset impact the preparation of middle school students? How can students learn to value mistakes and still feel comfortable presenting ideas in front of peers? What happens the next year, and how can leaders support these efforts? Experience, watch, hear about and glean results based on different efforts of NCSM W1 leaders who worked directly with Jo and/or her materials.

Sandie Gilliam, NCSM W1 Regional Director, Colorado Springs, Colorado

Samantha Wuttig, Fairbanks North Star Borough School District, Fairbanks, Alaska

Annette Zook, Harrison School District 2, Colorado Springs, Colorado

11:15 AM–12:15 PM CONT...

SESSION 2305 **REPUBLIC A-C**
STRAND 4 **ELEMENTARY (K–5)**

No Opt Out: Collaborative Coaching, Teaching and Learning Are Essential for Establishing Equitable Mathematics Classes

A district mathematics coach, interventionist, curriculum coordinator, and administrator will share how they made collaboration a priority in order to implement rigorous curriculum, instruction and professional development for ALL. Collaboration is challenging and rife with conflict, but it is essential for personal and collective growth! You will experience first hand how we collaborated at all levels to plan equitable mathematics lessons.

Sarah Caban, Maranacook School District, Readfield, Maine

Abby Shink, Maranacook School District, Readfield, Maine

Nancy Harriman, Maranacook School District, Readfield, Maine

SESSION 2306 **SEGUIN A-B**
STRAND 1 **MIDDLE (6–8)**

Designing Mathematics Professional Development Through Successive Approximations of Practice

Research points to the importance of teachers engaging in professional development (PD) experiences that are proximal to new practices. We'll share our work with urban schools where we developed a sequence of PD activities that simulate mathematical argumentation teaching practices, broaden teachers' instructional approaches and enhance their reflective practices. Leaders should bring their own PD goals and we will design new activities together.

Jennifer Knudsen, SRI International, Menlo Park, California

Harriette Stevens, Consultant & Mathematics Educator, San Francisco, California

Teresa Lara-Meloy, SRI International, Menlo Park, California

SESSION 2307 **TRAVIS A-B**
STRAND 2 **GENERAL**

Letting Go: Cultivating Agency and Authority Through Number Talks in the Secondary Mathematics Classroom

In this session I share my dissertation study of two high school teachers as they learned to enact Number Talks. I wanted to know what the teachers found most challenging and how coaching supported their learning. In examining the videos of classroom lessons, I noticed marked differences in how agency and authority emerged in the two classes. I hope what I learned while searching for "Why?" will be useful for teachers and coaches alike.

Cathy Humphreys, Self Employed, Mountain View, California

SESSION 2308 **TRAVIS C-D**
STRAND 3 **GENERAL**

Using Authentic Performance Tasks Effectively in the Mathematics Classroom

How does Authentic Performance Assessment fit into the mathematics classroom? How can we make performance tasks with rigorous connections to standards? Do we have time to do performance tasks with everything else we must teach? Come see examples and learn an effective implementation process that is working in districts all across the country.

Pam Palmer, International Center for Leadership in Education, Rexford, New York

Aimee Corrigan, Houghton Mifflin Harcourt, Greenwood Village, Colorado

SESSION 2310 **PRESIDIO B-C**
STRAND 1 **ELEMENTARY (K–5)**

Designing Systems to Support Effective Mathematics Teaching K–5: The Role of Leadership Teams in Creating Change

A major hurdle to achieving a vibrant mathematics learning culture is directly connected to the content knowledge of teachers. To address this issue, we have departmentalized mathematics teaching K–5 and created a cross-grade leadership team. While each member of the team is a highly-skilled mathematics teacher, we found that creating a collaborative culture presented many challenges. We will share our journey to become an effective team.

Donna Taylor, Brooklyn School of Inquiry, New York, New York

Antonia Cameron, Metamorphosis Teaching Learning Communities, New York, New York

SESSION 2311 **BONHAM B**
STRAND 2 **GENERAL**

Getting to the Mathematics in a Professional Learning Community

How can we work with the structure of a professional learning community to do the deep work of mathematics together? This session will focus on strategies to use when working with professional learning communities to get to substantive work together. We will share lessons learned from Illustrative Mathematics virtually coaching professional learning communities as well as our new Session Plans, lesson plans for collaborative teacher groups.

Jody Guarino, Orange County Department of Education, Costa Mesa, California

Jennie Beltramini, Student Achievement Partners, New York, New York

Kristin Gray, Cape Henlopen School District, Lewes, Delaware

11:15 AM–12:15 PM CONT...

PRESIDENT'S EXCHANGE

SESSION 2312 **BONHAM C**
STRAND 3 **GENERAL**

Tricks of the Trade: Motivating Students in the Mathematics Classroom

New Math? Common Core? Teaching in the mathematics classroom has certainly changed in the last 40 years. However, what hasn't changed is the fact that students need to be motivated to learn a subject that many don't like and feel that they will never use in their lifetimes. This session will look at various strategies and techniques to motivate students. Examples will be given from the college classroom but many can be adapted to all classrooms.

Jane Tanner, Onondaga Community College, Syracuse, New York

SESSION 2313 **BONHAM D**
STRAND 3 **MIDDLE (6–8)**

Creating MATHadazzles and MATH Adventures: Update and Motivate Teachers to Learn and Teach More Advanced Mathematics

MATHadazzle puzzles and MATH Adventures, designed by teachers to develop students' mathematics, and deductive and logical reasoning talents, will be presented, along with results of student performance. Having students verify the clarity of the items, the uniqueness of the solutions, and the rank ordering by mathematical and reasoning difficulty, will be described, along with student creation of similar puzzles and adventures.

Carole Greenes, Arizona State University, Tempe, Arizona

SESSION 2314 **BONHAM E**
STRAND 3 **PRIMARY (PK–2)**

The Early Childhood Language of Mathematics: How to Cultivate Communication to Enhance Mathematical Understandings

When we are born, we hear sounds and try to make sense of them. For young children, the same is true when hearing mathematical language. In this session, you will be immersed in the early childhood classroom and see how a child's understanding of mathematics is cultivated and honored, and how children can catapult themselves to success through the art of communication.

Jessica Bobo, ORIGO Education, Inc., Earth City, Missouri

SESSION 2316 **LONE STAR A**
STRAND 2 **SECONDARY (6–12)**

Collaborative Coaching to Develop Authentic Teacher Agency

Look into a collaborative coaching model that is being used successfully in classrooms across a diverse urban school system. See how teams of teachers become agents of change for one another within their schools. In our session we will use video, activities and protocols to explore how teams of teachers can uncover best practices to make lasting change happen in their classrooms and schools, promoting high quality mathematics instruction broadly.

Alanna Mertens, DePaul University, Chicago, Illinois

Doug O'Roark, DePaul University, Chicago, Illinois

SESSION 2317 **LONE STAR B**
STRAND 3 **GENERAL**

Feeding the Brain's (Affective and Cognitive) Subcommittees for Mathematics Learning

Mathematics performance depends on a collection of the brain's resources working together like a well-functioning committee. This session will consider how to support all of the brain's subcommittees—visual/spatial, linguistic, symbolic, executive, and emotional—that must coordinate for engaged, deep mathematics learning. Participants will explore how to address weaknesses among committee members that can undermine student success.

David Dockterman, Harvard/Faculty; Houghton Mifflin Harcourt/Chief Architect, Learning Sciences, Boston, Massachusetts

SESSION 2318 **LONE STAR C**
STRAND 4 **HIGH SCHOOL (9–12)**

Barriers to Equity: Changing Educator Actions

Relationships are key to student learning of mathematics. More awareness of adult words and actions is key (regardless of intent). Hear how Student Services has engaged in collaborative learning around the impact of micro-aggressions on our students, how these micro-aggressions play out in advising students in the selection of courses and in the classroom. Learn what this group is doing to teach classroom teachers about their role and impact.

Gwen Zimmermann, Adlai E. Stevenson High School, Lincolnshire, Illinois

Janet Sushinski, Adlai E. Stevenson High School, Lincolnshire, Illinois

Sarah Bowen, Adlai E. Stevenson High School, Lincolnshire, Illinois

Lisa Scanio, Adlai E. Stevenson High School, Lincolnshire, Illinois

Hector Vazquez, Adlai E. Stevenson High School, Lincolnshire, Illinois

11:15 AM–12:15 PM CONT...

SESSION 2319 **BOWIE A-C**
STRAND 1 **GENERAL**

Powerful, Active, and Engaged Mathematics Professional Learning!

Are you a mathematics leader looking for techniques to actively engage your preservice and inservice participants in mathematical thinking, reasoning, and reflecting? This session will provide specific strategies that can be applied to a variety of mathematics topics to enrich and magnetize your professional development for long-term impact!

Delise Andrews, Lincoln Public Schools, Lincoln, Nebraska

Beth Kobett, Stevenson University, Stevenson, Maryland

SESSION 2320 **MISSION B**
STRAND 3 **MIDDLE (6–8)**

Literacy-Based Strategies for Mathematical Problem Solving

What does quality problem-solving instruction look like and sound like in the CCSS? After summarizing connections between literacy and mathematics, we'll model two high-leverage processes for explicitly teaching mathematical problem solving. Takeaways include ideas for scaffolding the locus of control for tasks with high-level demands and rubrics that provide rich content for feedback conversations and leadership decisions.

Aaron Rumack, White River School District, Buckley, Washington

TUESDAY LUNCHEON

12:30 PM–2:00 PM

TICKET REQUIRED

SESSION 2422
STRAND 1

LONE STAR D-F
GENERAL

Winning the Game in Mathematics Leadership

Mathematics leadership is multifaceted in nature as we strive to intentionally impact students and educators in classrooms nationwide. Leadership pathways can be different from leader to leader, but ultimately curriculum/content, instruction, activism, and assessment (CIAA) are all areas of evaluation for "*PRIME*" leaders in mathematics education. Discover the top seven practical strategies for overcoming the struggles that may arise in your role as a mathematics leader within your school/university, district, state, and national professional learning communities, while building the capacity of teachers' leadership among mathematics educators in these respective communities.

Matthew Owens, Richland School District 2, Columbia, South Carolina

Sponsored by

Texas Instruments

12th Annual Presentation of the Iris Carl Travel Grants

Iris Carl was an international leader in mathematics education, an NCSM Past-President, and a Glenn Gilbert Award recipient, who worked tirelessly to support other mathematics education leaders. NCSM honors her through the presentation of the NCSM Iris Carl Travel Grant.

NCSM established the Iris Carl Mathematics Leadership Fund, within the NCSM Charitable Trust, which endows the Grant. As long as there are sufficient funds, NCSM will annually provide up to three Iris Carl Grant Awards for Travel to eligible NCSM members to attend the NCSM Annual Conference.

The fund continues to grow through generous contributions. A special collection will be made during today's luncheon. Please make your check out to NCSM Charitable Trust. Cash will be accepted and donors are encouraged to enclose contact information. NCSM will mail a thank you letter suitable for use in informing the IRS that no goods or services were provided in return for the contribution.

The Iris Carl Travel Grant application and criteria can be found at *mathedleadership.org*. Applications are being accepted through December 1, 2017, for the 2018 Award.

2017 Grant Recipients

Matthew Beyranevand, Ed.D.
K-12 Math and Science Coordinator
Chelmsford Public Schools
Chelmsford, MA

Judith Falk
Math Consultant and Director for
Great Lakes Math and Science Center
Charlevoix-Emmet Intermediate
School District
Charlevoix, Michigan

Bernard E. Frost, Ed.D
District Mathematics Specialist
Spartanburg School District 7
Spartanburg, South Carolina

2:15 PM–3:15 PM

MAJOR PRESENTATION

SESSION 2501 **TEXAS E-F**
STRAND 4 **GENERAL**

Redefining Success: Supporting All Students to Reach Their Full Potential

Juli, Alex, and Jessica provide a unique perspective on how to support ALL students to learn. Juli, a university mathematics educator, provides the viewpoint of both the educator and the parent of children with special needs. Alex, a college freshman, shares her story related to both medical and educational struggles. Jessica, a high school junior, provides the position of both the sibling and the subject and connects her experiences to a new perspective on Universal Design for Learning.

Juli Dixon, University of Central Florida, Orlando, Florida

Alexis Dixon, University of Central Florida, Orlando, Florida
Jessica Dixon, Melbourne High School, Melbourne, Florida

Presider, **Deborah Crocker**, NCSM S1 Regional Director, Boone, North Carolina

Dr. Juli Dixon is professor of mathematics education at the University of Central Florida (UCF). She coordinates the award-winning Lockheed Martin/UCF Academy Master of Education in K–8 Mathematics and Science and the PhD in Mathematics Education programs. Dr. Dixon is focused on improving teachers' mathematics knowledge for teaching so that they can communicate and justify mathematical ideas and expect their students to explain their mathematical thinking. She is a prolific writer who has published books, textbooks, book chapters, and articles. A sought-after speaker, Dr. Dixon delivers keynotes and other presentations throughout North America. She is co-author of *GO Math!* for K-8 mathematics and *Algebra I, Geometry, and Algebra II* (AGA) and *Integrated Mathematics* for high school. She is also co-author of *Making Sense of Mathematics for Teaching* book and video series. Especially important to Dr. Dixon is the need to teach *all* students. She shares her personal story of supporting her own children with special needs to learn mathematics in an inclusive setting.

In this presentation, Juli is joined by her teenage daughters Alex and Jessica. The Dixons provide a unique perspective on supporting *ALL* students to learn. Juli provides the educator's viewpoint as a parent of children with special needs. Alex, a college freshman enrolled in Early Childhood Education, shares her story related to educational struggles. Jessica, a high school junior and co-author of *A Stroke of Luck: A Girl's Second Chance at Life*, provides the perspective of a high-achieving student with disabilities.

SPOTLIGHT SPEAKER

SESSION 2502 **TEXAS D**
STRAND 3 **SECONDARY (6–12)**

Teaching Mathematics with Interactive Dynamic Technology: Six Principles That Support Learning

Bringing interactive dynamic technology into the mathematics classroom is a powerful way to develop understanding of core mathematical concepts. However, without taking care in how the technology is incorporated into class routines, students are not likely to have successful experiences. Participants will examine six "must dos" in order to make mathematical ideas accessible for all students when using the technology.

Wade Ellis, West Valley Community College, Saratoga, California

Gail Burrill, Michigan State University, East Lansing, Michigan

Presider, **Cynthia L. Schneider,** NCSM Conference Coordinator, Austin, Texas

SESSION 2503 **CROCKETT A-B**
STRAND 1 **MIDDLE (6–8)**

Supporting Middle Grades Teachers' Development and Use of the Eight Effective Mathematics Teaching Practices

Come explore the newly released NCTM resource *Taking Action: Implementing Effective Mathematics Teaching Practices in Grades 6–8.* This resource will provide teacher leaders, and professional developers with a resource that can be used to improve the instructional practice of teachers. We will introduce the book, engage in a subset of activities from the book, and discuss how they can use the activities in their work with teachers.

Margaret Smith, University of Pittsburgh, Pittsburgh, Pennsylvania

Michael Steele, University of Wisconsin, Milwaukee, Wisconsin

SESSION 2504 **CROCKETT C-D**
STRAND 3 **SECONDARY (6–12)**

Approaching Ten Tough Mathematical Ideas for High School Students

The main purpose of this talk is to provide insights into mathematical content that many mathematics teachers may not have seen. By covering a broad range of content, from aspects of manipulative algebra through proof in geometry and in general, discussing language, applications, and representations, my remarks are designed for leaders to help in decisions they make in the professional development of their teachers.

Zalman Usiskin, University of Chicago, Chicago, Illinois

2:15 PM–3:15 PM CONT...

SESSION 2505 **REPUBLIC A-C**
STRAND 3 **MIDDLE (6–8)**

Building Conceptual Understanding with Virtual Manipulatives

In this session we will consider the following questions: How can we incorporate virtual manipulatives into curriculum in such a way that promotes understanding, allows practice, fosters creativity, and strengthens connections within mathematics? What are some benefits and concerns of using virtual, as opposed to traditional, manipulatives in our classrooms?

Ingrid Ristroph, UTeach, The University of Texas, Austin, Texas

Lisa Brown, Charles A. Dana Center, The University of Texas, Austin, Texas

SESSION 2506 **SEGUIN A-B**
STRAND 1 **GENERAL**

Preparing the Next Generation of Teachers of Mathematics: Implications for Mathematics Leaders

Learn about the Association of Mathematics Teacher Educators' *Standards for Preparing Teachers of Mathematics* and discuss the role of mathematics leaders in supporting the preparation of the next generation of teachers of mathematics.

Nadine Bezuk, San Diego State University, San Diego, California

Jennifer Bay-Williams, University of Louisville, Louisville, Kentucky

Douglas Clements, University of Denver, Denver, Colorado

W. Gary Martin, Auburn University, Auburn, Alabama

SESSION 2507 **TRAVIS A-B**
STRAND 1 **INTERMEDIATE (3–5)**

Improving Alignment of Instructional Materials: A Collaboration Across Districts

Districts across the country are currently making decisions about how to support their teachers in implementing different mathematics programs. We will share collaborative work across 10 districts to analyze current materials and create guidance documents for teacher use. We will share information about the process, the artifacts created and hear from district mathematics leaders about how they are using this work with their teachers.

Marni Greenstein, Student Achievement Partners, New York, New York

Sara Franza, Avon Elementary, Avon Park, Florida

Maquissia Garcon, Palm Beach County School District, West Palm Beach, Florida

Gigi Forsman, Broward County Schools, Ft Lauderdale, Florida

SESSION 2508 **TRAVIS C-D**
STRAND 2 **GENERAL**

Lesson Imaging as an Alternative to Lesson Planning

Since teaching has shifted towards more inquiry instruction, teachers often struggle to plan lessons. We introduce a planning process, called lesson imaging, that we have used to help teachers more effectively plan for mathematical inquiry. Lesson imaging is a process in which teachers mentally "play out" the ways in which their planned activities will unfold in interaction with students. All six lesson-imaging practices will be elaborated.

Michelle Stephan, University of North Carolina at Charlotte, Charlotte, North Carolina

David Pugalee, University of North Carolina at Charlotte, Center for Science, Technology, Engineering, and Mathematics (STEM) Education, Charlotte, North Carolina

SESSION 2510 **PRESIDIO B-C**
STRAND 3 **MIDDLE (6–8)**

Arc of Learning: How Students' Understanding Develops Across a Connected Sequence of Mathematics Problems

The Arc of Learning is an important teacher resource that describes five phases of student development of mathematical understanding within a problem-centered curriculum. It provides a tool for characterizing deeply grounded and connected learning, both in terms of practice and research. Participants will become familiar with the Arc of Learning by interacting with examples from a problem-centered curriculum.

Alden Edson, Michigan State University, East Lansing, Michigan

Elizabeth Phillips, Michigan State University, East Lansing, Michigan

Yvonne Grant, Portland Middle School, Portland, Michigan

SESSION 2511 **BONHAM B**
STRAND 1 **ELEMENTARY (K–5)**

Supporting Elementary Teacher Development in Using the Eight Effective Mathematics Teaching Practices

Come explore the newly released NCTM resource *Taking Action: Implementing Effective Mathematics Teaching Practices in Grades K–5*. This resource will provide teacher leaders and professional developers with a resource that can be used to improve the instructional practice of K–5 teachers. We will introduce the book, engage in a subset of activities from the book, and discuss how they can use the activities in their work with teachers.

Victoria Bill, Institute for Learning, Pittsburgh, Pennsylvania

DeAnn Huinker, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin

2:15 PM–3:15 PM CONT...

SESSION 2512 **BONHAM C**
STRAND 2 **ELEMENTARY (K–5)**

Coaching Practices to Increase Teacher Reflection and Support Implementation Following Professional Development

No more drive-by professional development sessions! Come explore the different vehicles used by Instructional Coaches to support teachers at the steepest part of the learning curve: implementation. Hear about methods used to support instructional change that promote the development of ongoing reflection strategies and self-sustaining practices, ensuring increased student achievement.

Dina Mendola, US Math Recovery Council, Apple Valley, Minnesota

Mike Busch, US Math Recovery Council, Apple Valley, Minnesota

Jennifer Scholla, Instructional Coach, Apple Valley, Minnesota

Mollie Gabrielson, Instructional Coach, Apple Valley, Minnesota

SESSION 2513 **BONHAM D**
STRAND 1 **HIGH SCHOOL (9–12)**

Supporting High School Teachers' Development and Use of the Eight Effective Mathematics Teaching Practices

Explore the newly released NCTM resource *Taking Action: Implementing Effective Mathematics Teaching Practices in Grades 9–12*. This resource will provide teacher leaders and professional developers with a resource that can be used to improve the instructional practice of high school teachers. We will introduce the book, engage in a subset of activities from the book, and discuss how they can use the activities in their work with teachers.

Melissa Boston, Duquesne University, Pittsburgh, Pennsylvania

Fred Dillon, National Council of Teachers of Mathematics, Strongsville, Ohio

Steve Miller, National Council of Teachers of Mathematics, Cuyahoga Falls, Ohio

SESSION 2514 **BONHAM E**
STRAND 5 **MIDDLE (6–8)**

Formative Assessment: Helping Teachers and Students Become Partners in the Support of Student Learning

To increase student learning, we must understand how students learn mathematics. As we teach, we assess, and as we assess, we teach. Formative assessment and instruction are interwoven together in complimentary ways to increase student learning. Mathematics leaders and coaches will learn how to support teachers toward incorporating formative assessment naturally into their planning and delivery of instruction.

Gloria Weinberg, Math Solutions, Sausalito, California

Nikki LaLonde, Math Solutions, Sausalito, California

SESSION 2516 **LONE STAR A**
STRAND 1 **GENERAL**

Coaching Coaches for the Development of Facilitation Practices: Impactful Structure, Support, and Learning Opportunities

In this session, we present structures to support the work of mathematics coaches in planning and leading teacher learning communities. We will share examples of activities to engage coaches in reflection about their practice. Also, through discussions and video examples, the audience will consider how the support structures impacted the coaches' learning and how coaches used these structures to create new learning opportunities for teachers.

Terry Wan Jung Lin, University of Alberta, Edmonton, Alberta, Canada

Saba Din, Sir Wilfrid Laurier School Board, Rosemère, Quebec, Canada

Peter Clark, Sir Wilfrid Laurier School Board, Rosemère, Quebec, Canada

Cheryl Cantin, Eastern Townships School Board, Magog, Quebec, Canada

Marta Kobiela, McGill University, Montreal, Quebec, Canada

Scosha Merovitz, Bishop's University, Sherbrooke, Quebec, Canada

2:15 PM–3:15 PM CONT...

SESSION 2517 **LONE STAR B**
STRAND 4 **GENERAL**

Equity and Social Justice in Mathematics Education

The vision of the NCSM Equity and Social Justice Initiative is to support, promote and develop a just, equitable and sustainable system of mathematics education for every learner. Participants will actively engage with the joint NCSM and TODOS position paper, Mathematics Education Through the Lens of Social Justice: Acknowledgement, Actions, and Accountability. Participants will consider next steps to move their organization forward in this work.

Comfort Akwaji-Anderson, NCSM C2 Regional Director, Iowa City, Iowa

Suyi Chuang, Loudoun County Public Schools, Ashburn, Virginia

Kyndall Brown, California Mathematics Project, University of California, Los Angeles, California

SESSION 2518 **LONE STAR C**
STRAND 3 **ELEMENTARY (K–5)**

Fact Fluency, Moving from Memorization to Understanding: What Administrators Should be Looking for in the Classroom

Many teachers think of fact fluency as memorization, using flash cards, and the swiftness of recalling number facts. In this session, we will look at how to shift this way of thought. We will focus on fluency in the classroom in relation to the processes of metacognition, differentiated instruction, differentiated rotating stations, and tiered questioning in different contexts, that ultimately lead to automaticity and understanding.

Susan Resnick, Independent Contractor, Centennial, Colorado

SESSION 2519 **BOWIE A-C**
STRAND 4 **INTERMEDIATE (3–5)**

Mathematical Argument: Elementary Teachers Focus on Equity While Engaging Students in a Central Mathematics Practice

How do teachers in grades 2–5 engage the range of students in their class together in conjecture and justification? What teacher moves encourage the visibility of the intellectual work of all students? How are students with a history of poor or good performance in mathematics supported to make significant contributions as they learn about this central mathematics practice? Video examples will illustrate these questions.

Susan Jo Russell, TERC, Cambridge, Massachusetts

SESSION 2520 **MISSION B**
STRAND 1 **SECONDARY (6–12)**

Beyond the Detracking Policy: The Nuts and Bolts of Supporting Heterogeneous Classes

Now that we are into a third year of detracking all mathematics classes through 10th grade, we present an update on "conditions on the ground." What do these classes look like from our teachers' perspective? What are some of our challenges and successes? We coordinated our Professional Development, Complex Instruction, and Coaching programs to support teachers and will discuss how districts can build or sustain a program of heterogeneous classes.

Ho Nguyen, San Francisco Unified School District, San Francisco, California

Andres Marti, San Francisco Unified School District, San Francisco, California

CAUCUSES, TUESDAY 3:30 PM–4:30 PM

The caucus provides opportunities for you to connect, network and celebrate regional success with fellow leaders. Your NCSM Regional Director and state/provincial leaders will share information on NCSM initiatives, national/provincial issues, and future events. There will be door prizes...we look forward to seeing you at the caucus.

SESSION 2601 **TEXAS E-F**

NCSM Regional Caucus: Southern Region 2

Paul D. Gray, Jr., NCSM S2 Regional Director, Dallas, Texas

SESSION 2605 **REPUBLIC A-C**

NCSM International Caucus

John W. Staley, NCSM President, Towson, Maryland

SESSION 2606 **SEGUIN A-B**

NCSM Past-President Caucus

Connie Schrock, NCSM President Elect, Kansas City, Kansas

SESSION 2607 **TRAVIS A-B**

NCSM Regional Caucus: Eastern Region 1

Shawn Towle, NCSM E1 Regional Director, Falmouth, Maine

SESSION 2608 **TRAVIS C-D**

NCSM Regional Caucus: Central Region 2

Comfort Akwaji-Anderson, NCSM C2 Regional Director, Iowa City, Iowa

SESSION 2610 **PRESIDIO B-C**

NCSM Regional Caucus: Canadian Region

Marc Garneau, NCSM Canadian Regional Director, Surrey, British Columbia, Canada

SESSION 2616 **LONE STAR A**

NCSM Regional Caucus: Western Region 1

Sandie Gilliam, NCSM W1 Regional Director, Colorado Springs, Colorado

SESSION 2617 **LONE STAR B**

NCSM Regional Caucus: Eastern Region 2

Bill Barnes, NCSM E2 Regional Director, Ellicot City, Maryland

SESSION 2618 **LONE STAR C**

NCSM Regional Caucus: Southern Region 1

Deborah Crocker, NCSM S1 Regional Director, Boone, North Carolina

SESSION 2619 **BOWIE A-C**

NCSM Regional Caucus: Central Region 1

Jason Gauthier, NCSM C1 Regional Director, Allegan, Michigan

SESSION 2621 **LONE STAR D-F**

NCSM Regional Caucus: Western Region 2

Nancy Drickey, NCSM W2 Regional Director, McMinnville, Oregon

4:45 PM–5:30 PM

MEETING

SESSION 2705 **REPUBLIC A-C**
STRAND 1 **GENERAL**

NCSM Annual Business Meeting and State of the Organization Report

NCSM President John W. Staley will present the State of the Organization, including our Annual Membership and Financial Reports. John will describe the progress on the 2016–2017 initiatives, positions papers, and other strategic priorities for the next year. New NCSM Affiliates will receive their certificates. All members are welcome and encouraged to attend to learn about opportunities for getting involved in NCSM.

John W. Staley, NCSM President, Towson, Maryland

Jon Manon, NCSM Treasurer, Newark, Delaware

TUESDAY RECEPTION

RECEPTION

5:30 PM–7:00 PM

SESSION 2822 **TICKET REQUIRED** **LONE STAR D-F**
STRAND 1 **GENERAL**

Join us to network, party and learn at this evening's reception. Co-sponsored by NCSM and DreamBox Learning.

John W. Staley, NCSM President, Towson, Maryland

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PROGRAM SUMMARY INFORMATION

WEDNESDAY, APRIL 5

See page 5 for Conference Strand descriptions.

WEDNESDAY SUMMARY

7:30–8:30: Session 3022, Wednesday Breakfast (ticket required), Lone Star D-F, Networking Breakfast
Co-Sponsored by *Origo Education* and *Ascend Math*

	Texas E-F	Texas D	Crockett A-B	Crockett C-D	Republic A-C	Seguin A-B
8:45–9:45	**Session 3101** Strand 4, General ***Gutiérrez, Jmourko,*** *The Best of Both Worlds: A University-District Partnership to Enhance Mathematics Instruction for English Language Learners*	**Session 3102** Strand 3, Elementary (K–5) ***Fosnot, Matsumoto,*** *Conferring with Young Mathematics at Work: The Process of Teacher Change*	**Session 3103** Strand 3, Elementary (K–5) ***Nuzzie,*** *From Mathematics Class to Mathematician's Workshop*	**Session 3104** Strand 3, General ***McNamara,*** *For Your Eyes Only: Using Video as a Tool for Personal Self-Reflection*	**Session 3105** Strand 5, Intermediate (3–5) ***Sutton, Johnson,*** *Changing Instructional Practice–Permission Isn't Enough–Teachers Need Adaptive Pedagogy to Support Student Learning*	**Session 3106** Strand 1, Elementary (K–5) ***Ward,*** *Moving Beyond One-Size Fits All Professional Development (PD): The Blended Learning Story*
10:00–11:00	**Session 3201** Strand 1, General ***Bay-Williams,*** *Leading to Support Procedural Fluency for All Students*	**Session 3202** Strand 4, General ***Ball,*** *Uncovering the Special Mathematical Work of Teaching*	**Session 3203** Strand 3, Secondary (6–12) ***Mikles, Rendon,*** *Creating Collaborative Classrooms*	**Session 3204** Strand 1, Secondary (6–12) ***Bressoud, Fulton, Pelesko, Ward,*** *The High School to College Transition*	**Session 3205** Strand 1, General ***Kaan, Nestor,*** *Don't Be Fooled by the Bells and Whistles: Approaching Program Adoption with a Critical Eye*	**Session 3206** Strand 1, General ***Lomax, Lewis,*** *Learning, Planning, and Teaching Together: Facilitating Job-Embedded Professional Development*
11:15–12:15	**Session 3301** Strand 3, General ***Tanton,*** *How to Think Brilliantly and Creatively in Mathematics: Some Guiding Thoughts for Teachers, Coaches, Students–Everyone!*	**Session 3302** Strand 2, General ***West, Cameron,*** *Crucial Coaching Conversations That Make all the Difference*	**Session 3303** Strand 1, Middle (6–8) ***Strom, Toncheff,*** *Measuring "What Sticks" from Teacher Professional Learning: How Do We Ensure Sustainability?*	**Session 3304** Strand 3, Elementary (K–5) ***Anderson,*** *What a Great Mistake!: Using Students' Errors to Build Meaning in Mathematics Class*	**Session 3305** Strand 3, Intermediate (3–5) ***Schifter, Russell, Bastable, Kasman,*** *Mathematical Argument in the Elementary Classroom: A Model for Teachers and Coaches*	**Session 3306** Strand 2, Primary (PK–2) ***Itzkowich, Brownell, Avila,*** *Using a Protocol for Looking at Student Work with Primary Teachers*

12:30–2:00: Session 3422: Wednesday Luncheon (ticket required), Lone Star D-F, Problems from Their World,
Sponsored in part by *Discovery Education*

2:15–3:15	**Session 3501** Strand 5, General ***Wiliam,*** *Leadership for Teacher Learning: Transforming Mathematics Instruction with Embedded Formative Assessment*	**Session 3502** Strand 3, Middle (6–8) ***Gough,*** *Deep Practice: Building Conceptual Understanding in the Middle Grades*	**Session 3503** Strand 4, Secondary (6–12) ***Brown, Seabold, Owen-Rogers,*** *Building High-Leverage Professional Learning Systems with Research-Informed Tools for Equity and Access in Mathematics*	**Session 3504** Strand 3, Primary (PK–2) ***Barnes, Sheeron, Anderson,*** *Beyond Right or Wrong: Uncover More with Student Work Analysis*	**Session 3505** Strand 1, General ***Perry, Cooper, Wilkerson,*** *Building Community Through Partnerships to Impact Student Learning*	**Session 3506** Strand 1, General ***Rigelman, McQueen, Prigodich, Cooke,*** *Lesson Study Processes and Tools That Support Teacher Learning While Developing Leaders*
3:30–4:30		**Session 3602** Strand 1, General ***Fetter, Adams, Bushart, Cliche, Fennell, Newell, O'Roark, Rendon, Safi, Shay,*** *Ignite! We'll Enlighten You and We'll Make It Quick*				**Session 3606** Strand 5, Secondary (6–12) ***Mendivil,*** *Changing the Game: Redefining and Repurposing District Assessment*

WEDNESDAY SUMMARY

7:30–8:30: Session 3022, Wednesday Breakfast (ticket required), Lone Star D-F, Networking Breakfast
Co-Sponsored by *Origo Education* and *Ascend Math*

	Travis A-B	Travis C-D	Presidio A	Presidio B-C	Bonham B	Bonham C
8:45–9:45	**Session 3107** Strand 2, General ***Mueller, Pligge, Baker, Agostinelli,*** *Coaching Practices to Build a Dynamic Learning Culture*	**Session 3108** Strand 2, Elementary (K–5) ***Gray, Gannon,*** *Learning Labs: Coaching from Within Professional Learning Communities*	**Session 3109** Strand 3, Primary (PK–2) ***Flynn,*** *Using Robotics to Engage Young Children in the Standards for Mathematical Practice*	**Session 3110** Strand 5, Middle (6–8) ***Varlotta, Richard,*** *Implementing High Quality Assessment Practices with Teacher Terms*		**Session 3112** Strand 1, General ***Silver, Raygoza, Janes,*** *An International Perspective on Curriculum and Assessment: Implications for Mathematics Programs in the United States*
10:00–11:00	**Session 3207** Strand 3, Elementary (K–5) ***Rawding,*** *Collaboration, Creativity, and Growth Mindset Leading to Inspiring Mathematics Teaching and Learning*	**Session 3208** Strand 3, Elementary (K–5) ***Moynihan,*** *Higher Order Thinking: The Mission of the Mathematical Practices*	**Session 3209** Strand 1, General ***Levy,*** *Lessons Learned from a New Leader's Journey to a Balanced Mathematics Program: Let's All Share and Support Each Other*	**Session 3210** Strand 1, Secondary (6–12) ***Heid, Zbiek, Viktora,*** *Developing Classroom-Based Secondary Mathematics Understanding in Professional Learning Settings*	**Session 3211** Strand 2, General ***Ortega, Friesema,*** *Lesson Study as a Means of Cultivating Self-Sustaining Professional Learning Communities*	**Session 3212** Strand 3, General ***Philipp,*** *The Association of Mathematics Teacher Educator's Standards Teachers: A New Vision for New Teachers* **PRESIDENT'S EXCHANGE**
11:15–12:15	**Session 3307** Strand 2, General ***Horwitz, Europa, Ernandes,*** *Coaching for Equity in Mathematics: Using a Racial Equity Lens to Facilitate Coaching Conversations*	**Session 3308** Strand 2, Elementary (K–5) ***Fox, Cunard,*** *Exploring Knowledge and Practices for Facilitating Collaborative, Classroom-Based Teacher Learning*	**Session 3309** Strand 3, General ***Fossum, Richards*** *Using the Coherence Map to Build Content-Focused Professional Learning*	**Session 3310** Strand 3, Secondary (6–12) ***Utley, Weaver,*** *High Yield Geometry Routines to Support Student Learning*	**Session 3311** Strand 2, Intermediate (3–5) ***Norris, Schuhl,*** *Link Numeracy and Literacy: Strategies to Engage Students*	**Session 3312** Strand 5, Elementary (K–5) ***Woodward,*** *Who's Learning? Lessons We're Learning About Ourselves with K–5 Interview-Based Number Sense Screener Assessments*

12:30–2:00: Session 3422: Wednesday Luncheon (ticket required), Lone Star D-F, Problems from Their World,
Sponsored in part by *Discovery Education*

2:15–3:15	**Session 3507** Strand 2, General ***Garcia, Shaughnessy, Ball,*** *Public Teaching: A Set of Strategies Coaches Can Use to Support the "Seeing" of Teaching*	**Session 3508** Strand 3, Intermediate (3–5) ***Curran, Turner,*** *Using Anchor Tasks to Ignite Learners: Coaching Teachers to Facilitate an Inquiry-Based Learning Model*	**Session 3509** Strand 4, General ***Walker, Ratliff,*** *Positioning Yourself to be an Advocate, Even When it is Not Popular!* **PRESIDENT'S EXCHANGE**	**Session 3510** Strand 1, Secondary (6–12) ***Tavormina,*** *Collaborative Leadership: Stories of School Districts That Transformed Mathematics Learning*	**Session 3511** Strand 2, General ***Kelemanik, Nuchtern, Lucenta,*** *Using Routine Rehearsals to Transform Teaching Practices*	**Session 3512** Strand 1, Elementary (K–5) ***Cole,*** *Putting into Practice the Recommendations of the Elementary Mathematical Writing Task Force*
3:30–4:30	**Session 3607** Strand 4, General ***Ballard,*** *Maximize Mathematical Reasoning with Minimal Language Demands*	**Session 3608** Strand 3, Intermediate (3–5) ***Gray, LaLonde,*** *Talk, Talk, Talk, Talk, Talk: Engaging Students in Mathematical Discourse*	**Session 3609** Strand 2, General ***Maxwell, Riser, Parsons, Thornburg,*** *Leadership Coaching Lab: Developing a Keen Eye for the Essence of a Mathematics Lesson*	**Session 3610** Strand 1, Elementary (K–5) ***Costello,*** *Developing Mathematical Understanding Through Systemic Collaboration*		

WEDNESDAY SUMMARY

7:30–8:30: Session 3022, Wednesday Breakfast (ticket required), Lone Star D-F, Networking Breakfast
Co-Sponsored by *Origo Education* and *Ascend Math*

	Bonham D	Bonham E	Independence	Lone Star A	Lone Star B	Lone Star C
8:45–9:45	**Session 3113** Strand 2, Intermediate (3–5) ***Khalsa, Brady,*** *Making Teaching and Learning Visible Through Embedded Coaching*	**Session 3114** Strand 4, High School (9–12) ***Waddell, Schmidt,*** *Reimagining Statistics Through Social Justice*	**Session 3115** Strand 3, Elementary (K–5) ***Weynand, Mayfield,*** *Follow the Standards to Algebra Readiness*	**Session 3116** Strand 3, Secondary (6–12) ***Hong, Whitley,*** *Creating an Environment for Student-Centered Instruction*	**Session 3117** Strand 2, Secondary (6–12) ***Long,*** *Supporting a Teacher's Journey Toward Embracing and Understanding Mathematical Modeling*	**Session 3118** Strand 4, Elementary (K–5) ***Steinback, Garland-Dore,*** *Using Online Course to Develop Instructional Practices That Support the Range of Learners*
10:00–11:00	**Session 3213** Strand 2, General ***Ellsworth, DeCarli,*** *Coaching for Long-Term Change: Using Research-Based Models to Build a District Culture of Reflection and Growth*	**Session 3214** Strand 2, Secondary (6–12) ***Seda, Harrell,*** *From Isolation to Collaboration: How Peer Coaching Helped Us Get There*	**Session 3215** Strand 5, High School (9–12) ***Hartwig,*** *Rubric Strategies to Support Fair and Appropriate Modeling Assessment*	**Session 3216** Strand 2, Elementary (K–5) ***Dolk, Fosnot,*** *Visions for the Future: Coaching Using a Blended Learning Model*	**Session 3217** Strand 4, Secondary (6–12) ***Wiseman, Bailie,*** *Shrinking the Equity Gap in Secondary Coursework: Implications for College Enrollment and Completion*	**Session 3218** Strand 1, General ***Brown, Richards,*** *Empowering Mathematics Teacher Leaders*
11:15–12:15	**Session 3313** Strand 1, General ***Goodspeed, Campbell, Greer, Quach, Yusim,*** *From Vision to Reality: Reflections on the Mathematical Transformation of a K–8 District*	**Session 3314** Strand 3, Primary (PK–2) ***Murawski, Fierle, Burgess, Bunt,*** *Early Learning of Mathematics Through Media: We've Got A REALLY Big Problem!–Or Not*	**Session 3315** Strand 3, Elementary (K–5) ***Crist, Sizemore,*** *Customizing Mathematics Instruction to Meet the Needs of All Learners*	**Session 3316** Strand 3, Secondary (6–12) ***Reardon,*** *Transformational Geometry–Immediate Interactive Investigations–Engaging Activities for iPad, Handheld, or Computer*	**Session 3317** Strand 3, Primary (PK–2) ***Hintz, Gray, Gannon,*** *Developing a Mathematical Lens Through Interactive Read Alouds*	**Session 3318** Strand 4, High School (9–12) ***Riser, Corrozi,*** *Addressing Issues of Status in Problem-Based High School Mathematics Classrooms*

12:30–2:00: Session 3422: Wednesday Luncheon (ticket required), Lone Star D-F, Problems from Their World,
Sponsored in part by *Discovery Education*

2:15–3:15	**Session 3513** Strand 2, General ***Wolling, Preston, Lamson,*** *Striking a Balance: Navigating the Roles of a Coach K–12*	**Session 3514** Strand 2, Elementary (K–5) ***Fricchione, Alperin,*** *Parallel Professional Development: People, Pedagogy and Practice*	**Session 3515** Strand 1, General ***Finkelstien, Resnick,*** *Cross-District Collaboration to Design Mathematics Professional Development (PD) Structures for Maximum Impact*	**Session 3516** Strand 5, Intermediate (3–5) ***Walker, Post,*** *Formative Assessment: What It Is, What It Is Not!*	**Session 3517** Strand 1, General ***Evans, LeDoux,*** *The Digital Administrator: Supporting Ongoing Teacher Professional Learning Through Technology*	**Session 3518** Strand 4, General ***Payne,*** *Mathematics Education for Black and Latina Urban Youths: A Humanistic View*
3:30–4:30				**Session 3616** Strand 3, Secondary (6–12) ***Bush, Brinkman, Gould,*** *Curiosity and Collaboration: The Power of Divergent Problems*	**Session 3617** Strand 3, Elementary (K–5) ***Dent, Quiocho,*** *Supporting Teachers in Leveraging Variety*	**Session 3618** Strand 3, Elementary (K–5) ***Smith,*** *How to Mathematize Any Activity to Promote Student Engagement and Close the Mathematics Experience Gap*

WEDNESDAY SUMMARY

7:30–8:30: Session 3022, Wednesday Breakfast (ticket required), Lone Star D-F, Networking Breakfast
Co-Sponsored by *Origo Education* and *Ascend Math*

	Bowie A-C	Mission B
8:45–9:45	**Session 3119** Strand 4, Secondary (6–12) ***Hull Barnes, Ryan,*** *Still Fighting the Good Fight: Standing Up for Equity in Mathematics*	**Session 3120** Strand 2, High School (9–12) ***West,*** *Supporting Continuous Improvement in Every Lesson and Every Workshop*
10:00–11:00	**Session 3219** Strand 1, General ***Vennebush,*** *All the Things Kids Learn When We're Trying to Teach Them Mathematics*	**Session 3220** Strand 5, General ***Heffernan,*** *With Online Teacher Driven Homework Students Track Their Performance and Teachers Use Data to Inform Instruction*
11:15–12:15	**Session 3319** Strand 5, High School (9–12) ***May, Romagnolo, Cook,*** *Creating Meaningful Assessments with Technology-Enhanced Items*	**Session 3320** Strand 1, General ***Remillard, Murate, Plowman,*** *Supporting Mathematics Teacher Development in Finland: Lessons Learned from a Joint United States-Finnish Workshop*

12:30–2:00: Session 3422: Wednesday Luncheon (ticket required), Lone Star D-F, Problems from Their World,
Sponsored in part by *Discovery Education*

2:15–3:15	**Session 3519** Strand 1, General ***Parr,*** *Fostering Communities of Practice Among Teachers to Promote Student Success*	

NOTES

WEDNESDAY SESSIONS BY STRAND

STRAND 1: POWERFUL MATHEMATICS EDUCATION LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
3106	SEGUIN A-B	8:45–9:45
3112	BONHAM C	8:45–9:45
3201	TEXAS E-F	10:00–11:00
3204	CROCKETT C-D	10:00–11:00
3205	REPUBLIC A-C	10:00–11:00
3206	SEGUIN A-B	10:00–11:00
3209	PRESIDIO A	10:00–11:00
3210	PRESIDIO B-C	10:00–11:00
3210	PRESIDIO B-C	10:00–11:00
3218	LONE STAR C	10:00–11:00
3219	BOWIE A-C	10:00–11:00
3303	CROCKETT A-B	11:15–12:15
3313	BONHAM D	11:15–12:15
3320	MISSION B	11:15–12:15
3505	REPUBLIC A-C	2:15–3:15
3506	SEGUIN A-B	2:15–3:15
3510	PRESIDIO B-C	2:15–3:15
3512	BONHAM C	2:15–3:15
3515	INDEPENDENCE	2:15–3:15
3517	LONE STAR B	2:15–3:15
3519	BOWIE A-C	2:15–3:15
3602	TEXAS D	3:30–4:30
3610	PRESIDIO B-C	3:30–4:30

STRAND 2: VISIONARY COACHING PRACTICES PRESENTATIONS

SESSION	LOCATION	TIME
3107	TRAVIS A-B	8:45–9:45
3108	TRAVIS C-D	8:45–9:45
3111	BONHAM B	8:45–9:45
3113	BONHAM D	8:45–9:45
3117	LONE STAR B	8:45–9:45
3120	MIISSION B	8:45–9:45
3211	BONHAM B	10:00–11:00
3213	BONHAM D	10:00–11:00
3214	BONHAM E	10:00–11:00
3216	LONE STAR A	10:00–11:00
3302	TEXAS D	11:15–12:15
3306	SEGUIN A-B	11:15–12:15
3307	TRAVIS A-B	11:15–12:15
3308	TRAVIS C-D	11:15–12:15
3311	BONHAM B	11:15–12:15
3507	TRAVIS A-B	2:15–3:15
3511	BONHAM B	2:15–3:15
3513	BONHAM D	2:15–3:15
3514	BONHAM E	2:15–3:15
3609	PRESIDIO A	3:30–4:30

STRAND 3: MOTIVATIONAL MATHEMATICS TEACHING AND LEARNING PRESENTATIONS

SESSION	LOCATION	TIME
3102	TEXAS D	8:45–9:45
3103	CROCKETT A-B	8:45–9:45
3104	CROCKETT C-D	8:45–9:45
3109	PRESIDIO A	8:45–9:45
3115	INDEPENDENCE	8:45–9:45
3116	LONE STAR A	8:45–9:45
3203	CROCKETT A-B	10:00–11:00
3207	TRAVIS A-B	10:00–11:00
3208	TRAVIS C-D	10:00–11:00
3212	BONHAM C	10:00–11:00
3301	TEXAS E-F	11:15–12:15
3305	REPUBLIC A-C	11:15–12:15
3309	PRESIDIO A	11:15–12:15
3310	PRESIDIO B-C	11:15–12:15
3314	BONHAM E	11:15–12:15
3315	INDEPENDENCE	11:15–12:15
3316	LONE STAR A	11:15–12:15
3317	LONE STAR B	11:15–12:15
3422	LONE STAR D-F	12:30–2:00
3502	TEXAS D	2:15–3:15
3504	CROCKETT C-D	2:15–3:15
3508	TRAVIS C-D	2:15–3:15
3608	TRAVIS C-D	3:30–4:30
3616	LONE STAR A	3:30–4:30
3617	LONE STAR B	3:30–4:30
3618	LONE STAR C	3:30–4:30

STRAND 4: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
3101	TEXAS E-F	8:45–9:45
3114	BONHAM E	8:45–9:45
3118	LONE STAR C	8:45–9:45
3119	BOWIE A-C	8:45–9:45
3202	TEXAS D	10:00–11:00
3217	LONE STAR B	10:00–11:00
3318	LONE STAR C	11:15–12:15
3503	CROCKETT A-B	2:15–3:15
3509	PRESIDIO A	2:15–3:15
3518	LONE STAR C	2:15–3:15
3607	TRAVIS A-B	3:30–4:30

STRAND 5: EXEMPLARY ASSESSMENT LEADERSHIP PRESENTATIONS

SESSION	LOCATION	TIME
3015	REPUBLIC A-C	8:45–9:45
3110	PRESIDIO B-C	8:45–9:45
3215	INDEPENDENCE	10:00–11:00
3220	MISSION B	10:00–11:00
3312	BONHAM C	11:15–12:15
3319	BOWIE A-C	11:15–12:15
3501	TEXAS E-F	2:15–3:15
3516	LONE STAR A	2:15–3:15
3606	SEGUIN A-B	3:30–4:30

7:30 AM–8:30 AM

SESSION 3022
STRAND 1

TICKET REQUIRED

LONE STAR D-F
GENERAL

Networking Breakfast

Join NCSM board members and conference attendees as we kick off day three with a Networking Breakfast. During today's breakfast, participants will have a chance to dialogue with others in similar roles and responsibilities. Come prepared to share reflections on something you've heard or learned that challenged or affirmed your thinking, share effective practices for mathematics leadership, and most importantly make connections.

John W. Staley, NCSM President, Towson, Maryland
Mona Toncheff, NCSM 1st Vice President, Phoenix, Arizona

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Ascend Math
TARGETED INSTRUCTION & ASSESSMENT...ONLINE

8:45 AM–9:45 AM

MAJOR PRESENTATION

SESSION 3101 **TEXAS E-F**
STRAND 4 **GENERAL**

The Best of Both Worlds: A University-District Partnership to Enhance Mathematics Instruction for English Language Learners

This session will focus on the design and implementation of a range of teacher professional development opportunities that a school, district, or state could employ to improve mathematics instruction for English Language Learners (ELLs). The presenters will share their unique university-district partnership to provide intensive professional development for classroom teachers (both mainstream and ESOL) through a Focus Group, on-site coaching support, and grant-funded graduate coursework. Informed by NCTM's *Principles to Actions*, these initiatives complement each other in order to offer a comprehensive approach to teacher development aligned with the CCSSM Standards for Mathematical Practice, NCTM Teacher Practices, and WIDA English Language Development Standards. Specific teacher training materials and language-based instructional tools will be shared that have proven powerful for developing both mathematical discourse and the language of mathematics for ELLs.

Rodrigo Jorge Gutiérrez, University of Maryland, College Park, Maryland

Halla Jmourko, Prince George's County Public Schools, Adelphi, Maryland

Presider, **David McKillop**, NCSM Historian, Truro, Nova Scotia, Canada

Dr. Rodrigo Gutiérrez is a Clinical Assistant Professor for the Center for Mathematics Education at University of Maryland. His research and instructional interests lie at the intersection of teacher development, mathematics education, and teaching for social justice, paying particular attention to Latinos and English Language Learners (ELLs). Through partnerships with local school districts, he has implemented grant-funded professional development opportunities aimed at improving mathematics instruction for ELLs. Previously, Rodrigo was a fellow with the Center for the Mathematics Education of Latinas/os (CEMELA) at the University of Arizona, where his dissertation study examined the implementation of Critical Mathematics in an urban high school's Precalculus course.

Halla Jmourko is an ESOL instructional coach in Prince George's County Public Schools, MD. Her professional interests stem from the role of the language in mathematics and include creating instructional tools, professional development opportunities, and coaching structures to support teachers of English learners int he mathematics classroom.

SPOTLIGHT SPEAKER

SESSION 3102 **TEXAS D**
STRAND 3 **ELEMENTARY (K–5)**

Conferring with Young Mathematicians at Work: The Process of Teacher Change

If children are to engage in problem solving with tenacity and confidence, good questioning on the part of teachers during conferrals is critical. Questioning must engender learner excitement and ownership of ideas, while simultaneously be challenging enough to support further development. Video of conferrals in action will be used for analysis, and a Landscape of Learning on the process of teacher change is shared as a lens for coaching.

Catherine Fosnot, New Perspectives on Learning, New London, Connecticut

Presider, **Carol Matsumoto**, NCSM Affiliates Coordinator, Winnipeg, Manitoba, Canada

SESSION 3103 **CROCKETT A-B**
STRAND 3 **ELEMENTARY (K–5)**

From Mathematics Class to Mathematician's Workshop

How do you support teachers in the transition from a traditional mathematics classroom structure to a mathematician's workshop structure? Intentionally over time! Join us as we explore district-wide steps, structures, and resources used to transition classrooms with high English learner populations from traditional classrooms to engaging workshop environments that encourage the use of differentiated instruction.

Janet Nuzzie, Pasadena Independent School District, Pasadena, Texas

8:45 AM–9:45 AM CONT...

SESSION 3104 **CROCKETT C-D**
STRAND 3 **GENERAL**

For Your Eyes Only: Using Video as a Tool for Personal Self-Reflection

Helping preservice teachers (PTs) engage students in rich mathematical tasks and discourse can be challenging. This session describes a project with secondary PTs using video records of their teaching to reflect on their practice and identify goals for improvement. PTs used smart phones, tablets, and other common devices to film themselves leading discussions over time. Challenges, successes, and reflections from the PTs will be shared.

Julie McNamara, California State East Bay, Hayward, California

SESSION 3105 **REPUBLIC A-C**
STRAND 5 **INTERMEDIATE (3–5)**

Changing Instructional Practice—Permission Isn't Enough—Teachers Need Adaptive Pedagogy to Support Student Learning

Adaptive Pedagogy (AdPED) empowers teachers to use student assessment results to transform mathematics instruction. While administrators and mathematics leaders give teachers permission to change their instructional practice, without knowing what to change, what is comfortable continues. AdPED helps teachers to use formative assessment practices, focused on students' mathematical thinking, to build students' mathematical understanding.

John Sutton, RMC Research Corporation, Denver, Colorado

Heather Johnson, University of Colorado Denver, Denver, Colorado

SESSION 3106 **SEGUIN A-B**
STRAND 1 **ELEMENTARY (K–5)**

Moving Beyond One-Size Fits All Professional Development (PD): The Blended Learning Story

Differentiating instruction is not just for youth. It applies to adult learners, too, specifically teachers. Find out how the Los Angeles Unified School District uses personalized professional learning in Elementary Mathematics, from preparing facilitators to deliver PD, to creating blended-learning experiences for thousands of teachers. This includes face-to-face PD and online learning that incorporates self-assessment, choice points and media.

Lisa Ward, Los Angeles Unified School District, Los Angeles, California

SESSION 3107 **TRAVIS A-B**
STRAND 2 **GENERAL**

Coaching Practices to Build a Dynamic Learning Culture

How do coaches build effective relationships with teachers to promote high quality mathematics instruction? Presenters will share tools and structures they have used in over 30 school districts in the Chicagoland area. We will highlight methods that advance generative reflection and discussions aimed at improving student engagement and learning.

Nancy Mueller, University of Illinois at Chicago, Chicago, Illinois

Margaret Pligge, University of Illinois at Chicago, Chicago, Illinois

Joanne Baker, University of Illinois at Chicago, Chicago, Illinois

Anne Agostinelli, University of Illinois at Chicago, Chicago, Illinois

SESSION 3108 **TRAVIS C-D**
STRAND 2 **ELEMENTARY (K–5)**

Learning Labs: Coaching from Within Professional Learning Communities

What if teaching wasn't an isolated profession? What if there was time to learn with one another around a common experience? This session will explore a professional learning model, Learning Labs, where teachers and coaches embed learning within the classroom. This model empowers teachers in the learning process, creates a collaborative school culture around learning and puts students at the forefront of all instructional decision-making.

Kristin Gray, Cape Henlopen School District, Lewes, Delaware

Erin Gannon, Richard A. Shields Elementary School, Lewes, Delaware

SESSION 3109 **PRESIDIO A**
STRAND 3 **PRIMARY (PK–2)**

Using Robotics to Engage Young Children in the Standards for Mathematical Practice

Engaging students in the Standards for Mathematical Practice through robotics is a powerful way to get young students actively collaborating and problem solving. In this hands-on session we will use Bee Bots, easily programmable robots for children, to explore the rich mathematics that emerges as we navigate a variety of tasks and challenges. We will discuss how to use robotics in the classroom and examine video of students engaged in this work.

Mike Flynn, Mount Holyoke College, South Hadley, Massachusetts

8:45 AM–9:45 AM CONT...

SESSION 3110 **PRESIDIO B-C**
STRAND 5 **MIDDLE (6–8)**

Implementing High Quality Assessment Practices with Teacher Teams

Participants will engage in a process used to support the growth of collaborative teacher teams in developing high quality common assessment items and changing teachers' ideas on assessment practices. Including the use of an assessment evaluation tool, used to evaluate the quality of the assessment, as well as, evaluating the potential of the assessment in supporting the development of mathematical content and mathematical practices.

AnnMarie Varlotta, Howard County Public Schools, Ellicott City, Maryland

Greta Richard, Howard County Public Schools, Laurel, Maryland

SESSION 3112 **BONHAM C**
STRAND 1 **GENERAL**

An International Perspective on Curriculum and Assessment: Implications for Mathematics Programs in the United States

What are key features of curriculum in other countries? How do the curricula allow for diverse learners? How are changes made and implemented? Do large-scale assessments drive the curriculum or vice versa? Participants will engage in a discussion of the curriculum of countries such as China, Korea, India, and Germany based on topic study groups, presentations and interactions with mathematics educators from countries at the International Congress on Mathematics Education, ICME-13.

Edward A. Silver, University of Michigan, Ann Arbor, Michigan

Mary Raygoza, Urban Schooling Division UCLA Graduate School of Education & Information Studies, Los Angeles, California

Robert Janes, Two Rivers Magnet High School, Hartford, Connecticut

SESSION 3113 **BONHAM D**
STRAND 2 **INTERMEDIATE (3–5)**

Making Teaching and Learning Visible Through Embedded Coaching

Learn how to use a combination of in-class coaching and technology to support teachers in the mathematical practices. The presenters have collaborated on a two-year, multi-county embedded coaching project addressing productive discourse, mathematical modeling, and open teaching practices. Discover the strategies, planning, rubrics, and techniques that have led some teachers to declare this the most valuable work they have ever done.

Arjan Khalsa, Conceptua Math, San Rafael, California

Denise Brady, Shiawassee Regional Educational Service District, Corunna, Michigan

SESSION 3114 **BONHAM E**
STRAND 4 **HIGH SCHOOL (9–12)**

Reimagining Statistics Through Social Justice

We will explore how to engage the statistics learner in topics of social justice and critical theory, how to find resources, and how to incorporate these ideas of justice into the classroom and curriculum without losing a focus on rigor necessary to meet the demands of standards or Advanced Placement exams.

Glenn Waddell, Jr., University of Nevada, Reno, Reno, Nevada

Megan Schmidt, St. Francis High School, St. Francis, Minnesota

SESSION 3115 **INDEPENDENCE**
STRAND 3 **ELEMENTARY (K–5)**

Follow the Standards to Algebra Readiness

Algebra readiness is a topic of concern in all school districts. This session supports leaders in developing ways of thinking about arithmetic that strengthens students' understanding, develops computational fluency, and prepares them for formal algebra in later grades. Experience mathematical tasks and examine student work that focus on thinking relationally about equality, generalizing about the operations, and the value of representation.

Lu Ann Weynand, Math Solutions, Sausalito, California

Amy Mayfield, Math Solutions, Sausalito, California

8:45 AM–9:45 AM CONT...

SESSION 3116 **LONE STAR A**
STRAND 3 **SECONDARY (6–12)**

Creating an Environment for Student-Centered Instruction

When students are the center of instruction, they are active, engaged, and noisy. Passionate discussion replaces passive absorption. Time passes quickly, and though students will be mentally fatigued, they won't want to leave so they can keep exploring. Sound too good to be true? Come experience an inquiry-based classroom, and see examples of teacher moves and classroom activities that will make your students the center of attention.

Marjan Hong, Discovery Education, Silver Spring, Maryland

Joanne Whitley, Charlotte Mecklenburg Schools, Charlotte, North Carolina

SESSION 3117 **LONE STAR B**
STRAND 2 **SECONDARY (6–12)**

Supporting a Teacher's Journey Toward Embracing and Understanding Mathematical Modeling

Using excerpts of appropriate modeling tasks from the recently published GAIMME document along with NCSM's own *Modeling in Three Acts* can help teachers better understand and embrace mathematical modeling. The tasks in these documents can support teachers as they infuse mathematical modeling into their regular practice. Strategies, including ways to break down the modeling process, and tasks will be shared, completed, and discussed.

Mike Long, Howard County Community College, Columbia, Maryland

SESSION 3118 **LONE STAR C**
STRAND 4 **ELEMENTARY (K–5)**

Using an Online Course to Develop Instructional Practices That Support the Range of Learners

This session will describe an online course that engages math educators in reflecting on and developing practices that support the range of learners. Through simulation, participants will experience features such as classroom video clips, cases, and student work, and ways online course participants interact through a reflection notebook and a discussion forum. Presenters will highlight the affordances and challenges of the online environment.

Myriam Steinback, TERC, Cambridge, Massachusetts

Cynthia Garland-Dore, TERC, Cambridge, Massachusetts

SESSION 3119 **BOWIE A-C**
STRAND 4 **SECONDARY (6–12)**

Still Fighting the Good Fight: Standing Up for Equity in Mathematics

San Francisco has worked for three years to implement a board policy that detracks math classes through the end of 10th grade, garnering both media attention and peer interest. Through research from the field and attention to our data we have framed this as a social justice issue and an instructional opportunity. The Superintendent and Math Administrator will reflect on our experiences and share artifacts, with ample time for questions.

Lizzy Hull Barnes, San Francisco Unified School District, San Francisco, California

James Ryan, San Francisco Unified School District, San Francisco, California

SESSION 3120 **MISSION B**
STRAND 2 **HIGH SCHOOL (9–12)**

Supporting Continuous Improvement in Every Lesson and Every Workshop

How can every taught lesson become an opportunity for teachers to improve pedagogical practice? The use of iterative instructional routines and disciplined inquiry cycles offer a successful approach to the continuous improvement of teaching. Mathematics specialists at New Visions for Public Schools embed routines within educative curriculum so teachers can improve instruction every day for every student.

Russell West Jr., New Visions for Public Schools, New York, New York

10:00 AM–11:00 AM

MAJOR PRESENTATION

SESSION 3201 **TEXAS E-F**
STRAND 1 **GENERAL**

Leading to Support Procedural Fluency for All Students

Principles to Actions describes effective teaching practices that best support student learning. In this session we will focus on one of those teaching practices: "build procedural fluency from conceptual understanding." Ensuring that every child develops procedural fluency requires understanding what fluency means, knowing research related to developing procedural fluency and conceptual understanding, and being able to translate these ideas into effective classroom practices. That is the focus of this session! We will take a look at research, connections to K–12 classroom practice, and implications for us as coaches and teacher leaders.

Jennifer Bay-Williams, University of Louisville, Louisville, Kentucky

Presider, **Paul D. Gray, Jr.**, NCSM S2 Regional Director, Dallas, Texas

Dr. Jennifer Bay-Williams is a mathematics teacher educator, author, and life-long learner with a passion for making mathematics meaningful for all students. She has written over a dozen books and many articles for teachers about infusing financial literacy, incorporating children's literature, making mathematical connections, and developing understanding of addition and subtraction, including *Mathematics Coaching: Resources and Tools for Coaches and Other Leaders* (with Maggie McGatha, Jon Wray, and Beth Kobett), and *Elementary and Middle School Mathematics – Teaching Developmentally* and *Teaching Student Centered Mathematics* (with John Van de Walle, LouAnn Lovin, and Karen Karp).

Jennifer is a currently a member of the National Council of Teachers of Mathematics (NCTM) Board of Directors, a former President of the Association of Mathematics Teacher Educators, and active in TODOS: Mathematics for All. She also advocates for effective mathematics learning through frequent presentations at state, national, and regional conferences, as well as working with schools, districts, and professional organizations. Jennifer received her Ph.D. from University of Missouri-Columbia, and is currently a professor and department chair at the University of Louisville in Kentucky. She began her career teaching K-12 mathematics in Missouri and Peru and continues to work in K-8 classrooms in Kentucky and around the United States.

SPOTLIGHT SPEAKER

SESSION 3202 **TEXAS D**
STRAND 4 **GENERAL**

Uncovering the Special Mathematical Work of Teaching

Helping students develop mathematical skills, ways of thinking, and identities, and supporting classrooms as equitable communities of practice, entails for teachers a specialized set of instructional skills specific to the domain. We will examine instances of this sensitive work, analyze the kinds of mathematical and other skills and orientations involved for teachers, and consider how fluency with such practices can be developed and supported.

Deborah Ball, University of Michigan, Ann Arbor, Michigan

Presider, **John Staley**, NCSM President, Townson, Maryland

SESSION 3203 **CROCKETT A-B**
STRAND 3 **SECONDARY (6–12)**

Creating Collaborative Classrooms

Teachers are challenged to find strategies that make students college and career ready in the 21st century. How do you shift teachers' focus from covering topics to deepening students' understanding of mathematics? Come experience strategies to support teachers as they adjust lessons to promote discourse, assist teachers to develop environments where students grapple with engaging problems, and facilitate discussions about learning mathematics.

Chris Mikles, CPM Educational Program, Elk Grove, California

Sharon Rendon, CPM Educational Program, Elk Grove, California

SESSION 3204 **CROCKETT C-D**
STRAND 1 **SECONDARY (6–12)**

The High School to College Transition

Perspectives on the high school to college transition are discussed by a panel representing K–12 and higher education. The question of alignment between high school and higher education is explored. The panel will discuss the rush to Advanced Placement in high school, the rise of remediation in college, and how we may best work together to ensure student success.

David Bressoud, Macalester College, Saint Paul, Minnesota

Jessica Fulton, Chicago Public Schools, Chicago, Illinois

John Pelesko, University of Delaware, Newark, Delaware

Debra Ward, Maryland State Department of Education, Baltimore, Maryland

10:00 AM–11:00 AM CONT...

SESSION 3205 **REPUBLIC A-C**
STRAND 1 **GENERAL**

Don't Be Fooled by the Bells and Whistles: Approaching Program Adoption with a Critical Eye

Have you suffered through a mathematics adoption made by a rushed team whose choice was based on "thumbing through" materials and the bells and whistles showcased by the salesperson? Discover the systematic research-based approach a district used to prepare teachers to analyze curricular resources with a critical eye. Participants will leave with the research, strategies, and tools needed to ensure a thoughtful adoption of CCSSM materials.

Sallie Kaan, Fox Chapel Area School District, Pittsburgh, Pennsylvania

Ashley Nestor, Fox Chapel Area School District, Pittsburgh, Pennsylvania

SESSION 3206 **SEGUIN A-B**
STRAND 1 **GENERAL**

Learning, Planning, and Teaching Together: Facilitating Job-Embedded Professional Development

High-quality, job-embedded professional development requires both an intentional design for engaging teachers in the investigation and improvement of practice as well as favilitators who can support and press teachers to take up new ideas. This session explores a design for hob-embedded learning and innovative teacher educator routines that can support collective teacher learning such as facilitating collaborative planning and "teacher time out."

Kendra Lomax, University of Washington, Seattle,Washington

Becca Lewis, University of Washington, Seattle, Washington

SESSION 3207 **TRAVIS A-B**
STRAND 3 **ELEMENTARY (K–5)**

Collaboration, Creativity, and Growth Mindset Leading to Inspiring Mathematics Teaching and Learning

Through the collaborative work with our teams, we will share and discuss ideas to develop a growth mindset in educators and students through engaging, fun tasks. Come explore rich mathematics tasks and discuss ideas for collaboration to promote a growth mindset with diverse learners. Participants will engage in mathematics tasks and leave with ideas to use immediately in classrooms and/or professional learning.

Molly Rawding, Lexington Public Schools, Lexington, Massachusetts

SESSION 3208 **TRAVIS C-D**
STRAND 3 **ELEMENTARY (K–5)**

Higher Order Thinking: The Mission of the Mathematical Practices

We are charged with helping students face the challenges and complexities of tomorrow's world—how do we do it? Fostering the development of higher order thinking skills so elegantly embodied in the Standards for Mathematical Practice (SMP) will help. Come and explore the structure of the SMPs via a framework that identifies prominent components and supportive ties that will provide mathematics leaders with ways to assist teachers in this mission.

Christine Moynihan, Independent Consultant, East Falmouth, Massachusetts

SESSION 3209 **PRESIDIO A**
STRAND 1 **GENERAL**

Lessons Learned from a New Leader's Journey to a Balanced Mathematics Program: Let's All Share and Support Each Other

Strengthening a K-8 mathematics program involves exploring and often challenging beliefs about mathematics teaching and learning, building teachers' pedagogical content knowledge, and educating the administration and community. As a new mathematics leader, how do you start the daunting process? Hear lessons learned from a new specialist seeing real changes in her school. Participants are invited to share their own experiences and advice.

Jennifer Levy, Bernard Zell Anshe Emet Day School, Chicago, Illinois

SESSION 3210 **PRESIDIO B-C**
STRAND 1 **SECONDARY (6–12)**

Developing Classroom-Based Secondary Mathematics Understanding in Professional Learning Settings

Professional learning leading to robust mathematics understanding can start with real classroom teaching events. Teams of researchers and NCSM teacher leaders designed a range of professional learning approaches (some technology-active) to enhance understandings that teachers can use in the context of classroom-based events. Participants encounter mathematics as they engage in and learn about this professional learning for secondary teaching.

M. Kathleen Heid, Pennsylvania State University, University Park, Pennsylvania

Rose Mary Zbiek, Pennsylvania State University, University Park, Pennsylvania

Steven Viktora, New Trier Township High School, Winnetka, Illinois

10:00 AM–11:00 AM CONT...

SESSION 3211 **BONHAM B**
STRAND 2 **GENERAL**

Lesson Study as a Means of Cultivating Self-Sustaining Professional Learning Communities

In the Oakland Unified School District and Chicago Public Schools, site mathematics teams use lesson study to engage around the CCSSM. Come experience how our network of educators from three districts facilitate essential components of a lesson study cycle using a research theme, lesson plan, and video from one of our sites. Discussants include lesson study researchers Drs. Akihiko Takahashi and Catherine Lewis.

Courtney Ortega, Oakland Unified School District, Oakland, California

Andrew Friesema, Dr. Jorge Prieto Math and Science Academy, Chicago, Illinois

PRESIDENT'S EXCHANGE

SESSION 3212 **BONHAM C**
STRAND 3 **GENERAL**

The Association of Mathematics Teacher Educator's Standards for Preparing Teachers: A New Vision for New Teachers

The Association of Mathematics Teacher Educators (AMTE) is producing standards for preparing well-started beginning teachers. AMTE President Randy Philipp will share major points from the standards document and lead a discussion about what new teachers need to know about mathematics, about teaching and learning, and about issues of equity if they are prepared to teach rich and conceptual mathematics.

Randolph Philipp, SDSU Professor, San Diego, California

SESSION 3213 **BONHAM D**
STRAND 2 **GENERAL**

Coaching for Long-Term Change: Using Research-Based Models to Build a District Culture of Reflection and Growth

As CCSSM funding sunsets, how can we sustain our vision for equitable, powerful mathematics classrooms? Through leadership coaching we have been building capacity with teacher leaders, developing a vision for collaboration in grade level teams, and providing tools and resources for departments to take ownership of their continued growth. We will engage participants in analysis and discussion of the possibilities of this work for their districts.

Alison Ellsworth, San Francisco Unified School District, San Francisco, California

Elizabeth DeCarli, San Francisco Unified School District, San Francisco, California

SESSION 3214 **BONHAM E**
STRAND 2 **SECONDARY (6–12)**

From Isolation to Collaboration: How Peer Coaching Helped Us Get There

Come learn how a high school mathematics team, dissatisfied with the traditional model of professional development, chose to take ownership of their own learning by engaging in a peer coaching model. During this presentation, participants will learn the basics of peer coaching, including giving effective feedback, conducting class observations, and using protocols for improving teacher practice.

Pamela Seda, Southwest Dekalb High School, Decatur, Georgia

Ozzie Harrell, Southwest Dekalb High School, Decatur, Georgia

SESSION 3215 **INDEPENDENCE**
STRAND 5 **HIGH SCHOOL (9–12)**

Rubric Strategies to Support Fair and Appropriate Modeling Assessment

Develop students' abilities in mathematical modeling and conceptual understanding by integrating a variety of modeling tasks assessed with fair rubric practices. Analyze how student growth in modeling ability can be evaluated with the modeling cycle. Explore a spectrum of tasks to analyze the validity and support offered by rubric scoring options. Discuss assessment strategies using rubric support.

Peg Hartwig, Discovery Education, Marshfield, Wisconsin

SESSION 3216 **LONE STAR A**
STRAND 2 **ELEMENTARY (K–5)**

Visions for the Future: Coaching Using a Blended Learning Model

Technology today affords a more powerful blended approach to coaching than the sole use of face-to-face in-class work. Using a developmental trajectory on teacher change in relation to questioning and conferring, participants will use digital video to study teachers conferring in action, discuss characteristics of powerful conferrals, and monitor their own growth and development on a related Landscape of Learning online.

Maarten Dolk, New Perspectives Online, New London, Connecticut

Catherine Fosnot, New Perspectives on Learning, New London, Connecticut

10:00 AM–11:00 AM CONT...

SESSION 3217 **LONE STAR B**
STRAND 4 **SECONDARY (6–12)**

Shrinking the Equity Gap in Secondary Mathematics Coursework: Implications for College Enrollment and Completion

Session shares longitudinal analysis of income gaps in secondary mathematics course taking, how more advanced mathematics in high school predicts better higher education outcomes, and mathematics professional development and acceleration models targeted to shrink the equity gap for readiness for 8th grade algebra. Session incorporates pipeline approach and discussion for ensuring equity in mathematics preparation geared to mathematics leadership.

Amy Wiseman, E3 Alliance, Austin, Texas

Christine Bailie, E3 Alliance, Austin, Texas

SESSION 3218 **LONE STAR C**
STRAND 1 **GENERAL**

Empowering Mathematics Teacher Leaders

How do you design professional development that uses collaborative structures to improve teaching and learning for a diverse statewide group of Mathematics Teacher Leaders? What are their common needs? Individual needs? How can leaders be charged to implement change at the school/district level? See how we addressed these issues using research-affirmed resources to provide continual growth around effective teaching and learning of mathematics.

Sara Brown, Brookhill Institute of Mathematics, Waukesha, Wisconsin

Paige Richards, Brookhill Institute of Mathematics, Waukesha, Wisconsin

SESSION 3219 **BOWIE A-C**
STRAND 1 **GENERAL**

All the Things Kids Learn When We're Trying to Teach Them Mathematics

Sure, we want students to count, convert, interpret graphs, and prove theorems. But we also want them to persevere, create models, use technology, and appreciate mathematics. Tall order! While we try to do all that, what are they really learning? Perhaps not what you think. Let's look at some unintended consequences of our instruction, as well as examine strategies for encouraging the skills and habits that we want students to develop.

Patrick Vennebush, Discovery Education, Silver Spring, Maryland

SESSION 3220 **MISSION B**
STRAND 5 **GENERAL**

With Online Teacher Driven Homework Students Track Their Performance and Teachers Use Data to Inform Instruction

Improve student learning! A $3.5 million IES study has shown that students learn more when they receive immediate feedback on their assignments using ASSISTments, a free university project. Teachers still use their current curriculum and gain the benefit of students receiving immediate feedback and turning in their work electronically by typing or uploading an image. Teachers view that work and the data from the reports to help drive instruction.

Cristina Heffernan, Worcester Polytechnic Institute, Worcester, Massachusetts

11:15 AM–12:15 PM

MAJOR PRESENTATION

SESSION 3301 **TEXAS E-F**
STRAND 3 **GENERAL**

How to Think Brilliantly and Creatively in Mathematics: Some Guiding Thoughts for Teachers, Coaches, Students—Everyone!

This lecture is a guide for thinking brilliantly and creatively in mathematics designed for K–12 educators and supervisors, students, and all those seeking joyful mathematics doing. How do we model and practice uncluttered thinking and joyous doing in the classroom, pursue deep understanding over rote practice and memorization, and promote the art of successful flailing? Our complex society demands of its next generation not only mastery of quantitative skills, but also the confidence to ask new questions, explore, wonder, flail, persevere, succeed in solving problems and to innovate. Let's not only send humans to Mars, let's also foster in our next generation the might to get those humans back if something goes wrong! In this talk, I will explore five natural principles of mathematical thinking. We will all have fun seeing how school mathematics content is a vehicle for masterful ingenuity and joy.

James Tanton, Mathematical Association of America, Washington, District of Columbia

Presider, **Shawn Towle**, NCSM E1 Regional Director, Falmouth, Maine

Dr. James Tanton is an author, a consultant, and an ambassador for the Mathematical Association of America (MAA) in Washington D.C., currently serving as their Mathematician-at-Large. He has taught mathematics both at university and high-school institutions. James is absolutely committed to promoting effective and joyful mathematics thinking, learning, and doing at all levels of the education spectrum.

James has written a number of books, including *The Encyclopedia of Mathematics* (Facts on File, 2005) and two wordless puzzle books, *Without Words* and *More Without Words* (Tarquin, 2015)—which have each been translated in Serbian —and developed two DVD *Great Courses* (The Teaching Company, 2013 and 2016). He advises on curriculum, consults with teachers, and gives demonstration classes and professional development across the globe. James also leads the MAA's Curriculum Inspirations project, www.maa.org/ci and is founder of The Global Math Project, www.theglobalmathproject.org. See his sites www.jamestanton.com and www.gdaymath.com for more.

SPOTLIGHT SPEAKER

SESSION 3302 **TEXAS D**
STRAND 2 **GENERAL**

Crucial Coaching Conversations That Make all the Difference

Have you ever worked with teachers who seem resistant to coaching? Do you know how to collaborate with teachers and principals in ways that both maintain confidentiality and result in school-wide teacher learning and student achievement? This interactive session is designed to engage participants in proven, powerful techniques and activities sure to develop new perspectives and skills that work. Learn how to utilize coaching to transform schools.

Lucy West, Metamorphosis Teaching Learning Communities, New York, New York

Antonia Cameron, Metamorphosis Teaching Learning Communities, New York, New York

Presider, **Bonnie Ennis**, NCSM Sponsor Liaison, Salisbury, Maryland

SESSION 3303 **CROCKETT A-B**
STRAND 1 **MIDDLE (6–8)**

Measuring "What Sticks" from Teacher Professional Learning: How Do We Ensure Sustainability?

One of the challenges in providing professional development is assessing the implementation and long-term sustainability of the efforts. This session will focus on six factors of sustainable change and will provide evidence of how various middle schools have implemented change emphasized in an NSF-funded Math and Science Partnership, called the Arizona Mathematics Partnership (AMP). Our Tool Kit for Sustainability will be shared in this session.

April Strom, Scottsdale Community College, Scottsdale, Arizona

Mona Toncheff, NCSM 1st Vice President, Phoenix, Arizona

SESSION 3304 **CROCKETT C-D**
STRAND 3 **ELEMENTARY (K–5)**

What a Great Mistake!: Using Students' Errors to Build Meaning in Mathematics Class

Effective mathematics learners have a helpful mindset about mistakes. They expect to make mistakes, make a lot of them, and use them as pathways towards the correct solutions. In this session, participants will learn about key research findings on the relationship between mistakes and learning and explore ways to use mistakes as instructional tools in mathematics class.

Nancy Anderson, Milton Academy, Milton, Massachusetts

11:15 AM–12:15 PM CONT...

SESSION 3305 **REPUBLIC A-C**
STRAND 3 **INTERMEDIATE (3–5)**

Mathematical Argument in the Elementary Classroom: A Model for Teachers and Coaches

Mathematical argument can and should be a regular, ongoing part of mathematics instruction in grades three through five. This session presents a teaching model, illustrated with video examples, in which students engage in activities that involve examining sets of related problems or arithmetic expressions, articulating conjectures of what they notice, and using representations to construct arguments.

Deborah Schifter, Education Development Center, Waltham, Massachusetts

Susan Jo Russell, TERC, Cambridge, Massachusetts

Virginia Bastable, Mount Holyoke College, South Hadley, Massachusetts

Reva Kasman, Salem State University, Salem, Massachusetts

SESSION 3306 **SEGUIN A-B**
STRAND 2 **PRIMARY (PK–2)**

Using a Protocol for Looking at Student Work with Primary Teachers

Participants will examine a two-phase protocol for analyzing and learning from student work in teacher teams. While the protocol is not grade specific, we will highlight its use with PK–3rd grade teachers. Anticipating and sequencing student responses is an effective method to deepen teachers' content knowledge. Initially coach-led, this job-embedded model of professional learning builds teacher collaboration and capacity for sustainability.

Rebeca Itzkowich, Early Math Collaborative, Chicago, Illinois

Jeanine Brownell, Erikson Institute, Chicago, Illinois

Liz Avila, Early Math Collaborative, Chicago, Illinois

SESSION 3307 **TRAVIS A-B**
STRAND 2 **GENERAL**

Coaching for Equity in Mathematics: Using a Racial Equity Lens to Facilitate Coaching Conversations

This session will focus on increasing equity in mathematics instruction by bringing a racial equity lens to coaching conversations. Through reflection and dialogue, we will build capacity for engaging in difficult conversations on race and equity in mathematics instruction. Participants will then apply a racial equity lens to a teaching scenario and collaboratively develop a plan for leading a coaching conversation based on that scenario.

Rebecca Horwitz, Level Playing Field Institute, Oakland, California

Geneva Europa, Aspire Public Schools-Bay Area, Oakland, California

Veronica Ernandes, Aspire Public Schools-Los Angeles, Los Angeles, California

SESSION 3308 **TRAVIS C-D**
STRAND 2 **ELEMENTARY (K–5)**

Exploring Knowledge and Practices for Facilitating Collaborative, Classroom-Based Teacher Learning

How do coaches engage groups of teachers to learn in and from practice, in order to support their development of high-quality mathematics instruction? In this session, we explore the types of knowledge and practices needed to facilitate classroom-based learning experiences (such as Math Labs), examine video of experienced facilitators' practice, and consider implications for your own facilitation practices.

Alison Fox, University of Washington, Seattle, Washington

Adrian Cunard, University of Washington, Seattle, Washington

SESSION 3309 **PRESIDIO A**
STRAND 3 **GENERAL**

Using the Coherence Map to Build Content-Focused Professional Learning

In this session participants will learn how The Coherence Map was used in course design for a one-week thirty-hour professional development module focused on third through fifth grade standards in the Operations and Algebraic Thinking Domain. Participants will engage with The Coherence Map during the session and discuss ways this tool could be used beyond course design.

Astrid Fossum, Student Achievement Partners, New York, New York

Paige Richards, Brookhill Institute of Mathematics, Waukesha, Wisconsin

SESSION 3310 **PRESIDIO B-C**
STRAND 3 **SECONDARY (6–12)**

High Yield Geometry Routines to Support Student Learning

How can the use of high–yield geometry routines benefit students? We will explore a few routines to facilitate students' development of their spatial sense, vocabulary, and understanding of foundational geometric concepts. Participants will engage in high–yield geometry routines and discuss connections to the mathematics teaching practices.

Juliana Utley, Oklahoma State University, Stillwater, Oklahoma

John Weaver, Oklahoma State University, Stillwater, Oklahoma

11:15 AM–12:15 PM CONT...

SESSION 3311 **BONHAM B**
STRAND 2 **INTERMEDIATE (3–5)**

Link Numeracy and Literacy: Strategies to Engage Students

In this interactive workshop participants will experience the connections between numeracy and literacy using Standards for Mathematical Practices as the framework. Strategies such as headlines, reciprocal teaching and building vocabulary will be featured. Instructional coaches will experience and understand how effective strategies can be implemented in both disciplines.

Kit Norris, Consultant, Hudson, Massachusetts

Sarah Schuhl, Solution Tree, Bloomington, Indiana

SESSION 3312 **BONHAM C**
STRAND 5 **ELEMENTARY (K–5)**

Who's Learning? Lessons We're Learning About Ourselves with K–5 Interview-Based Number Sense Screener Assessments

We wanted to learn about the kids! When Boulder, CO set out to annually assess our 12,000 elementary school students using interview-based Screeners it was all about number sense. Six years later and we've learned as much, maybe more, about ourselves and our program, as we have about the students. Come watch videos, peruse data, hear about the big lessons learned, and discuss possible next steps. The Screeners are free, open-source assessments.

David Woodward, Boulder Valley School District, Boulder, Colorado

SESSION 3313 **BONHAM D**
STRAND 1 **GENERAL**

From Vision to Reality: Reflections on the Mathematical Transformation of a K–8 District

Join us as we discuss how our district answered the call to action from NCSM's *It's Time* to transform mathematics teaching and learning and successfully implement the CCSSM. We will reflect upon the strengths and weaknesses of our approach based on program evaluation feedback from Northwestern University researchers.

Eileen Goodspeed, Winnetka Public Schools, Winnetka, Illinois

Judith Campbell, Winnetka Public Schools, Winnetka, Illinois

Allison Greer, Winnetka Public Schools, Winnetka, Illinois

Chi Quach, Winnetka Public Schools, Winnetka, Illinois

Sam Yusim, Winnetka Public Schools, Winnetka, Illinois

SESSION 3314 **BONHAM E**
STRAND 3 **PRIMARY (PK–2)**

Early Learning of Mathematics Through Media: We've Got a REALLY Big Problem!—Or Not

Learn how we have solved the "really big problem" of early childhood educators' relative discomfort with teaching mathematics to young children! Our professional development experiences have helped deepen teacher pedagogical content knowledge, increase teacher comfort with mathematical ideas, and increase the integration of mathematics throughout the day. Family Engagement Activities have also empowered parents to feel increased comfort.

Corinne Murawski, Allegheny Intermediate Unit, Homestead, Pennsylvania

Michael Fierle, Math & Science Collaborative, Pittsburgh, Pennsylvania

Michele Burgess, Allegheny Intermediate Unit, Homestead, Pennsylvania

Nancy Bunt, The Fred Rogers Company, Pittsburgh, Pennsylvania

SESSION 3315 **INDEPENDENCE**
STRAND 3 **ELEMENTARY (K–5)**

Customizing Mathematics Instruction to Meet the Needs of All Learners

Meeting the needs of a wide range of learners in one classroom can prove to be a challenge for teachers. Learner-centered environments and blended-learning environments will be explored through the lens of effective instructional practices, the use of technology, and the integration of Standards for Mathematical Practice. Learn strategies for customizing mathematics instruction in order to meet the needs of all students.

Natalie Crist, Baltimore County Public Schools, Towson, Maryland

Larry Sizemore, Baltimore County Public Schools Office of Mathematics PK–12, Towson, Maryland

SESSION 3316 **LONE STAR A**
STRAND 3 **SECONDARY (6–12)**

Transformational Geometry—Immediate Interactive Investigations—Engaging Activities for iPad, Handheld, or Computer

Students discover geometry in 15 seconds or less! Get hands-on experience and play, investigate, explore and discover geometric properties. Using a handheld, iPad, or computer software, students will engage quickly and deeply. Obtain hands-on experience on how to implement activities in your classroom and get a free complete unit of student and teacher materials grades 8–10 that include reasoning, problem solving, and interactive technology.

Tom Reardon, Youngstown State University, Youngstown, Ohio

11:15 AM–12:15 PM CONT...

SESSION 3317 **LONE STAR B**
STRAND 3 **PRIMARY (PK–2)**

Developing a Mathematical Lens Through Interactive Read Alouds

Interactive read alouds are a powerful practice in literacy instruction through which children engage in conversations, explore authentic curiosities and connections. In mathematics, these practices are equally important. We will explore read alouds with a mathematical lens, a process we call mathematizing, to encourage teachers to engage students in discussions of children's literature that foster wonder and joy for mathematics and literacy.

Allison Hintz, Associate Professor, Bothell, Washington

Kristin Gray, Cape Henlopen School District, Lewes, Delaware

Erin Gannon, Richard A. Shields Elementary School, Lewes, Delaware

SESSION 3318 **LONE STAR C**
STRAND 4 **HIGH SCHOOL (9–12)**

Addressing Issues of Status in Problem-Based High School Mathematics Classrooms

This session featuring a teacher leader and the director of a statewide project will actively focus on ways to address issues of status in the mathematics classroom. Using video-based episodes, participants will identify specific instances when issues of status are at play, and, working together, consider strategies and norms that will support teachers in promoting more equitable learning environments in their classrooms and schools.

Jamila Riser, Delaware Mathematics Coalition, Dover, Delaware

Robin Corrozi, Cape Henlopen High School, Lewes, Delaware

SESSION 3319 **BOWIE A-C**
STRAND 5 **HIGH SCHOOL (9–12)**

Creating Meaningful Assessments with Technology-Enhanced Items

Technology is impacting high stakes assessment of students across our country. Educators need access to a variety of technology-enhanced items for student assessment at the classroom level to ensure student success. How do these items allow students to be more engaged with the mathematics and teachers to better assess conceptual understanding?

Susan May, Charles A. Dana Center, The University of Texas, Austin, Texas

Nick Romagnolo, Newark Public Schools, Newark, New Jersey

Kathi Cook, Charles A. Dana Center, The University of Texas, Austin, Texas

SESSION 3320 **MISSION B**
STRAND 1 **GENERAL**

Supporting Mathematics Teacher Development in Finland: Lessons Learned from a Joint United States-Finnish Workshop

Mathematics educators from the U.S. and Finland gathered in Helsinki, Finland, for two days to learn about major challenges and initiatives in each country's educational system related to the preparation and development of mathematics teachers. In this session we share insights and learnings from this exchange related to the role of educational leaders in shaping and supporting teacher learning to improve mathematics teaching.

Janine Remillard, University of Pennsylvania, Philadelphia, Pennsylvania

Aki Murata, University of Florida, Gainesville, Florida

Debra Plowman, Center for STEM Education, The University of Texas, Austin, Texas

WEDNESDAY LUNCHEON

12:30 PM–2:00 PM

SESSION 3422 **TICKET REQUIRED** **LONE STAR D-F**
STRAND 3 **GENERAL**

Problems from Their World

Having a cup of coffee or a can of soda with your lunch? Enjoy it, but know that a lot of the caffeine will still be in your system when you lay down tonight. Curious how much? That's just one of the real-world problems we'll explore while you digest. But a student may or may not care about the real world. She will, however, care about her world. It's critical to engage students with mathematical topics that are relevant to their daily experiences—social media, books, sports, puzzles, video games, fun, and yes, even caffeine. Equally important is allowing students to explore, conjecture, and discover. Making mathematics meaningful and relevant is no small feat, so we'll look at opportunities for students to discuss the mathematics in their world.

Patrick Vennebush, Discovery Education, Silver Spring, Maryland

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2:15 PM–3:15 PM

MAJOR PRESENTATION

SESSION 3501 **TEXAS E-F**
STRAND 5 **GENERAL**

Leadership for Teacher Learning: Transforming Mathematics Instruction with Embedded Formative Assessment

Increasing teachers' use of formative assessment has a substantial impact on student achievement. As a result, many districts have adopted formative assessment as a priority, but, too often, implementation has focused on "long-cycle" formative assessment—the use of regular testing to monitor student progress. Such a focus is understandable—it is relatively easy to get teachers to generate and examine data—but the impact on student achievement is modest; the data usually arrive too late to impact instruction. Formative assessment has its greatest impact when it is used minute-to-minute and day-by-day, but this requires changes in teachers' regular classroom practice. In particular, supporting teachers in implementing "short-cycle" formative assessment is less a process of knowledge acquisition and more a process of habit change, which requires different kinds of learning, and different kinds of support structures.

Dylan Wiliam, Institute of Education, University of London, London, Great Britain

Presider, **Lynn Columba,** NCSM Newsletter Editor, Northampton, Pennsylvania

Dylan Wiliam is one of the world's leading authorities on the use of assessment to improve instruction. In a varied career, he has taught mathematics in middle schools and high schools, trained teachers, directed a large-scale testing program, and served a number of roles in university administration including Dean of a School of Education, and Provost. He has authored or co-authored over 300 books, chapters, and journal articles, and he has given presentations and workshops to teachers in over 40 countries. He now works with teachers all over the world to realize the power of formative assessment to improve student achievement.

SPOTLIGHT SPEAKER

SESSION 3502 **TEXAS D**
STRAND 3 **MIDDLE (6–8)**

Deep Practice: Building Conceptual Understanding in the Middle Grades

How might we attend to comprehension, accuracy, flexibility, and then efficiency? What if we leverage technology to enhance our learners' visual literacy and make connections between words, pictures, and numbers? We will look at new ways of using technology to help learners visualize, think about, connect and discuss mathematics. Let's explore how we might help young learners productively struggle instead of thrashing around blindly.

Jill Gough, Trinity School, Atlanta, Georgia

Presider, **Sharon Rendon**, NCSM Membership & Marketing Chair, Summerset, SD

SESSION 3503 **CROCKETT A-B**
STRAND 4 **SECONDARY (6–12)**

Building High-Leverage Professional Learning Systems with Research-Informed Tools for Equity and Access in Mathematics

As leaders, how can we support educators in acting on their commitment to access and equity, especially for underrepresented populations, cultivating competent mathematics problem solvers, and enacting the five dimensions outlined in the TRU Math Framework? Learn how our team engages faculty in ongoing professional development that enables them to deepen their understanding of these ideas and strategies while routinely putting them into practice.

Lisa Brown, Charles A. Dana Center, The University of Texas, Austin, Texas

Danielle Seabold, Kalamazoo Regional Educational Service Agency, Portage, Michigan

Diane Owen-Rogers, Kalamazoo Regional Educational Service Area, Portage, Michigan

SESSION 3504 **CROCKETT C-D**
STRAND 3 **PRIMARY (PK–2)**

Beyond Right or Wrong: Uncover More with Student Work Analysis

Have you ever wondered where to start when looking at student work? In this session participants will analyze student work to determine strengths and weaknesses. Participants will collaborate to develop a remediation plan that focuses on using effective models to move students across the concrete-representational-abstract continuum.

Beth Barnes, Eureka Math, Washington, District of Columbia

Colleen Sheeron, Eureka Math, Washington, District of Columbia

Catriona Anderson, Eureka Math, Washington, District of Columbia

2:15 PM–3:15 PM CONT...

SESSION 3505 **REPUBLIC A-C**
STRAND 1 **GENERAL**

Building Community Through Partnerships to Impact Student Learning

Partnerships with a shared goal of improving student achievement impact what happens in classrooms. Explore the formation and maintenance of an effective partnership of mathematics educators through strategic plans for collaboration. Participants will examine roles of the partners in this model, identify ways of developing their own partnerships, and gather ideas about activities, events and strategies for effective collaboration.

Debbie Perry, Midway Independent School District, Woodway, Texas

Sandi Cooper, Baylor University, Waco, Texas

Trena Wilkerson, Baylor University, Waco, Texas

SESSION 3506 **SEGUIN A-B**
STRAND 1 **GENERAL**

Lesson Study Processes and Tools That Support Teacher Learning While Developing Leaders

This session provides an overview of our approach to lesson studies focused on deepening students' mathematical understanding and discourse. We describe the process, tools, and techniques that supported teacher and leader learning. Participants analyze artifacts from a lesson study cycle and discuss ideas for capacity building and sustainability for the work.

Nicole Rigelman, Portland State University, Portland, Oregon

Amy McQueen, David Douglas School District, Portland, Oregon

Karen Prigodich, Centennial School District, Portland, Oregon

Jackie Cooke, Multnomah Education Service District, Portland, Oregon

SESSION 3507 **TRAVIS A-B**
STRAND 2 **GENERAL**

Public Teaching: A Set of Strategies Coaches Can Use to Support the "Seeing" of Teaching

Public teaching, live teaching incorporating moves to make teaching visible, can be useful in supporting teachers' professional learning (e.g., helping to surface the decisions that teachers make while teaching). It is a strategy that coaches can employ when teaching "model lessons" in school. We describe public teaching, why it might be useful in supporting professional learning, and particular moves that are entailed in the practice.

Nicole Garcia, University of Michigan, Ann Arbor, Michigan

Meghan Shaughnessy, University of Michigan, Ann Arbor, Michigan

Deborah Ball, University of Michigan, Ann Arbor, Michigan

SESSION 3508 **TRAVIS C-D**
STRAND 3 **INTERMEDIATE (3–5)**

Using Anchor Tasks to Ignite Learners: Coaching Teachers to Facilitate an Inquiry-Based Learning Model

Participants will engage in an active mathematics lesson and learn how to use learning objectives to create anchor tasks that spark student interest and allow students of all levels to build on their prior knowledge, make mathematical connections, and deepen their conceptual understanding. Coaches will leave with the tools to support and guide teachers using a student-centered, teacher-facilitated approach to learning.

Beth Curran, Math Champions, Ruckersville, Virginia

Cassandra Turner, Cassandra Turner & Associates, Fort Collins, Colorado

PRESIDENT'S EXCHANGE

SESSION 3509 **PRESIDIO A**
STRAND 4 **GENERAL**

Positioning Yourself to Be an Advocate, Even When It Is Not Popular!

The status quo does not work! The Benjamin Banneker Association has long advocated for the education of African-American students. Our session will focus on these questions, "What does it look like when educators are empowered to be advocates for themselves and their students?" "What does it really look like when students are empowered to the point that they can make informed decisions about their future? What steps can we take to effect change?"

Margaret Walker, Orange County Public Schools/Benjamin Banneker Association, Orlando, Florida

Brea Ratliff, Me 2 The Power Of 3/ Benjamin Banneker Association, Dallas, Texas

SESSION 3510 **PRESIDIO B-C**
STRAND 1 **SECONDARY (6–12)**

Collaborative Leadership: Stories of School Districts That Transformed Mathematics Learning

Building district and school leadership capacity to improve mathematics learning is critical. Learn about a cross-district initiative that fostered collaborative leadership practices and focused on a few big ideas, including student thinking and learning and developing school and district infrastructures to support mathematics improvement. we will share lessons learned and factors that transformed mathematics learning.

Mary Jo Tavormina, University of Illinois at Chicago, Chicago, Illinois

2:15 PM–3:15 PM CONT...

SESSION 3511 **BONHAM B**
STRAND 2 **GENERAL**

Using Routine Rehearsals to Transform Teaching Practices

Teaching students to think and reason mathematically requires additional teaching practices. Helping teachers expand their repertoire of instructional moves means expanding our coaching practices to include lesson rehearsal. Providing teachers regular opportunities to try, re-think, and retry new teaching moves in-the-moment builds new teaching muscles. Join us for a live rehearsal and experience firsthand the power of this coaching tool.

Grace Kelemanik, Kelemanik Consulting, Natick, Massachusetts

Claire Nuchtern, Clinton Hill Northstar Middle School, Newark, New Jersey

Amy Lucenta, Mathematics Education Consultant, Natick, Massachusetts

SESSION 3512 **BONHAM C**
STRAND 1 **ELEMENTARY (K–5)**

Putting into Practice the Recommendations of the Elementary Mathematical Writing Task Force

Mathematics standards typically include expectations for "communication" with little elaboration to help distinguish written and oral communication expectations across grades. In Fall 2015, a group of school- and university-based experts convened to set forth recommendations on the types of and purposes for elementary mathematical writing. This session is designed to report on this work and support putting the recommendations into practice.

Shelbi Cole, Student Achievement Partners, New York, New York

SESSION 3513 **BONHAM D**
STRAND 2 **GENERAL**

Striking a Balance: Navigating the Roles of a Coach K–12

Elementary and secondary coaches will share learning and practices regarding coaching cycles, building capacity in teachers, and handling shifting job expectations. As instructional coaches we are tasked with closing the achievement gap within a culture of collaboration by serving as a resource for all staff. We will discuss how we connect our work with Collaborative Learning Teams to content coaching individual teachers in mathematics.

Kate Wolling, Fairfax County Public Schools, Falls Church, Virginia

Emily Preston, Fairfax County Public Schools, Herndon, Virginia

Carolyn Lamson, Fairfax County Public Schools, Alexandria, Virginia

SESSION 3514 **BONHAM E**
STRAND 2 **ELEMENTARY (K–5)**

Parallel Professional Development: People, Pedagogy and Practice

Are you new to coaching? Are you struggling to transition from differentiating learning for students to differentiating learning for adults? You're not alone. Developing a successful coaching practice requires time, trust and thoughtful reflection as both leader and learner. We will highlight our triumphs and trials in navigating this journey from both the coaches' and teachers' perspectives. Specific strategies and resources will be shared.

Cheryl Fricchione, Rodeph Sholom School, New York, New York

Michelle Alperin, Rodeph Sholom School, New York, New York

SESSION 3515 **INDEPENDENCE**
STRAND 1 **GENERAL**

Cross-District Collaboration to Design Mathematics Professional Development (PD) Structures for Maximum Impact

Learn from 10 districts across the state who shared expertise, best practices, and thought partnership to maximize student learning in the CCSSM. Alongside Dr. Tim Kanold, districts set a vision for CCSSM instruction and assessment and aligned PD structures to build teacher and leader capacity. This session will provide a set of tools and emerging best practices, which can be directly implemented to advance district's efforts in CCSSM shifts.

Neal Finkelstein, WestEd, San Francisco, California

Nick Resnick, California Education Partners, San Francisco, California

SESSION 3516 **LONE STAR A**
STRAND 5 **INTERMEDIATE (3–5)**

Formative Assessment: What It Is, What It Is Not!

Formative assessment, is it just the latest trend? How can we be sure that our assessments are relevant, immediate, and impactful? Research, including that of Dylan Wiliam, has shown that the most effective strategy to use during instruction is formative assessment. In this session, teacher leaders will dive into learning about what formative assessment is and is not, and how effective it is when used appropriately.

Nita Walker, Retired, Orange, California

Barbara Post, Retired, Orange, California

2:15 PM–3:15 PM CONT...

SESSION 3517 **LONE STAR B**
STRAND 1 **GENERAL**

The Digital Administrator: Supporting Ongoing Teacher Professional Learning Through Technology

The implementation of rigorous standards across the nation poses not only a great challenge to students, but also teachers in meeting the demands of going deeper in both content and pedagogy. How do education leaders find ways to coach teachers and provide ongoing support in mathematics? Existing technology can offer one solution to education leaders by extending professional learning into online spaces with a variety of differentiated supports.

Linda Evans, Charles A. Dana Center, The University of Texas, Austin, Texas

Shelly LeDoux, Charles A. Dana Center, The University of Texas, Austin, Texas

SESSION 3518 **LONE STAR C**
STRAND 4 **GENERAL**

Mathematics Education for Black and Latina Urban Youths: A Humanistic View

Come see how educators use challenges and dynamics of urbanicity as an asset to teaching and not an obstacle for learning. Participants will examine assumptions about cultural congruence and what it takes to successfully teach Black and Latina urban mathematics students. This session will examine fixed and growth mindsets of educators, student scarcity, and instructional practices for urban mathematics classes.

Rolonda Payne, Johns Hopkins University, School of Education, Talent Development Secondary, Baltimore, Maryland

SESSION 3519 **BOWIE A-C**
STRAND 1 **GENERAL**

Fostering Communities of Practice Among Teachers to Promote Student Success

Are communities of practice of mathematics teachers non-existent in your schools and districts? In this interactive session, mathematics leaders will discuss approaches for developing and supporting communities of practice that engage teachers in meaningful collaborations to ensure that students receive high-quality, meaningful, and relevant mathematics instruction.

Richard Parr, Rice University, Houston, Texas

3:30 PM–4:30 PM

SESSION 3602 **TEXAS D**
STRAND 1 **GENERAL**

Ignite! We'll Enlighten You and We'll Make It Quick

What makes mathematics educators passionate? What *ignites* us? Each of these 10 brave mathematics educators has five minutes, and 20 slides that automatically advance every 15 seconds, to tell us! The Math Forum at NCTM's Suzanne Alejandre organized this outstanding event. Come experience first hand this live presentation challenge.

Annie Fetter, The Math Forum at NCTM, Swarthmore, Pennsylvania

Thomasenia Adams, University of Florida, Gainesville, Florida

Brian Bushart, Round Rock Independent School District, Round Rock, Texas

Cynthia Cliche, Murfreesboro City School, Murfreesboro, Tennessee

Francis (Skip) Fennell, McDaniel College, Westminster, Maryland

Christine Newell, Stanislaus County Office of Education, Modesto, California

Doug O'Roark, DePaul University, Chicago, Illinois

Sharon Rendon, CPM Educational Program, Elk Grove, California

Farshid Safi, University of Central Florida, Orlando, Florida

Brian Shay, San Dieguito Union High School District, Encinitas, California

Presider, **John W. Staley**, NCSM President, Towson, Maryland

SESSION 3606 **SEGUIN A-B**
STRAND 5 **SECONDARY (6–12)**

Changing the Game: Redefining and Repurposing District Assessments

If you asked every teacher in your district for the purpose of district assessments, would you get the answer you are hoping for? Would teachers give the same answer as each other? What do you do with a broken assessment system? Come discuss how we break down a system that isn't working and build a new one in its place. Be ready to change the rules of the game and learn from each other to create district assessments that inform instruction.

Audrey Mendivil, San Diego County Office of Education, San Diego, California

SESSION 3607 **TRAVIS A-B**
STRAND 4 **GENERAL**

Maximize Mathematical Reasoning with Minimal Language Demands

Activities that promote mathematical reasoning are essential for developing mathematically proficient students. Building fluency and flexibility with numbers is equally essential. I will share several activities, resources, and adaptation strategies that promote both reasoning and fluency in ways that build deeper mathematical understanding.

Dean Ballard, CORE, Inc., Oakland, California

SESSION 3608 **TRAVIS C-D**
STRAND 3 **INTERMEDIATE (3–5)**

Talk, Talk, Talk, Talk, Talk: Engaging Students in Mathematical Discourse

To deepen mathematical understanding, the Standards for Mathematical Practice require students to construct viable arguments and critique the reasoning of others, reason abstractly and quantitatively, and attend to precision. Communication is at the heart of the practices. Mathematics leaders and coaches will learn how to support teachers with engaging students in mathematical discourse.

Le Vada Gray, Math Solutions, Sausalito, California

Nikki LaLonde, Math Solutions, Sausalito, California

SESSION 3609 **PRESIDIO A**
STRAND 2 **GENERAL**

Leadership Coaching Lab: Developing a Keen Eye for the Essence of a Mathematics Lesson

Leadership Coaching Lab is a robust, collaborative, mathematics community in which the role of curriculum leaders, coaches, specialists, and teacher leaders is public and the object of study with colleagues. We will emphasize our role in engaging teachers and colleagues in leading mathematically intense teaching conversations, and using a research-based video analysis tool to develop a keen eye for the mathematical essence of a classroom lesson.

Valerie Maxwell, Delaware K–12 Mathematics Partnership, Dover, Delaware

Jamila Riser, Delaware Mathematics Coalition, Dover, Delaware

Jan Parsons, University of Delaware, Newark, Delaware

Nancy Thornburg, Delaware K–12 Mathematics Partnership, Dover, Delaware

3:30 PM–4:30 PM CONT...

SESSION 3610 **PRESIDIO B-C**
STRAND 1 **ELEMENTARY (K–5)**

Developing Mathematical Understanding Through Systemic Collaboration

This session provides an overview of the systemic approach developed and implemented by a school board to build a community of learners for teachers, coaches, and administrators and that values mathematical understanding. Specific strategies related to professional learning, assessment, progress monitoring, and reporting will be shared with the audience. There will also be a discussion on how this approach was communicated to the public.

David Costello, Education, Summerside, Prince Edward Island, Canada

SESSION 3616 **LONE STAR A**
STRAND 3 **SECONDARY (6–12)**

Curiosity and Collaboration: The Power of Divergent Problems

Curiosity is a basic human drive. How do we tap into our naturally curious nature in mathematics classrooms? Join us to explore the power of divergent problems and the curiosity they can generate in a diverse group of students.

Lisa Bush, Math Solutions, Sausalito, California

Treve Brinkman, Math Solutions, Sausalito, California

Michael Gould, Math Solutions, Sausalito, California

SESSION 3617 **LONE STAR B**
STRAND 3 **ELEMENTARY (K–5)**

Supporting Teachers in Leveraging Variety

Since students come in at varying levels every day, teachers can leverage the variety in student thinking to advance the learning of the whole class by connecting their representations to learning progressions. We will engage in a few mathematical and professional learning tasks that capitalize on technology and equip teachers for success with the Mathematics Teaching Practices from NCTM's *Principles to Actions*.

Ryan Dent, Lewis-Clark State College, Lewiston, Idaho

Kristian Quiocho, Lake Elsinore Unified School District, Lake Elsinore, California

SESSION 3618 **LONE STAR C**
STRAND 3 **ELEMENTARY (K–5)**

How to Mathematize Any Activity to Promote Student Engagement and Close the Mathematics Experience Gap

We talk about the mathematics achievement gap, but what about the mathematics experience gap? We will explore how to mathematize any activity, from playing games to everyday tasks, so that we can give students rich experiences that prepare them for deep problem-solving. These activities show students that mathematics is exciting and can help them make sense of the world. Session participants will take home examples of mathematized activities.

Brandon Smith, MIND Research Institute, Irvine, California

NOTES

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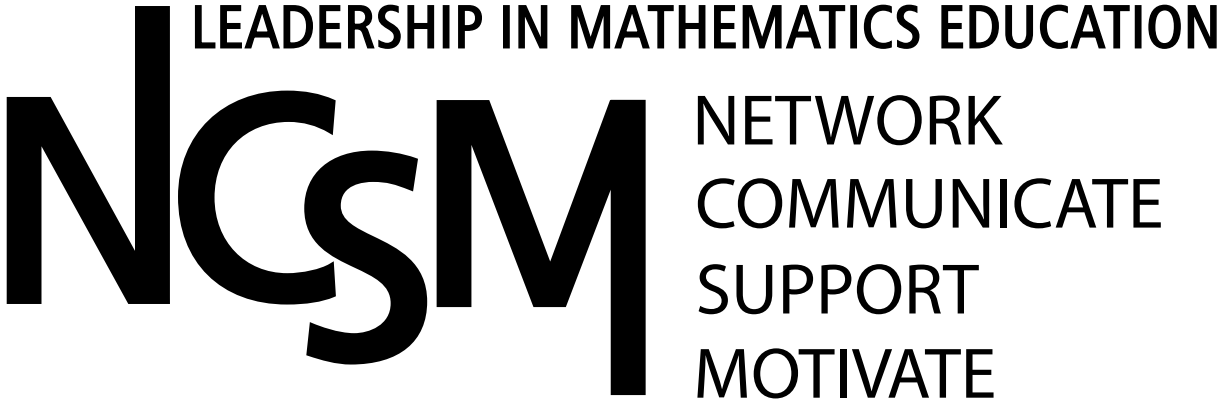

National Council of Supervisors of Mathematics

mathedleadership.org

NCSM MISSION

The National Council of Supervisors of Mathematics (NCSM) is a mathematics leadership organization for educational leaders that provides professional learning opportunities necessary to support and sustain improved student achievement.

NCSM VISION

NCSM envisions a professional and diverse learning community of educational leaders that ensures every student in every classroom has access to effective mathematics teachers, relevant curricula, culturally responsive pedagogy, and current technology.

To achieve our NCSM vision, we will:

Network and collaborate with stakeholders in education, business, and government communities to ensure the growth and development of mathematics education leaders.

Communicate to mathematics leaders current and relevant research, and provide up-to-date information on issues, trends, programs, policies, best practices, and technology in mathematics education.

Support and sustain improved student achievement through the development of leadership skills and relationships among current and future mathematics leaders.

Motivate mathematics leaders to maintain a life-long commitment to provide equity and access for all learners.

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We honor the legacy of former Presidents and value their contribution, support, and leadership.

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- Regional Director, Western 1 (Alaska, Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming)

Visit *mathedleadership.org* for details about the positions, the nomination procedure, and the nomination form. The deadline for nominations for the NCSM Board positions is Friday, May 15, 2017.

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Special thanks to EMS&TL and the mathematics coaches and leaders from Maryland for their partnership in developing *IT WORKED!* for NCSM: Coaching Corner.

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Steve Leinwand, Washington, DC
John Staley, Towson, MD
Jean Tower, Framingham, MA

EQUITY AND SOCIAL JUSTICE INITIATIVE
Comfort Akwaji-Anderson, Chair, Iowa City, IA
Kristopher Childs, Co-Chair, Lubbock, TX
Suyi Chuang, Ashburn, VA
Deborah Crocker, Boone, NC
Linda Fulmore, Cave Creek, AZ
Sandie Gilliam, Colorado Springs, CO
Paul D. Gray, Jr., Dallas, TX
Jon Manon, Newark, DE
Kimberly Morrow-Leong, Fairfax, VA

2017 NCSM LEADERSHIP LEARNING INITIATIVE
Pat Baltzley, Chair, Gardiner, MT
Lisa Scott, Co-Chair, Billings, MT
Carol Matsumoto, Winnipeg, MB, Canada
Nancy Drickey, McMinnville, OR
Lynn Columba, Northampton, PA
Shawn Towle, Portland, ME
John Staley, NCSM President, Towson, MD
Connie Schrock, NCSM President Elect, Emporia, KS

FALL LEADERSHIP SEMINARS – SPEAKERS
Patricia Baltzley, Co-Director, Gardiner, MT
Lisa Scott, Co-Director, Billings, MT
Mona Toncheff, Phoenix, AZ
Matt Larson, Lincoln, NE, NCTM President, Keynote Speaker (Arizona)
John Staley, NCSM President, Towson, MD

LEADERSHIP ACADEMY – SPEAKERS
Lincolnshire, IL Summer 2016
Patricia Baltzley, Co-Director, Gardiner, MT
Lisa Scott, Co-Director, Billings, MT
Tim Kanold, Keynote Speaker, Chicago, IL
Linda Gojak, Keynote Speaker, Willowick, OH
Kathy Kaplan, Explore Learning, Luncheon Speaker, Washington, D.C.
John Staley, NCSM President, Towson, MD

Atlanta, GA Winter 2016
Patricia Baltzley, Co-Director, Gardiner, MT
Lisa Scott, Co-Director, Billings, MT
Graham Fletcher, Keynote Speaker, Atlanta, GA
Norma Miller, Explore Learning, Atlanta, GA
John Staley, NCSM President, Towson, MD

NCTM REGIONAL CONFERENCE & EXHIBITION BOOTH VOLUNTEERS
Phoenix, October 26–28
Kimberly Dugdale, St. Johns, AZ
Jennifer Flores, Phoenix, AZ
Kristen Henninger, Phoenix, AZ
Tracy Matakas, Phoenix, AZ
Sara Moore, Kent, OH
Sharon Rendon, Summerset, SD
Jim Matthews, Loudonville, NY
Connie Schrock, Emporia, KS

Philadelphia, October 31–November 2
Bill Barnes, Ellicot City, MD
John Fontinell, Baltimore, MD
Robert Watkins, Centreville, MD

2016–2017 NCSM GOVERNANCE COMMITTEES

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Mona Toncheff, Phoenix, AZ
Dorothy Shadrick, Denver, CO

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Lisa Coburn, Auburn, ME
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Irma Cruz-White, Marianna, FL
Kristie Donavan, Irvine, CA
Joshua Males, Lincoln, NE
Jennifer Novak, Elkridge, MD
Janet Nuzzie, Pasadena, TX
Mike Pacheco, Reno, NV
Kathy Rieke, Indianapolis, IN

Kay Gilliland Equity Lecture Award Committee
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Cheryl Cantin, Brossard, QC, Canada
David Erickson, Missoula, MT
Bernard Frost, Spartanburg, SC
Eddie Keel, Jackson, TN
Jennifer Mitchell, Chicago Heights, IL
Patty Sandoz, La Grande, OR
Stephanie Tidwell, Plainfield, NJ

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Irma Cruz-White, Marianna, FL
Crystal Lancour, New Castle, DE
Jennifer Levy, Chicago, IL
Christine Roberts Visalia, CA
Peter Saarimaki, Scarborough, ON, Canada
Denise Schulz, Raleigh, NC
Nanci Smith, Cave Creek, AZ
Traci Ziebarth, Grand Prairie, TX

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Connie Schrock, Emporia, KS
John W. Staley, Towson, MD

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Sarah Donovan, Jinqiao, Pudong, Shanghai
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Tami Matsumoto, Richland, WA
Rhoda McInerney, Buffalo Grove, IL
Kitty Rutherford, Cary, NC
Peter Saarimaki, Scarborough, ON, Canada
Dick Seitz, Helena, MT
John Staley, Towson, MD
Jami Stone, Spearfish, SD
Patrick Tarallo, Andover, MA

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Carol Matsumoto, Winnipeg, MB, Canada
Deborah Cocker, Boone, NC
Suyi Chuang, Ashburn, VA
Nancy Drickey, McMinnville, OR
Donna Karsten, Halifax, NS, Canada

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Angela Barlow, Murfreesboro, TN
Kristopher Childs, Lubbock, TX
Lynn Columba, Northampton, PA
Linda Fulmore, Cave Creek, AZ
Travis Olson, Las Vegas, NV
Shawn Towle, Portland, ME

2016–2017 NCSM GOVERNANCE COMMITTEES CONT...

NCSM JMEL REVIEWERS

Angela T. Barlow, Chair, Middle Tennessee State University, TN
Travis Olson, Co-chair, University of Nevada, Las Vegas, NV
Joel Amidon, University of Mississippi, MS
Rachel Bachman, Weber State University, UT
Erin Baldinger, University of Minnesota, MN
Mary Beisiegel, Oregon State University, OR
Allan Bellman, University of Mississippi, MS
Corey Bennett, Idaho State University, ID
Victoria Bill, University of Pittsburgh, PA
Sarah Bleiler-Baxter, Middle Tennessee State University, TN
Jonathan Bostic, Bowling Green State University, OH
Kenneth Bradfield, Michigan State University, MI
Wendy Bray, Florida State University, FL
Angela Broaddus, Benedictine College, Atchison, KS
Susan Brookhart, Brookhart Enterprises LLC, MT
Rachael Brown, Penn State University, PA
Linda Davenport, Boston Public Schools, MA
Nancy Dyson, University of Delaware, DE
Jennifer Edelman, University of West Georgia, GA
Melody Elrod, University of South Florida, FL
Sam Eskelson, University of South Florida, FL
Randall Groth, Salisbury University, MD
Kristin Hartland, Middle Tennessee State University, TN
Rick Hudson, University of Southern Indiana, IN
Melinda Knapp, Oregon State University – Cascades, OR
Lisa Lamb, San Diego State University, CA
Christine Latulippe, Norwich University, VT
Erin Lehmann, South Canyon Elementary School, SD
Kien Lim, The University of Texas at El Paso, TX
Jennifer Lovett, Middle Tennessee State University, TN
Michelle Morgan, University of North Colorado, CO
Maria Nielsen, Bowling Green State University, OH
Jennifer Parrish, Middle Tennessee State University
Nicole Panorkou, Montclair State University, NJ
Lisa Poling, Appalachian State University, NC
Jessica Rigby, University of Washington, WA
Jeremy Strayer, Middle Tennessee State University, TN
Amdeberhan Tessema, Middle Tennessee State University, TN
Christine Trinter, Virginia Commonwealth University, VA
Shawn Watkins, East Stroudsburg University, PA
Jane Wilburne, Penn State University, PA
J. Christopher Willingham, James Madison University, VA

NCSM GRANTS, AWARDS, AND CERTIFICATES

SUPPORT THE NCSM IRIS CARL TRAVEL GRANT FUND

The NCSM Iris Carl Mathematics Travel Grant endows up to three travel grants per year to NCSM members who have not attended an NCSM conference for the past three years. The fund is supported by generous donations from individuals. To support the fund, you may mail a check in any amount payable to:

NCSM Charitable Trust and mail to: Linda Griffith, NCSM Treasurer, PO Box 3406, Englewood, CO 80155

Information about the Iris Carl Grant for Travel and an application form are available on the NCSM Website, *mathedleadership.org*.

The deadline for nominations for the 2018 Iris Carl Grant is December 1, 2017.

ROSS TAYLOR/GLENN GILBERT NATIONAL LEADERSHIP AWARD

Nominations are open for the 2018 Ross Taylor/Glenn Gilbert National Leadership Award. Any member of NCSM may submit a nomination.

The Ross Taylor/Glenn Gilbert National Leadership Award annually recognizes an individual who has demonstrated leadership in, and has made outstanding, unique, and dedicated contributions to the field of mathematics education. Award criteria and nomination procedures are available at *mathedleadership.org*. The deadline for nominations for the 2018 Award is November 1, 2017.

KAY GILLILAND EQUITY LECTURE SERIES AWARD

Nominations are open for the 2018 Kay Gilliland Equity Lecture Series. Any member of NCSM may submit a nomination.

This award is given annually to an outstanding mathematics educator who has made a significant and lasting contribution to the cause of promoting equity achievement in mathematics education. The lecture series serves to acknowledge and honor Kay Gilliland's service to NCSM and to promote the cause of equity in mathematics education in perpetuity.

Award criteria and nomination procedures are available at *mathedleadership.org*. The deadline for nominations for the 2018 Award is October 1, 2017.

MATHEMATICS STUDENT RECOGNITION AWARD

The Mathematics Student Recognition Program was created to provide a means for honoring outstanding students who excel in the study of mathematics. All public, parochial, and private schools, colleges, and universities that have at least one NCSM member in the area are eligible to participate. The number of awards should not exceed two per year per graduating class or grade level. Award certificates are available here at the NCSM registration desk, or may be ordered from the NCSM Office by mail at PO Box 3406, Englewood, CO 80155, by phone at (303) 317-6595, or by email at *office@ mathedleadership.org*. More information about the Student Recognition Awards is available at *mathedleadership.org*.

2016 ROSS TAYLOR/GLEN GILBERT NATIONAL LEADERSHIP AWARD

Each year, the Ross Taylor/Glenn Gilbert National Leadership Award is presented in memory of two dedicated mathematics educators, Bennett "Ross" Taylor and Glen Gilbert. Ross was a part of the heart and soul of NCSM for the past four decades, a "Leader of Leaders" in mathematics education, and a driving force behind the birth of NCSM. Glenn, a long time member of NCSM, was a mathematics teacher and leader from Boulder, Colorado who served as NCSM Treasurer for five years, from 1976 until his untimely death in 1981.

The Glen Gilbert Award was first established in 1982 to honor its namesake and to provide a vehicle to annually recognize a person who exhibited the same kind of unique and dedicated contribution to mathematics education. In 1995, the name of the award was changed to the "Glenn Gilbert National Leadership Award" to further recognize Glenn's legacy and capture the respect and stature that the award symbolizes within the mathematics education community.

In 2009, the award was renamed the "Ross Taylor/Glenn Gilbert National Leadership Award" to further exemplify the prestige of this national recognition and to further distinguish the unique dedication and contribution of its recipients. It is fitting that this award should now bear the name of two mathematics educational giants, Ross Taylor and Glenn Gilbert.

Philip Uri Treisman

Philip Uri Treisman is professor of mathematics and of public affairs at The University of Texas at Austin. He is the founder and executive director of the University's Charles A. Dana Center, an organized research unit of the College of Natural Sciences. His research and professional interests span mathematics and science education, education policy, social and developmental psychology, and community service and volunteerism.

Previous Ross Taylor/Glenn Gilbert Awardees

2015	Steve Leinwand
2014	Phil Daro
2013	Kay Gilliland
2012	Carol Edwards
2011	Carole Greenes
2010	Mark Driscoll
2009	Solomon Garfunkel
2008	James M. Rubillo
2007	Glenda T. Lappan
2006	L. Carey Bolster
2005	Charleen Mitchell DeRidder
2004	Irvin E. Vance
2003	Mary Laycock
2002	Miriam A. Leiva
2001	Margaret (Peg) Kenney
2000	Francis (Skip) Fennell
1999	F. Joe Crosswhite
1998	Robert B. Davis
1997	Frankin Demana and Bert Waits
1996	Marilyn Burns
1995	James D. Gates
1994	Zalman P. Usiskin
1993	Dale Seymour
1992	Iris M. Carl
1991	Dorothy S. Strong
1990	Stanley J. Bezuszka
1989	David R. Johnson
1988	Tom Rowan
1987	Al Shulte
1986	Shirley Frye
1985	Ross Taylor
1984	Alexander Tobin
1983	John Del Grande

Before joining the Dana Center, Uri was the E.M. Lang Visiting Professor of Mathematics and Social Change at Swarthmore College and a senior leader of the Professional Development Program—an initiative of the Special Opportunity Program of the University of California Academic Senate, Berkeley Division.

Uri has received numerous honors and awards for his efforts to improve American education. For his research at the University of California at Berkeley on the factors that support high achievement among minority students in mathematics, he received the 1987 Charles A. Dana Award for Pioneering Achievement in American Higher Education. In 1992, he was named a MacArthur Fellow. In December 1999, the magazine Black Issues in Higher Education named him one of the outstanding leaders in higher education in the 20th century. The Harvard Foundation of Harvard University named him "2006 Scientist of the Year" for his outstanding contributions to mathematics. Uri was invited to present the Kay Gilliland Equity Achievement Lecture at the NCSM 2015 Annual Meeting. The Education Commission of the States announced Uri as one of four 2015 ECS Distinguished Senior Fellows that will serve as advisors to the ECS leadership team.

NCSM AFFILIATES

Central 1:	Michigan Council of Teachers of Mathematics (MCTM) Michigan Mathematics Consultants and Coordinators (M2C2)
Central 2:	Minnesota Council of Teachers of Mathematics (MCTM) Missouri Council of Supervisors of Mathematics (MoCSM) North Dakota Council of Teachers of Mathematics (NDCTM)
Eastern 1:	Association of Teachers of Mathematics in Maine (ATOMIM) Association of Teachers of Mathematics in New England (ATMNE) Boston Area Mathematics Specialists (BAMS) New York State Association of Mathematics Supervisors (NYSAMS) Rhode Island Mathematics Teachers Association (RIMTA) Vermont Math Leadership Council (VMCL)
Eastern 2:	Association of Mathematics Teachers of New Jersey (AMTNJ) Delaware Mathematics Coalition (DMC) Maryland Council of Supervisors of Mathematics (MCSM) New Jersey Association of Mathematics Supervisors and Leaders (NJAMSL) Pennsylvania Council of Leaders of Mathematics (PCLM)
Southern 1:	Florida Association of Mathematics Supervisors (FAMS) Georgia Council of Supervisors of Mathematics (GCSM) South Carolina Leaders of Mathematics Education (SCLME)
Southern 2:	Arkansas Association of Mathematics Leaders (AAML) Texas Association of Supervisors of Mathematics (TASM) Texas Council of Teachers of Mathematics (TCTM)
Western 1:	Arizona Mathematics Leaders (AML)
Western 2:	California Mathematics Council (CMC) Oregon Council of Teachers of Mathematics (OCTM) Teachers of Teachers of Mathematics (Oregon – TOTOM)
Canada:	British Columbia Association of Mathematics Teachers (BCAMT) Ontario Mathematics Coordinators Association (OMCA)
National:	Council of Presidential Awardees in Mathematics (CPAM) Women and Mathematics Education (WME)

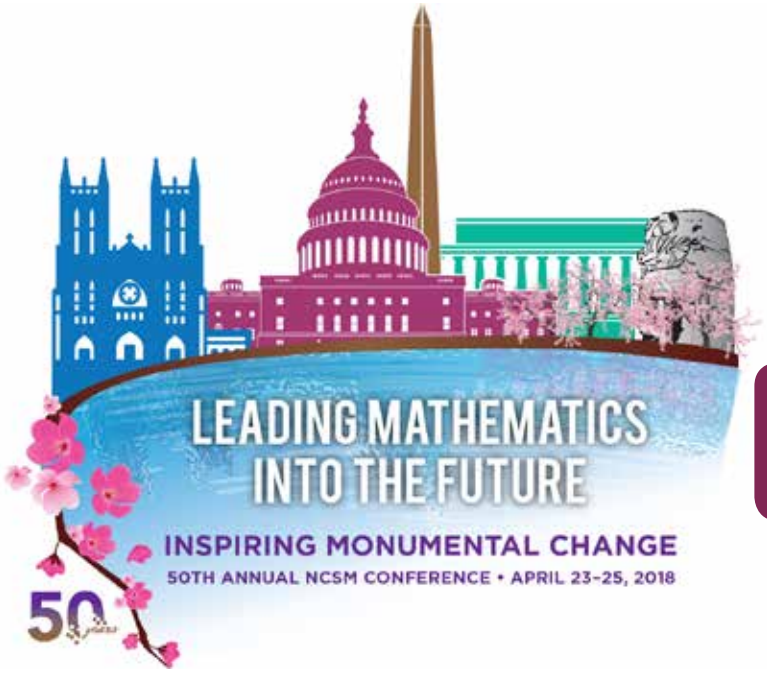
Join us during the conference to connect with your local affiliate, share your affiliate's activities, or learn how to organize an affiliate.

- Look for the Membership Information Table in the Registration/Sponsor Display Area: Check the sign to see if your organization is an NCSM affiliate and then grab an affiliate ribbon if it is.
- Meet with NCSM Affiliate Coordinator and NCSM affiliate leaders (by invitation) on Monday, April 3 from 7:00–8:00 am in Travis A-B.
- See NCSM acknowledge our affiliates at the Tuesday, April 4 Luncheon.
- Attend the Business Meeting on Tuesday, April 4 at 4:45–5:30 pm in Republic A-C. The newest affiliates will be receiving their charter.

This list reflects affiliates as of February 28, 2017. If your mathematics organization is interested in organizing an affiliate in your area, contact the 2015-2017 NCSM Affiliate Coordinator, Carol Matsumoto (cmat1@mymts.net). Nanci Smith will be in the incoming Affiliate Coordinator (2017–2019). You can also find helpful information and application forms in the ***Affiliates*** section of the NCSM Website at *mathedleadership.org*.

REQUEST FOR SPEAKER PROPOSALS

50TH NCSM ANNUAL CONFERENCE • WASHINGTON, D.C. • APRIL 23–25, 2018



LEADERSHIP IN MATHEMATICS EDUCATION
NCSM
NETWORK
COMMUNICATE
SUPPORT
MOTIVATE

SPEAKER PROPOSALS:
Deadline for speaker proposals: **June 1, 2017**
Proposals must be submitted online at:
mathedleadership.org

LEADING MATHEMATICS INTO THE FUTURE: INSPIRING MONUMENTAL CHANGE

In 2018, NCSM celebrates its 50th Annual Conference, renewing its dedication to the life-long education of mathematics education leaders. NCSM also renews its commitment to supporting leaders' work with teachers offering a high-quality mathematics program to each and every student. The five focus stands for the 2018 NCSM Annual Conference—Equity, Coaching, Field Experiences, Mathematical Knowledge for Teaching and Leading into the Future—represent areas of critical interest to our members. We invite proposals that focus on the following conference strands:

2018 STRANDS

EQUITY IN PRACTICE

What structural shifts can be made at the district or school level to encourage meaningful college- and career-ready mathematics experiences for each and every student? What processes can be put into place at the district or school level that build communal knowledge, encourage action, and establish accountability for leaders and educators? Achieving equity for each and every student requires active efforts toward cultural change in every classroom, school, and district. Proposals that address systemic challenges such as access, tracking, and deficit thinking are encouraged.

CULTIVATING A MATHEMATICS COACHING PRACTICE

What do coaches need to know in order to build their expertise? How do coaches impact the learning of teachers and students? Proposals in this strand strive to build the capacity of each and every mathematics coach. Acting as necessary instructional change agents, coaches impact learning for all stakeholders within a profession that is continually evolving. Proposals share the latest research and reports on successful coaching practices that support the mathematical learning of teachers and their students.

EVIDENCE AND EXPERIENCES FROM THE FIELD

What initiatives in your district might interest other mathematics education leaders? Consider the impact of assessments grounded in evidence of student thinking, action research projects, lesson study, studio teaching, coaching acts that show results, or innovative school-level programs that make a difference in students' mathematical learning. Educational initiatives that come directly from districts, schools, and classrooms inspire this strand.

DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING

What emergent ideas about mathematical knowledge for teaching are critical for leaders to learn? How do we use current research to strengthen our practice and our understanding of mathematical content? The field of mathematics education research is bright and thriving, particularly in the areas of task implementation, learning trajectories, mathematical modeling, and the investigation of students' mathematical thinking. Proposals for this strand share recent research findings and explore the implications for assessment, curriculum planning, and task design. Co-presentations of leaders, teachers, coaches, or researchers are encouraged.

LEADING MATHEMATICS INTO THE FUTURE

What knowledge and ideas will give NCSM members the tools they need to move into the future? The 50th Anniversary strand invites presenters to reflect on the past accomplishments of NCSM members and look ahead to the most innovative plans and goals for the future of mathematics education. This strand is open to presentations that offer fresh and innovative ideas for leaders in mathematics education.

Kimberly Morrow-Leong, 2nd Vice President and 2018 Program Chair

NCSM JOURNAL OF MATHEMATICS EDUCATION LEADERSHIP

The purpose of the *Journal of Mathematics Education Leadership* is to advance the mission and vision of the National Council of Supervisors of Mathematics by disseminating knowledge related to research, issues, trends, programs, policy, and practice in mathematics education and relevant to leaders in mathematics education.

In addition, the journal aims to foster inquiry into key challenges of mathematics education leadership, raise awareness about key challenges of mathematics education leadership, and engage the attention and support of other education stakeholders in order to broaden as well as strengthen mathematics education leadership. Manuscripts should fit within one or more of the following categories.

- Key topics in leadership and leadership development
- Case studies of mathematics education leadership work in schools and districts or at the state level and the lessons learned from this work
- Reflections on what it means to be a mathematics education leader and what it means to strengthen one's leadership practice
- Research reports with implications for mathematics education leaders
- Professional development efforts including how these efforts are situated in the larger context of professional development and implications for leadership practice

Across each of these categories, evidence of the impact of the work is expected along with connections to the existing knowledge base. In addition, manuscripts should be consistent with the *NCTM Principles and Standards* and should be relevant to *NCSM* members. In particular, manuscripts should make clear to mathematics leaders the implications of its content for their leadership practice.

The *JMEL* uses a double-blind review process. Manuscripts are reviewed by at least two volunteer reviewers and a member of the editorial panel. Reviewers are chosen on the basis of their expertise related to the content of the manuscript and are asked to evaluate the merits of the manuscripts according to the guidelines listed above.

Manuscripts should be formatted according to the guidelines of the *Publication Manual of the American Psychological Association* (6th edition).

Manuscripts should be submitted via e-mail to *ncsmJMEL@mathedleadership.org*. Submissions should include:

- A word file with the body of the manuscript without any author identification;
- A word file with author information; and
- An abstract of no more than 300 words.

Manuscripts may be submitted at any time, although deadlines of January 1st and July 1st are established to support timely review and publication.

Angela T. Barlow, Editor

IMPORTANT FUTURE NCSM DATES

NCSM ANNUAL CONFERENCES
50th NCSM Annual Conference
April 23–25, 2018, Washington, D.C.

51st NCSM Annual Conference
April 1–3, 2019, San Diego, California

ANNUAL NCSM SUMMER LEADERSHIP ACADEMY AND FALL LEADERSHIP SEMINARS
July 24–26, 2017, Bangor, Maine*

Visit *mathedleadership.org* for more details.
*Subject to change.

NCSM COMMUNICATIONS

NCSM NEWSLETTER
The *NCSM Newsletter* promotes networking and collaboration among NCSM members and other stakeholders in the education community and welcomes submissions from members. The purpose of the *NCSM Newsletter* is to advance the mission and vision of NCSM by informing the membership of the ongoing activities of the NCSM Board and by publishing current information about issues, trends, programs, policy, and practices in mathematics education.

The *NCSM Newsletter* is published four times a year—fall, winter, spring, and summer—in addition to being physically mailed to all NCSM members, access to all issues is available on our website. You will be prompted to log in with your membership information when clicking on an issue.

Deadlines for Submissions
Fall 2017 *NCSM Newsletter*—July 5, 2017
Winter 2017-2018 *NCSM Newsletter*—September 5, 2017
Spring 2018 *NCSM* Newsletter—December 5, 2017
Summer 2018 *NCSM* Newsletter—March 5, 2018
Please visit *mathedleadership.org* for more information and submission procedures

NCSM eNEWS
The NCSM eNews is published monthly. It provides the NCSM community with current happenings for both the NCSM organization and mathematics education.

NCSM WEBINARS
Visit *mathedleadership.org/events/webinars.html* for future Webinar topics and dates. Previous Webinars are available at this link to view any time after they have posted.

NCSM EVENTS ARCHIVE
We have handouts, PowerPoints, materials, etc. from conferences, leadership academies, and fall seminars on our website at: *mathedleadership.org/events/conferences/index.html.* You may want to refer to this section to support your leadership work.

NCSM COMMON CORE STATE STANDARDS
We have implementation materials and resources for implementation of the *Common Core State Standards* at: *mathedleadership.org/ccss/index.html.*

- *NCSM Illustrating the Standards for Mathematical Practice*
- *NCSM Great Tasks for Mathematics*
- NCSM Common Core Presentations and Webinars
- Assessment Consortia
- Mathematics Common Core Coalition
- *Mathematics Assessment Project (MAP/Shell Centre)*
- Inside Mathematics
- CCSS Curriculum Materials Analysis Tools

GET CONNECTED THROUGH NCTM'S SOCIAL MEDIA NETWORKS
Whether you are a newbie to technology, or one who could not teach, work, or live without it, sooner or later you may find yourself participating in one or more online social networks. There are many web tools and web sites that allow mathematics education leaders to connect, share and collaborate with one another. These tools are part of the Internet's social networking landscape, and provide a means for leaders to build and maintain communities of practice. In an effort to harness the power of these collaborative opportunities to help connect its membership with rich conversations, NCSM participates in several social networking services.

Link to these conversations from the Get Connected tab on our website *mathedleadership.org/networks/index.html.*

NCSM POSITION PAPERS

The NCSM Board proudly offers our membership the *Improving Student Achievement Position Paper* series that can be found at *http://www.mathedleadership.org/resources/position.html.* We hope these papers are informative, supportive and challenging as our members lead efforts in their local districts to improve student achievement in mathematics.

The process of developing research-informed leadership *Position Papers* on issues critical to the future of mathematics education began in the summer of 2006. Past President, Steven Leinwand, strongly recommended that the Board provide a long-term series of practical, research-informed *Position Papers* as part of the NCSM's strategic plan. During his presidency, Tim Kanold pursued the initiative and created the following format for all position papers:

- The stated Position of
- A summary of research that supports the Position
- Specific leadership actions to assist implementation of the Position
- References that support further investigation into the Position

The process for developing each paper begins with identifying an author to create an initial draft on a specific topic. The draft is edited and sent out to individuals for critique. The paper is revised based on that feedback, returned to the author, and sent to *NCSM*'s Board of Directors for review. The paper undergoes a final edit and then is submitted again to the Board for approval. This extensive and collaborative process reflects our collective voices and contributes to the power of these position papers. NCSM expresses its thanks and appreciation to all who have contributed to this series. We welcome suggestions for future papers, as well as volunteers to write or review.

Current *Position Papers* include:

- *Mathematics Education Through the Lens of Social Justice: Acknowledgement, Actions and Accountability (A joint position paper from NCSM and TODOS) (no. 16, Spring 2016)*
- *Mathematics Education in the Digital Age (no. 15, Spring 2015)*
- *Improving Student Achievement in Mathematics Through Formative Assessment in Instruction* (A joint position of the Association of Mathematics Teacher Educators [AMTE] and the National Council of Supervisors of Mathematics [NCSM]) (no. 14, Spring 2014)
- *Improving Student Achievement by Implementing Highly Effective Teacher Evaluation Practices* (no. 13, Spring 2014)
- *Improving Student Achievement by Infusing Highly Effective Instructional Strategies into RTI Tier I Instruction* (no. 12, Spring 2013)
- *Improving Student Achievement in Mathematics by Using Manipulatives with Classroom Instruction* (no. 11, Spring 2013)
- *Improving Student Achievement in Mathematics by Expanding Learning Opportunities for the Young* (no.10, Spring 2012)
- *Improving Student Achievement in Mathematics by Expanding Opportunities for Our Most Promising Students of Mathematics* (no.9, Spring 2012)
- *Improving Student Achievement in Mathematics by Systematically Integrating Effective Technology* (no.8, Spring 11)
- *The Role of Elementary Mathematics Specialist in the Teaching and Learning of Mathematics* (A joint position of the Association of Mathematics Teacher Educators [AMTE], The Association of State Supervisors of Mathematics [ASSM], the National Council of Supervisors of Mathematics [NCSM], and the National Council of Teachers of Mathematics [NCTM] in response to the release of Elementary Mathematics Specialists: A Reference for Teacher Credentialing and Degree Programs [AMTE, 2010)](Winter, 2010)
- *Improving Student Achievement in Mathematics by Promoting Positive Self-Beliefs* (no.7, Spring 2010)
- *Improving Student Achievement in Mathematics by Addressing the Needs of English Language Learners* (no.6, Fall 2009)
- *Improving Student Achievement by Leading Highly Effective Assessment Practices* (no. 5, Spring 2009)
- *Improving Student Achievement in Mathematics for Students with Special Needs* (no.4, Winter 2008)
- *Improving Student Achievement by Leading the Pursuit of a Vision for Equity* (no.3, Spring 2008)
- *Improving Student Achievement by Leading Sustained Professional Learning for Mathematics Content and Pedagogical Knowledge Development* (no.2, Fall 2007)
- *Improving Student Achievement by Leading Effective and Collaborative Teams of Mathematics Teachers* (no. 1, Fall 2007*)
- *A Position Paper on the Development of Numerical Power from the National Council of Supervisors of Mathematics* (September 1999)
- *Focusing the Dialogue: Suggestions for Engaging in Productive Discourse on the Future of School Mathematics, A National Council of Supervisors of Mathematics (NCSM) Position Statement* (Fall 1998)
- *Improving Student Achievement Through Designated District and School Mathematics Program Leaders* (January 1998)
- *Leadership in Mathematics Education: A Position Paper of the National Council of Supervisors of Mathematics* (1994)
- *Essential Mathematics for the 21st Century: The Position of the National Council of Supervisors of Mathematics* (June 1988)
- *National Council of Supervisors of Mathematics Position Paper on Basic Mathematical Skills* (January 1977)

*The *Position Papers* beginning in 2007 are part of The *National Council of Supervisors of Mathematics Improving Student Achievement Series.*

MATH SOLUTIONS SPONSOR SHOWCASES:

Monday, April 3

1:45–2:45 PM

USING NUMBER TALKS TO FOSTER A GROWTH MINDSET

Sherry Parrish and Ann Dominick

Presidio A

Book Signing immediately following at booth 309

Tuesday, April 4

8:15–9:15 AM

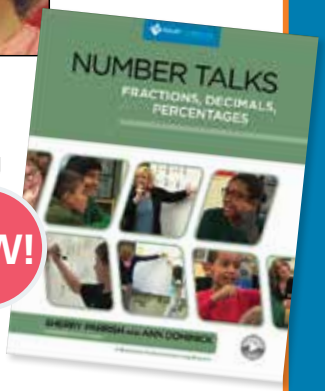
USING NUMBER TALKS TO FOSTER A GROWTH MINDSET

Sherry Parrish and Ann Dominick

Presidio A

Book Signing immediately following at booth 309

Meet Sherry Parrish and Ann Dominick immediately following the sessions at booth 309



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Great Minds	322
Heinemann	309
HMH	313
HP Inc	219
Imagine Learning	321
IXL Learning	414
Marshall Cavendish Education	300
Math Olympiads	410
MathLine	306
Mind Research	409
Moving With Math/Math Teachers Press	422
MQI Coaching Institute Center for Education Policy Research HGSE	420
National Assessment of Educational Progress	408
Origo	304
Solution Tree	220
Stenhouse	404
TenMarks	214
Texas Instruments	205
The Math Forum at NCTM	212
The Math Learning Center	204

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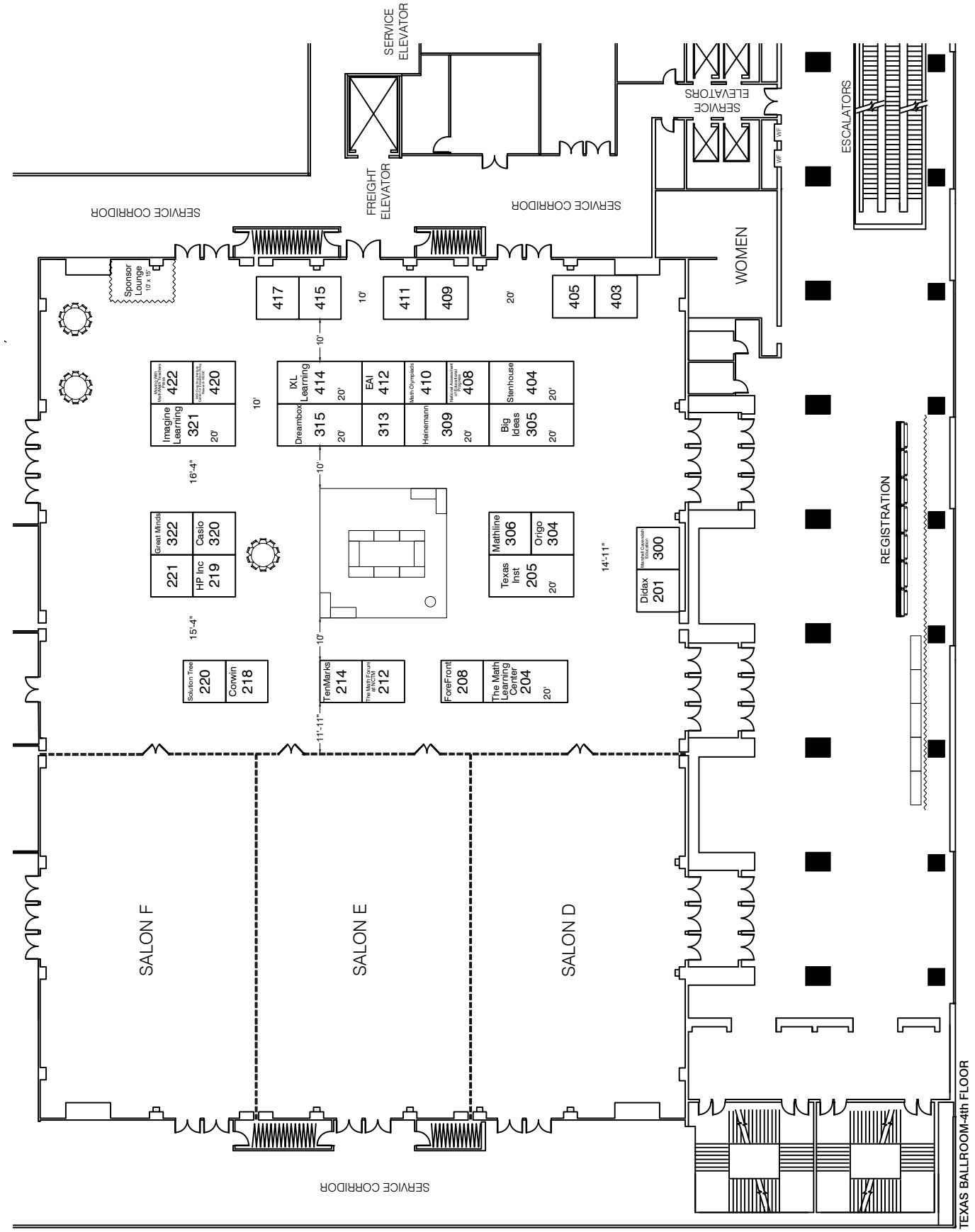

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MONDAY

11:15 am–12:15 am	***Casio,*** Session 1309: What's New At Casio: Our Latest Innovations to Support the Changing Landscape of Mathematics Education
12:30 pm–1:30 pm	***Texas Instruments,*** Session 1509: Seeing Things Differently: What Visual Mathematics Adds to the Equation
1:45 pm–2:45 pm	***Math Solutions,*** Session 1609: Using Number Talks to Foster a Growth Mindset

TUESDAY

8:15 am–9:15 am	***Math Solutions,*** Session 2109: Using Number Talks to Foster a Growth Mindset
10:00 am–11:00 am	***Discover Education,*** Session 2209: Exploring Rich Problems with Technology and Online Resources

TECHNOLOGY SHOWCASE SESSIONS

Technology Showcases will be held in Independence

MONDAY

11:15 am–12:15 am	***Texas Instruments,*** Session 1315: Mathematics Leadership to Impact Assessment Practices
12:30 pm–1:30 pm	***Imagine Learning,*** Session 1515: Going Blended: The Power of Teaching and Learning in a Personalized Classroom
1:45 pm–2:45 pm	***LearnZillion,*** Session 1615: Deepen Student Understanding by Connecting Representations
3:00 pm–4:00 pm	***TenMarks Math,*** Session 1715: Students Love Mathematics with a Transition to Student-Centered Learning

INDEX OF SPEAKERS

INDEX OF SPEAKERS

INDEX OF SPEAKERS

INDEX OF PRESIDERS

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2017 CONFERENCE PLANNER

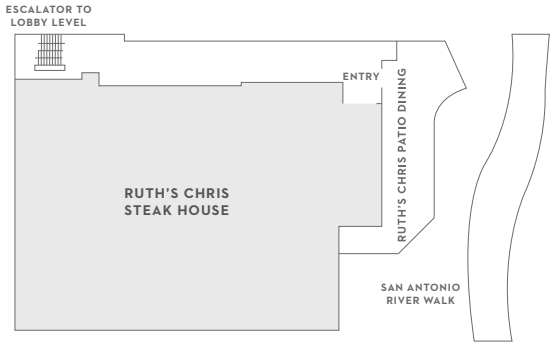
Note: Commercial Sessions = Sponsor Showcases & Technology Showcases • All Sessions – Grand Hyatt

Date & Time	Event	Location
Monday, April 3		
6:45 am – 5:00 pm	**Advance & On-Site Registration**	**4th Floor**
7:30 am – 8:00 am	**First-Timers Session – Special Gifts**	**Travis A-B, 3rd Floor**
8:00 am – 9:15 am	**Opening Session & Keynote –** *Eli Luberoff*	**Lone Star D-F, 2nd Floor**
9:00 am – 5:30 pm	**Sponsor Displays**	**Texas A-C, 4th Floor**
9:00 am – 5:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**Texas A-C, 4th Floor**
9:30 am – 10:30 am		
10:30 am – 11:15 am	**Special Focus on Sponsor Displays**	**Texas A-C, 4th Floor**
11:15 pm – 12:15 pm		
12:30 pm – 1:30 pm		
1:45 pm – 2:45 pm		
2:00 pm – 2:45 pm	**Hot Topics Café**	**Texas A-C, 4th Floor**
3:00 pm – 4:00 pm		
4:15 pm – 5:15 pm	**State Team Leaders Meeting**	**Lone Star D, 2nd Floor**
5:30 pm – 7:00 pm	**Reception – Sponsors: Conceptua Math & Solution Tree** *(Ticket Required)*	**Lone Star E-F, 2nd Floor**
Tuesday, April 4		
6:45 am – 5:00 pm	**Advance & On-Site Registration**	**4th Floor**
7:00 am – 8:00 am	**Breakfast – Sponsor: Pearson** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
8:30 am – 4:00 pm	**Sponsor Displays**	**Texas A-C, 4th Floor**
8:30 am – 4:00 pm	**NCSM Bookstore, Membership Booth, & Coaches Center**	**Texas A-C, 4th Floor**
8:15 am – 9:15 am		
9:15 am – 10:00 am	**Special Focus on Sponsor Displays**	**Texas A-C, 4th Floor**
10:00 am – 11:00 am		
10:15 am – 11:00 am	**Hot Topics Café**	**Texas A-C, 4th Floor**
11:15 am – 12:15 pm		
12:15 pm – 2:00 pm	**Luncheon – Sponsor: Texas Instruments** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
2:15 pm – 3:15 pm		
3:30 pm – 4:30 pm	**Caucus Meetings**	**2nd–4th Floors**
4:45 pm – 5:30 pm	**NCSM Business Meeting & State of the Organization Report**	
5:30 pm – 7:00 pm	**Reception – Sponsors: NCSM & DreamBox Learning** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
Wednesday, April 5		
7:30 am – 10:30 am	**Advance & On-Site Registration**	**4th Floor**
7:30 am – 8:30 am	**Breakfast – Sponsors: Origo & Ascend Math** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
8:45 am – 9:45 am		
10:00 am – 11:00 am		
11:15 am – 12:15 pm		
12:30 pm – 2:00 pm	**Luncheon – Sponsor: Discovery Education** *(Ticket Required)*	**Lone Star D-F, 2nd Floor**
2:15 pm – 3:15 pm		
3:30 pm – 4:30 pm		
3:30 pm – 4:30 pm	**Ignite!**	**Texas D, 4th Floor**

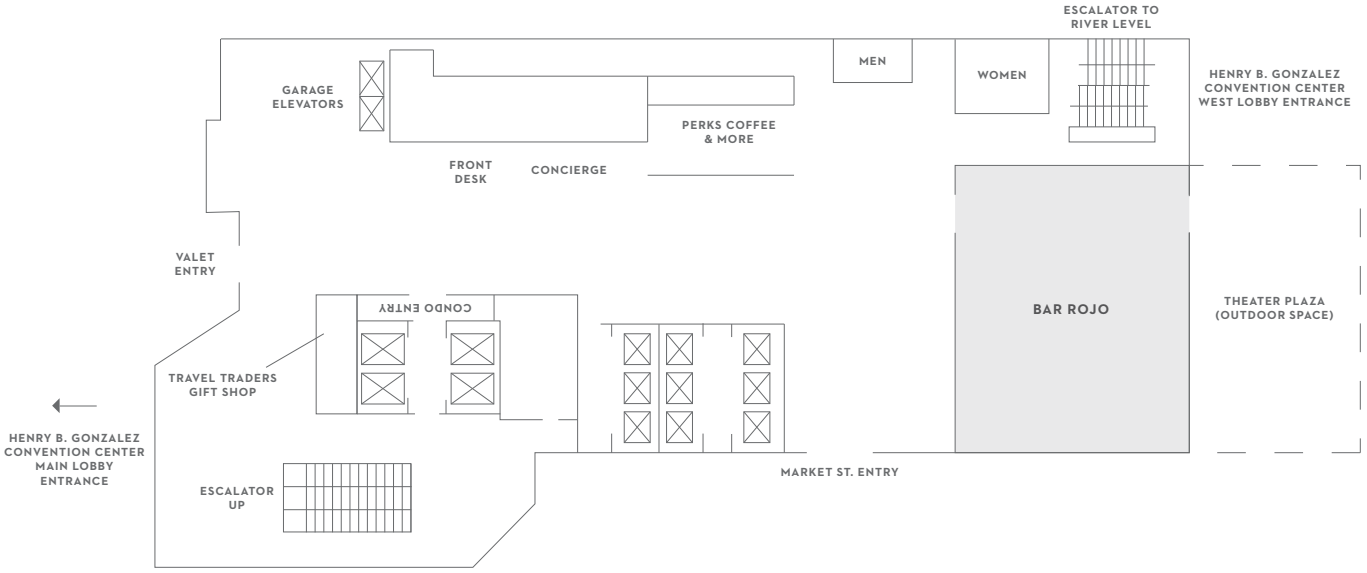
HOTEL FLOOR PLAN • RIVER LEVEL & LOBBY

FLOOR PLAN

River Level

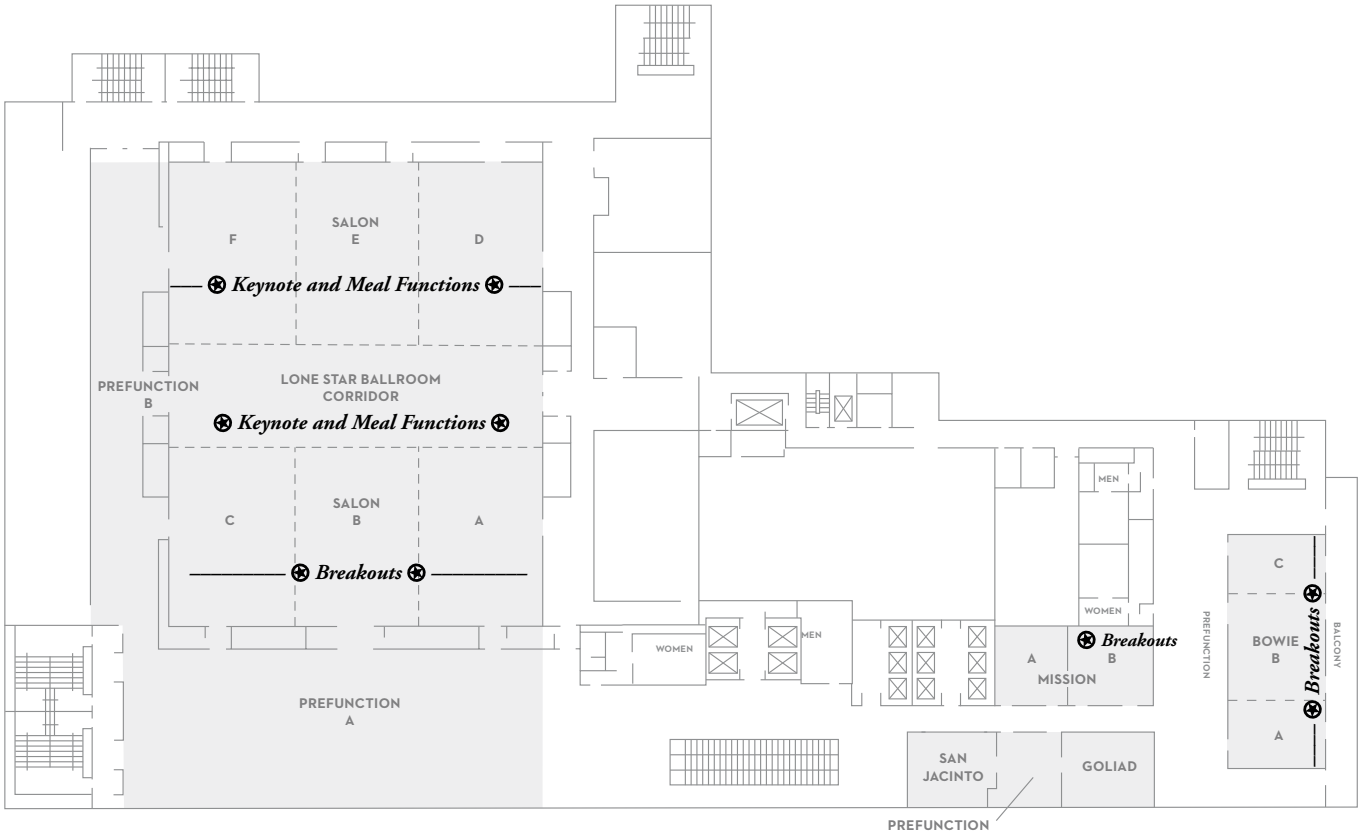


Lobby Level



HOTEL FLOOR PLAN • SECOND FLOOR

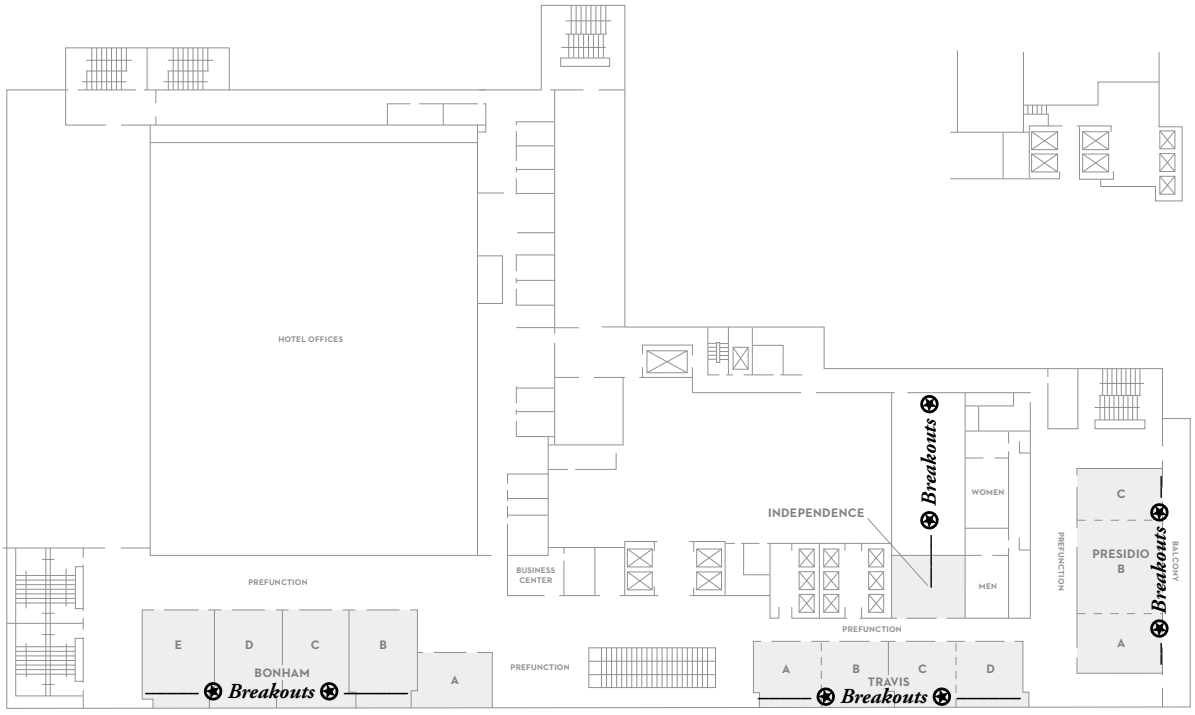
FLOOR PLAN
Second Floor



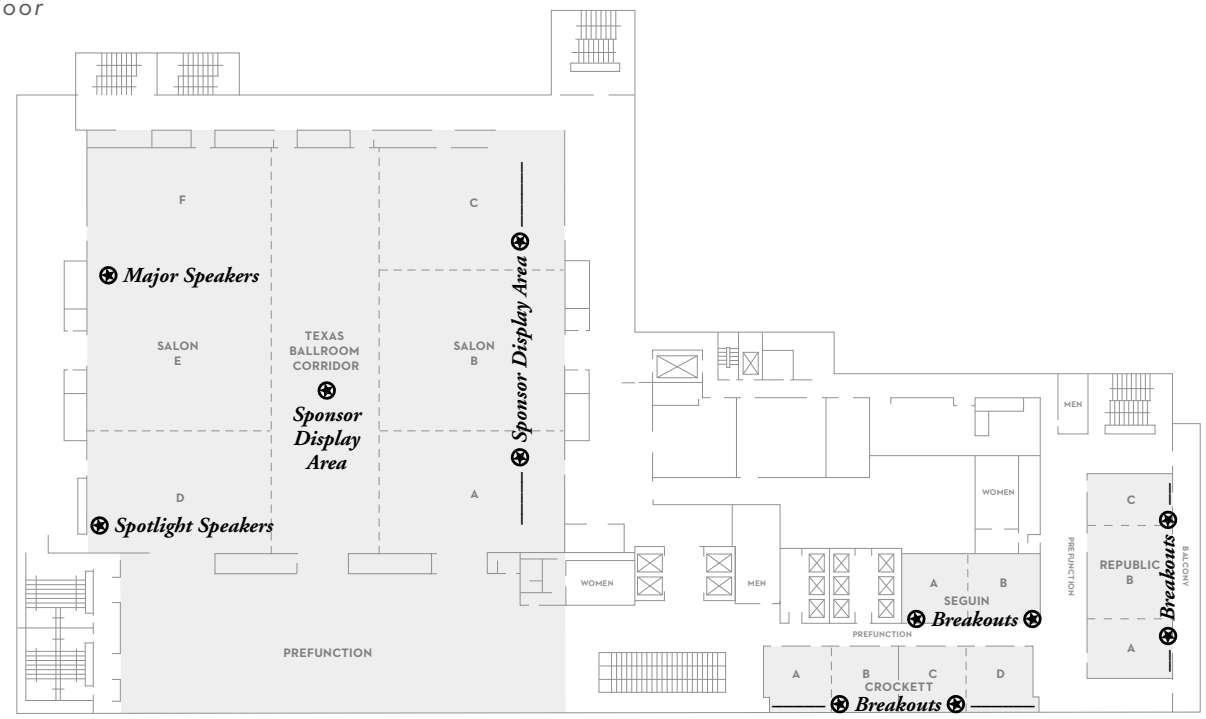
HOTEL FLOOR PLAN • 3RD & 4TH FLOOR

FLOOR PLAN

Third Floor



Fourth Floor



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