



LEADERSHIP IN MATHEMATICS EDUCATION

mathedleadership.org

MAKING WAVES WITH EFFECTIVE MATHEMATICS LEADERSHIP



51st NCSM Annual Conference

April 1–3, 2019

San Diego, CA

REGISTRATION

Registration takes place at the Conference Registration booth in the Grand Ballroom Pre-Function Area at the following times:

Sunday, March 31, 2:00 pm–6:00 pm

Monday, April 1, 6:45 am–5:00 pm

Tuesday, April 2, 6:45 am–5:00 pm

Wednesday, April 3, 7:30 am–10:30 am

SPONSOR/EXHIBITOR DISPLAY AREA

Visit sponsors and engage in stimulating professional dialogue with colleagues in the Grand Ballroom 8–13, during the following times:

Monday, April 1, 9:00 am–5:00 pm

Tuesday, April 2, 8:30 am–4:00 pm

We have also scheduled extended passing periods for visiting with our vendors on Monday from 10:15 am–11:00 am and Tuesday from 9:15 am–10:00 am. Please stop by, check out the latest resources and thank them for their continued support of NCSM. The conference wouldn't be possible without their generosity. The exhibitors are an integral part of your learning experience by seeing the latest in mathematics education.

CAUCUSES

Caucuses for NCSM regions, International attendees, and Past Presidents will be held Tuesday afternoon, April 2 at 3:30 pm–4:15 pm. Details and a full schedule of caucus meetings are found at the end of Tuesday sessions.

NCSM BUSINESS MEETING

The Business Meeting will be held on Tuesday, April 2 at 4:30 pm–5:00 pm in the Pacific 22 room. All members are invited and encouraged to attend and learn about the “State of the Organization” and opportunities for getting involved in NCSM.

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PRESIDENT'S MESSAGE

Dear Colleagues,

Welcome to San Diego and the *51st NCSM Annual Conference*. This conference is one of the premier events for mathematics education leaders throughout North America. Our theme as we begin the next 50 years of mathematics leadership is *Making Waves with Effective Mathematics Leadership*. On behalf of the NCSM Board of Directors and the San Diego Conference Committee, it is my pleasure to welcome you and we are grateful that you have joined us. *NCSM* will benefit from conversations that focus on fostering productive change to support a vision of mathematics education leadership that increases access, excellence, and learning for each and every student!

You will find more than 300 sessions focused on the following conference strands that should provide you with a very diverse experience:

- o Visionary Coaching Practices
- o Empowering Equity and Social Justice Leadership
- o Engaging Leadership Communities
- o Innovative Engagement
- o Exemplary Experiences from the Field
- o Developing Mathematical Knowledge for Teaching

Please read the information that is included within this program book to enhance your conference experience. Consider the app and the different ways to interact with the program. Look at all of the valuable information included in your conference bag. In addition to the many sessions, we have built in dedicated time for you to network with our sponsors and other conference attendees.

I'd like to thank each of you for bringing your expertise to our annual meeting and joining us for a memorable experience. *NCSM* is the premier mathematics leadership organization because of you. Together we have the vision, the knowledge and the experience to pave our way into the future. *NCSM* hopes this conference provides the information you seek to help you enhance your leadership and professional practice. Throughout this conference, I encourage you to stay engaged, keep us focused on relevant issues and help us shape the future of *NCSM*. My personal respect and thanks go out to all of you. Your presence is an indication that you are committed to making a positive difference as a mathematics leader. Enjoy the conference and as you return to your positions, *Make Waves* by focusing on quality mathematics for each and every learner.

Sincerely,



Connie S. Schrock
NCSM President



WELCOME TO SAN DIEGO, CA AND THE 51ST NCSM ANNUAL CONFERENCE

We are glad you have joined us for the *51st Annual Conference*. These three days promise to be an exciting learning experience, offering you an opportunity to take advantage of over 300 sessions and events. Here is a quick overview.

Monday, April 1, 2019

- The first-timers welcome and orientation session, *What's It All About? An Orientation for Those New to the NCSM Annual Conference*, provided for new attendees will be 7:00 am–7:30 am in Pacific 14.
- Monday morning is the Opening Session and Keynote Address with Connie Schrock, NCSM President, and Bill Barnes, Program Chair. The Keynote Address *Recognizing and Overcoming the Barriers to Ensuring ALL Students Learn Mathematics* will be by Dr. Luis F. Cruz. Dr. Luis F. Cruz has been a public school educator for over twenty-years at the elementary, middle, and high school levels as both a teacher and principal. Having established a reputation as an effective agent of change with a keen ability to collectively create environments conducive to ensuring all students learn, Dr. Cruz now spends his time working with schools across the nation and guiding and teaching educators across the nation.
- Following the opening session, there are a variety of Major Speakers, Spotlight Speakers, Sponsor Showcases, and regular sessions that address the conference strands across different grade levels.
- A special NCSM Coaching Kick-Off session will be offered at 9:15 am–10:15 am in Pacific 15 for coaches, specialists, and teacher leaders.
- Sponsor/Exhibitor Display Area will be in the Grand Ballroom 8–13. Be sure to visit often!
- New this year, Leadership Exchange will be scheduled throughout each day of the conference to provide attendees an opportunity to have an informal conversation with some of our Spotlight and Major speakers around important topics for leaders in mathematics. Your first opportunity to participate in a Leadership Exchange will be on Monday from 11:15 am–11:45 am in the Grand Ballroom 8–13. The remaining Leadership Exchanges for the day can be found in Monday's section of the program book.
- There is a special ticketed lunch from 12:15 pm –1:15 pm. This will be a fun and unique Ignite event designed to enhance the great educational sessions at the conference. If you do not receive a ticket you will be welcome to attend and participate after the luncheon.
- NCSM Regional Directors & Regional Team Leaders Meeting will be from 4:00 pm–5:00 pm in Pacific 23.
- The day ends with a ticketed reception at 5:30 pm sponsored by Big Ideas Learning on the Marriott Grand Ballroom Terrace.

Tuesday, April 2, 2019

- The first event is a ticketed breakfast sponsored by Pearson Learning Services. If you do not receive a ticket you will be welcome to attend and participate after the breakfast.
- The day continues with numerous sessions and powerful speakers, as well as another opportunity to visit the Sponsor/Exhibitor Display Area that is open from 8:30 am–4:00 pm. There is dedicated time between 10:15 am and 11:00 am to visit the Sponsor/Exhibitor Display Area.

- Leadership Exchange will be located in the Grand Ballroom 8–13. The first conversation begins at 8:30am where you will have the opportunity to visit personally with some of our Spotlight and Major Speakers. The remaining Leadership Exchange for the day will be held at 2:30pm. More information about each Leadership Exchange can be found in Tuesday's section of the program book.
- There is a ticketed luncheon from 12:15 pm –2:00 pm, compliments of Texas Instruments. If you do not receive a ticket you will be welcome to attend and participate after the luncheon.
- 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 Pacific 22 you will have the opportunity to hear about the "State of the Organization".
- The day ends with a ticketed reception at 5:30 pm sponsored by McGraw-Hill Education on the Marriott Grand Ballroom Terrace.

Wednesday, April 3, 2019

- The first event is a ticketed breakfast sponsored by Agile Mind. If you do not receive a ticket you will be able to attend and hear the speaker after the breakfast.
- The day offers a full complement of Major Speakers, Spotlight Speakers, Sponsor Showcases, and regular sessions.
- There is a ticketed luncheon from 12:00 pm –1:30 pm, partially sponsored by ST Math, created by MIND Research Institute. If you do not receive a ticket you will be welcome to attend and participate after the luncheon.
- Leadership Exchange will be located in the Grand Ballroom Pre-Function Area. The first conversation begins at 8:30 am where you will have the opportunity to visit personally with the speakers. The remaining Leadership Exchange for the day will be held at 2:30 pm. More information about each Leadership Exchange can be found in Wednesday's section of the program book.

We want to thank:

- Our sponsors for breakfasts, lunches, receptions, and a variety of other ways of support. 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 Marriott Marquis San Diego Marina 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!

2018-2019 CONFERENCE PLANNING COMMITTEE



Connie Schrock
President
Emporia, KS



Bill Barnes
First Vice President
and Program Chair
Ellicott City, MD



Maria Everett
Second Vice
President and
Volunteer
Coordinator
Towson, MD



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Moore**
2018 - 2019
Conference
Coordinator
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2019 PROGRAM PROPOSAL REVIEWERS

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2019 ON-SITE PROGRAM COMMITTEE

Rebecca Angus Chicago, IL	Kristine Cunningham Phoenix, AZ	Trudy Mitchell San Diego, CA	Tom Muchlinski Plymouth, MN	Dianne Soltess Winnipeg, MB
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2019 LOCAL ARRANGEMENTS AND REGIONAL SUPPORT COMMITTEE

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Joan Commons San Diego, CA	Laura Martin El Cajon, CA	Jennifer Rolf Santee, CA	Angela Tremble Solana Beach, CA



PROGRAM OVERVIEW

Strands

0. NCSM Business.

1. Visionary Coaching Practices. Presentations in this strand will address the latest research and reports on successful coaching practices that support the mathematical learning of teachers and their students.

2. 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.

3. Engaging Leadership Communities. Presentations in this strand will focus on how communities of reflective practitioners, both school-based and district- or state/province-level, leverage the power of collaboration to improve mathematics education.

4. Innovative Engagement. Presentations in this strand will share how to engage leaders in professional learning experiences using face-to-face, blended, and fully online models.

5. Exemplary Experiences from the Field. Presentations in this strand will 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.

6. Developing Mathematical Knowledge for Teaching. Presentations in this strand share recent research findings and explore the implications for assessment, curriculum planning, and task design.

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
- First-Timer's Session—Monday morning
- Affiliate Leaders Meeting—Monday morning
- Leadership Exchange—Monday, Tuesday, and Wednesday
- Kay Gilliland 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, Tuesday, and Wednesday
- Administrators Day Kickoff Session—Tuesday morning

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

Call 911 for any medical emergencies.

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

2019 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 Sessions** at 7:00 am on Monday morning, prior to the Opening Session/Keynote in Pacific 14. Special Gifts are planned for all first-timers attending these sessions.

- Become familiar with the locations of the session rooms and other conference venues
- Visit the Sponsor Display Area in Grand Ballroom 8–13 of the Convention Center 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 Sponsor Showcases in Torrey Pines 3 to learn about the latest in educational products and materials

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

The Conference App will be available to all attendees at the 2019 Annual Conference in San Diego, CA. 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 afternoon, April 2, 3:30 pm to 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 2 at 4:30 pm–5:15 pm in Pacific 22. 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

SPONSOR SHOWCASES

Sponsor Showcases are provided by Sponsors and are an opportunity to learn more information about the products and materials offered by our Sponsors. These sessions will be held Monday, Tuesday, and Wednesday in Torrey Pines 3.

SPONSOR/EXHIBITOR DISPLAY AREA

The Sponsor/Exhibitor 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 the Grand Ballroom 8–13. Wear your conference name badge to gain entrance.

Hours: **Monday, April 1, 9:00 am–5:00 pm**
Tuesday, April 2, 8:30 am–4:00 pm

Extended time has been allotted to visit the Sponsor Display Area on Monday from 10:15 am–11:00 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. Acknowledgment 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 51st Annual Conference.

- Conference Bags – **Casio America**
- Conference Neck Wallet – **CPM**
- Volunteer T-shirts – **Casio America**
- Monday Evening Reception – **Big Ideas Learning**
- Tuesday Breakfast – **Pearson Learning Services**
- Tuesday Luncheon – **Texas Instruments**
- Tuesday Evening Reception – **McGraw-Hill Education**
- Wednesday Breakfast – **Agile Mind**
- Wednesday Luncheon – *partially sponsored by*
ST Math, created by MIND Research Institute

TICKETED FUNCTIONS

Through the generosity of our sponsors, we are able to offer meal functions during the conference. Tickets to each function are limited, and are available on a first-come, first-served basis in the order your conference registration is received.

Beginning in early February, the NCSM office sent out the meal ticket sign-up to the first people who registered; the email invited you to order tickets for the functions you wish to attend. We want to be as fair as possible when it comes to the meal sign-up and appreciate your understanding. If you did not receive a ticket for an event, check this book for details on wait-line procedures.

At the Fall 2018 board meeting, the board approved a small charge for meal and reception tickets.

The cost of tickets will be \$5 each for breakfast & reception functions and \$10 each for lunch functions. Meal tickets are a non-refundable purchase. If your plans change on-site and you have a ticket you are unable to use, please donate it to an interested colleague or return it to the on-site registration booth.

PLEASE NOTE: Those who enter meal functions through the wait line will be expected to pay unless there is a returned ticket available. NCSM has implemented this policy to better assure our sponsors that those who request meal tickets will attend the events.

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 portion of 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 were invited to purchase a meal ticket, 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 Conference Registration booth in the Pre-Function Area of the Grand Ballroom. 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. Those admitted through the waiting line may pay by cash, check, or credit card.

SPOTLIGHT SPEAKERS

Spotlight speakers are featured speakers with a larger room. These are typically speakers who 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 registration booth. More information about these certificates is available at mathedleadership.org.



GENERAL INFORMATION

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 52nd Annual Conference to be held in Chicago, IL, March 30–April 1, 2020.

LOST AND FOUND

If you find an item you believe belongs to someone attending the NCSM Conference, please bring it to the NCSM registration booth, located in the Pre-Function Area of the Grand Ballroom. Articles will be held there until 10:30 am on Wednesday, at which time they will be turned over to the Marriott Marquis San Diego Marina.

NCSM BOOKSTORE, MEMBERSHIP BOOTH, AND COACHING TABLE

Visit the Bookstore, Membership, and Coaching tables on Sunday, March 31, from 2:00 pm–6:00 pm in the Pre-Function Area of the Grand Ballroom near the Registration Desk. Then on Monday we move to the NCSM Booth, located in the Grand Ballroom 8–13. Hours are Monday, April 1 from 9:00 am–5:00 pm, and Tuesday, April 2, 8:30 am–4:00 pm. Bring your NCSM Membership Gift Ticket to redeem your special gift at the Membership Booth. We have many NCSM publications and other items to support your leadership role. Don't leave San Diego without picking up your favorite NCSM book. Join us at the bookstore where you can order and buy NCSM publications, books, and articles by some of our speakers and select NCTM publications to add to your professional library.

NCTM RESEARCH CONFERENCE, BOOKSTORE, AND ANNUAL MEETING

NCSM registrants wearing their NCSM Conference badges are welcome to attend these NCTM events:

- Opening Session of the NCTM Annual Meeting on Wednesday, April 3 at the San Diego Convention Center.
- Sessions of the NCTM Research Conference at the San Diego Convention Center.
- The NCTM Bookstore is open to all NCSM registrants on Wednesday, April 3 at the San Diego Convention Center for registrants wearing their NCSM Conference badges.

LEADERSHIP EXCHANGE NETWORKING AND ROUND TABLE DISCUSSIONS

Stop by the Leadership Exchange table located in the Grand Ballroom 8–13 to join casual conversations with several of the Major and Spotlight Speakers throughout the day on Monday, Tuesday, and Wednesday. Check the schedule for exact times. Topics of interest to mathematics education leaders will include coaching, working with students who struggle, promoting sense-making, and capitalizing on strengths. Seating is limited!

PRE-CONFERENCE SESSIONS—SUNDAY

NCSM ESSENTIAL ACTIONS FOR MATHEMATICS COACHING

1:00 PM–5:00 PM | Grand Ballroom 1 | General

Have you ever wondered which systemic actions drive high-quality mathematics coaching? What are the key characteristics of effective mathematics coaching programs? NCSM has answered those questions in its new coaching resource, NCSM Essential Actions: Mathematics Coaching. In this pre-conference session, speakers will introduce the Foundational Elements and Essential Actions necessary for both the design of coaching programs and behaviors that highly effective coaches exhibit.

Donna Karsten, NCSM's NCTM Representative, Halifax, Nova Scotia, Canada

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

Sara Frisbie, NCSM Secretary, Topeka, Kansas

Jason Gauthier, NCSM C1 Regional Director, Dorr, Michigan

Nanci Smith, NCSM Affiliate Chair, Peoria, Arizona

PRACTICAL LEADERSHIP: HOW TO LEVERAGE LEARNING SCIENCE TO ACHIEVE EQUITY

1:00 PM–5:00 PM | Grand Ballroom 2 | General

In a practical sense, we know achieving equity in mathematics education can be a daunting task. In this double-block, pre-conference workshop, learn how to leverage culturally responsive pedagogies, motivation theories, and learning science to create learning environments conducive to students or educators.

Douglas Sovde, Charles A. Dana Center, Austin, Texas

Catherine Good, City University of New York, New York, New York

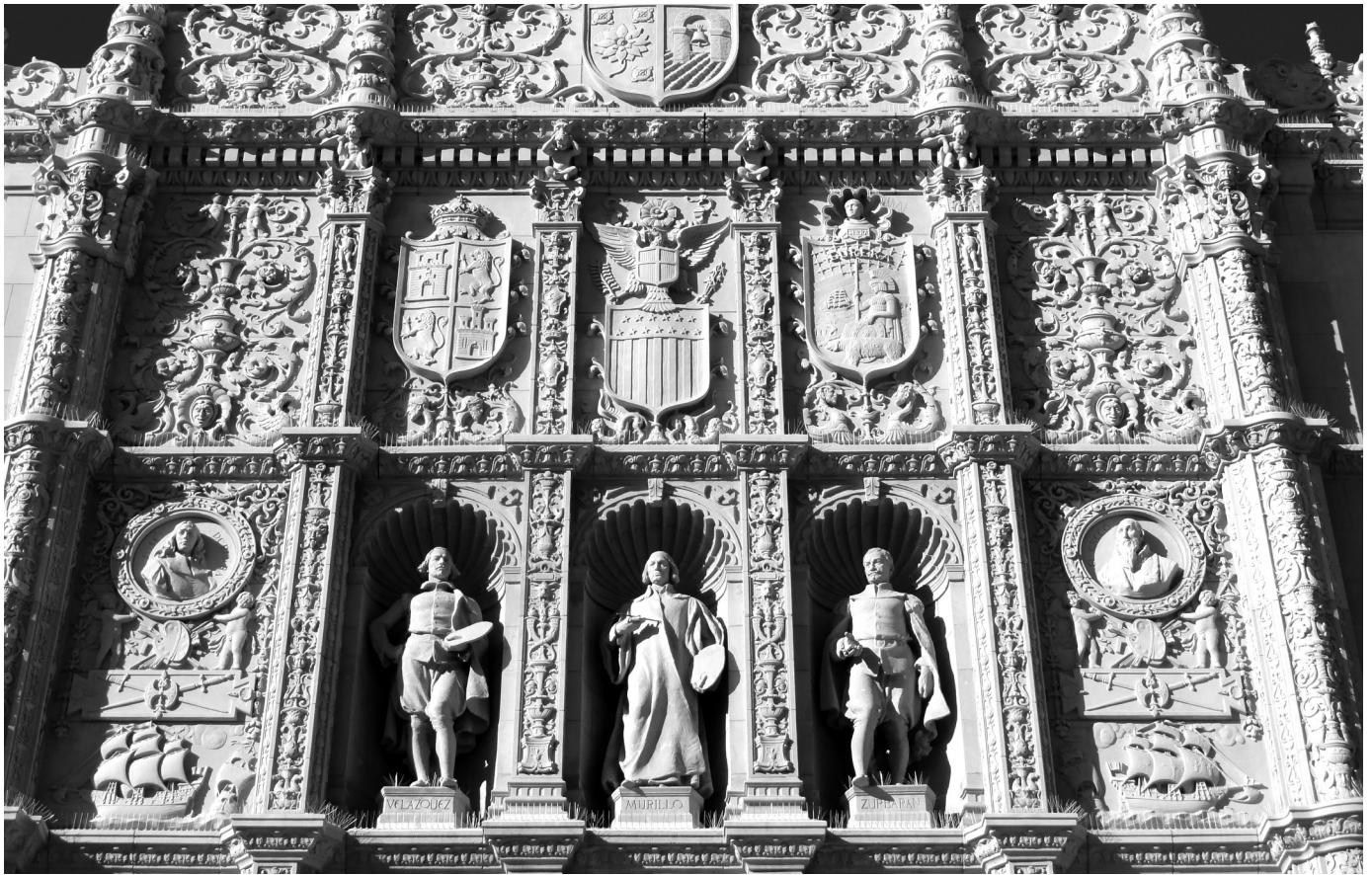
Luis Lima, CenterPoint Education Solutions, Washington, District of Columbia



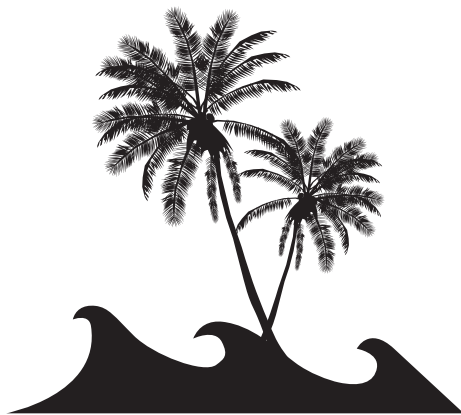
2019 CONFERENCE SCHEDULE OVERVIEW

Date & Time	Event	Location
Monday, April 1		
6:45 am–5:00 pm	On-Site Registration	Pre-Function Area—Grand Ballroom
7:00 am–7:30 am	First-Timers Session – Special Gifts	Pacific 14
7:45 am–9:00 am	Opening Session & Keynote – Dr. Luis Cruz	Grand Ballroom 1–7
9:00 am–5:00 pm	Sponsor/Exhibitor Display Area	Grand Ballroom 8–13
9:00 am–5:00 pm	NCSM Bookstore, Membership Booth, & Coaches Center	Grand Ballroom 8–13
9:15 am–10:15 am	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
10:15 am–11:00 am	Special Focus on Sponsor/Exhibitors	Grand Ballroom 8–13
11:00 am–5:00 pm	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
11:15 am–11:45 am	Leadership Exchange	Grand Ballroom 8–13
12:15 pm–1:15 pm	Luncheon <i>(Ticket Required)</i>	Grand Ballroom 1–7
1:45 pm–2:15 pm	Leadership Exchange	Grand Ballroom 8–13
3:00 pm–3:30 pm	Leadership Exchange	Grand Ballroom 8–13
4:00 pm–5:00 pm	NCSM Regional Directors and Regional Team Leaders Meeting	Pacific 23
5:30 pm–7:30 pm	Reception – Sponsored by Big Ideas Learning <i>(Ticket Required)</i>	Marriott Grand Ballroom Terrace
Tuesday, April 2		
6:45 am–5:00 pm	On-Site Registration	Pre-Function Area—Grand Ballroom
7:00 am–8:00 am	Breakfast – Sponsored by Pearson Learning Services <i>(Ticket Required)</i>	Grand Ballroom 1–7
8:15 am–12:15 pm	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
8:30 am–9:00 am	Leadership Exchange	Grand Ballroom 8–13
8:30 am–4:00 pm	Sponsor/Exhibitor Display Area	Grand Ballroom 8–13
8:30 am–4:00 pm	NCSM Bookstore, Membership Booth, & Coaches Center	Grand Ballroom 8–13
9:15 am –10:00 am	Special Focus on Sponsor/Exhibitors	Grand Ballroom 8–13
12:15 pm–2:00 pm	Luncheon – Sponsored by Texas Instruments <i>(Ticket Required)</i>	Grand Ballroom 1–7
2:15 pm–3:15 pm	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
2:30 pm–3:00 pm	Leadership Exchange	Grand Ballroom 8–13
3:30 pm–4:15 pm	Caucuses	Pacific Ballrooms
4:30 pm–5:00 pm	NCSM Business Meeting & State of the Organization Report	Pacific 22
5:30 pm–7:00 pm	Reception – Sponsored by McGraw-Hill Education <i>(Ticket Required)</i>	Marriott Grand Ballroom Terrace
Wednesday, April 3		
7:00 am–8:00 am	Breakfast – Sponsored by Agile Mind <i>(Ticket Required)</i>	Grand Ballroom 1–7
7:30 am–10:30 am	On-Site Registration	Pre-Function Area—Grand Ballroom
8:15 am–11:45 pm	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
8:30 am–9:00 am	Leadership Exchange	Grand Ballroom 8–13
12:00 pm–1:30 pm	Luncheon – Partially Sponsored by ST Math, created by MIND Research Institute <i>(Ticket Required)</i>	Grand Ballroom 1–7
1:45 pm–4:00 pm	Major, Spotlight, Regular, and Sponsor Showcase Sessions	Check Daily Summary Pages for Locations
2:30 pm–3:00 pm	Leadership Exchange	Grand Ballroom 8–13





San Diego Museum of Art



PROGRAM SUMMARY INFORMATION **MONDAY, APRIL 1**

See page 5 for Conference Strand descriptions.



MONDAY SUMMARY

Pacific 23	7:00 AM–7:30 AM	Pacific 14	7:00 AM–7:30 AM
	Nanci Smith Affiliate Leaders Meeting Pacific 23 General		Jessica McIntyre What's It All About? An Orientation for Those New to the NCSM Annual Conference Pacific 14 General

Grand Ballroom	7:45 AM–9:00 AM	12:15 AM–1:15 PM	Marriott Grand Ballroom Terrace	5:30 PM–7:00 PM
	Connie Schrock, Bill Barnes, Dr. Luis F. Cruz Welcome Presenters Grand Ballroom General KEYNOTE PRESENTER	Dr. Luis F. Cruz Recognizing and Overcoming the Barriers to Ensuring ALL Students Learn Mathematics Grand Ballroom Strand 2 General MONDAY LUNCHEON		Connie Schrock Ignite Presentation Grand Ballroom Strand 0 General

Pacific 21	9:15 AM–10:15 AM	11:00 AM–12:00 PM	1:30 PM–2:30 PM	2:45 PM–3:45 PM	4:00 PM–5:00 PM
	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION
	Julia Aguirre Math Strong: Cultivating Equity and Social Justice in Mathematics Education Pacific 21 Strand 2 General	Beatrice Moore Luchin Power Hours—Customized Coaching Capitalizing on Individual and Team Strengths Pacific 21 Strand 1 General	Juli Dixon Six (Un)Productive Practice in Mathematics Teaching Pacific 21 Strand 3 General	Cathy Seeley Five Keys to Equity in STEM Pacific 21 Strand 2 General	Graham Fletcher Teaching on the Edge of Understanding and at the Speed of Learning Pacific 21 Strand 6 Elementary
Pacific 22	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER
	B. Michelle Rinehart, Daniel Ilaria Moving Beyond Think-Pair-Share: Routines for Mathematical Discourse Pacific 22 Strand 6 6–12 Secondary	Courtney Baker, Melinda Knapp, Nicole Rigelman Practice Makes Perfect: Developing An Effective Mathematics Coaching Practice Through Intentionally Planned Rehearsals Pacific 22 Strand 4 General	Jill Gough Embolden Your Inner Mathematician Pacific 22 Strand 6 3–5 Intermediate	Karen Karp, Sarah Bush, Barbara Dougherty Avoiding the Ineffective Key Word Strategy! Pacific 22 Strand 6 K–5 Elementary	William McCallum The Intersection of Curriculum, Instruction, and Technology: Lessons Learned from Implementing and Piloting Illustrative Mathematics' Curriculum Pacific 22 Strand 5 9–12 High School
Pacific 14	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER
	Amy Swinkels, Stephanie Power Early Numeracy Partnerships: Blending Professional Development and Research to Enhance Early Numeracy Development Pacific 14 Strand 6 PK–2 Primary	Jennifer Luebeck, Matt Roscoe Creating Opportunities to Learn for Rural and Isolated Teachers: Effective Strategies for Blended Face-to-Face and Online Professional Learning Pacific 14 Strand 4 General	Renee Charette The Intersection of Mathematics and Computer Science in Project Based Education Pacific 14 Strand 5 General	Tammy Rudolph, Maria Everett, Christina Pirie, Laura Potter, Salli Waraksa Building Community to Improve Mathematics Education Pacific 14 Strand 3 6–12 Secondary	Janet Tomlinson, Stephanie Doran Building Reasoning Through Addition Structures and Strategies from Kindergarten Through High School Pacific 14 Strand 6 General
Pacific 15	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER
	Nanci Smith, Denise Brady, Jason Gauthier, Sara Frisbie, Donna Karsten Coaching Kickoff: Coaching Book Pacific 15 Strand 1 General	Valerie Mills, Diane Briars Adopting New Math Books? Start by Selecting an Effect Textbook Analysis Toolkit to Inform Your Work! Pacific 15 Strand 6 General	Joanie Funderburk Who's Doing the Work? Shifting the Cognitive Lift to Students in Mathematics Class Pacific 15 Strand 1 General	Tracy Sola The Long and Short of It—Primary Non-Standard Measurement Pacific 15 Strand 6 PK–2 Primary	Jennifer Towles, Mindy Cooper, Kimberly Davis, Ashley Tilley Bridging the Gap Framework: When a Year's Growth is Not Enough Pacific 15 Strand 5 PK–2 Primary
Pacific 16	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER
	Betsy Berry Exploring Tasks and Assessments to Develop Prospective and In-Service Elementary Teachers' Specialized Content Knowledge of Geometry and Measurement Pacific 16 Strand 6 College	Joan Tellish, Kay Sammons, Cheryl Akers Turning Misconceptions into Aha! Moments Pacific 16 Strand 1 3–5 Intermediate	PRESIDENTS EXCHANGE—TODOS Diana Ceja Resisting the Culture of Exclusion Pacific 16 Strand 2 General	Jennifer Lempp Math Workshop: Developing Mathematical Knowledge Through Guided Math, Learning Stations, Student Reflection, and More Pacific 16 Strand 6 K–5 Elementary	



MONDAY SUMMARY

Pacific 23	7:00 AM–7:30 AM	Pacific 14	7:00 AM–7:30 AM
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Grand Ballroom	7:45 AM–9:00 AM	12:15 AM–1:15 PM	Marriott Grand Ballroom Terrace	5:30 PM–7:00 PM		
	Connie Schrock, Bill Barnes, Dr. Luis F. Cruz Welcome Presenters Grand Ballroom General	KEYNOTE PRESENTER		Dr. Luis F. Cruz Recognizing and Overcoming the Barriers to Ensuring ALL Students Learn Mathematics Grand Ballroom Strand 2 General	MONDAY LUNCHEON	Connie Schrock Ignite Presentation Grand Ballroom Strand 0 General

Pacific 17	9:15 AM–10:15 AM	11:00 AM–12:00 PM	1:30 PM–2:30 PM	2:45 PM–3:45 PM	4:00 PM–5:00 PM
	Melissa Pearson, Susan Totaro, Mary Ann Carnevale Changing Mindsets to Tackle Equity: From the New York Times to the Classroom—One District's Journey Pacific 17 Strand 2 K–5 Elementary	Natalie Crist, Kelly O'Connell "Building" Capacity in Mathematics Through a Mathematics PLC (Professional Learning Community): A Collaborative Approach Pacific 17 Strand 3 K–5 Elementary	Cheryl Tobey Going Beyond Diagnostic: Acting on Data from Formative Assessment Probes Pacific 17 Strand 5 3–8 Upper Elementary/Middle	Karin Lange, Christina Barbieri, Julie Booth, Tim Fukawa-Connelly Developing a Positive Error-Climax: Action Steps from Research and Practice Pacific 17 Strand 6 General	Zalman Usiskin The Common Core At Nine Years: an Analysis Pacific 17 Strand 3 General
Pacific 18	Denise Porter, Rachel Muren, Kathryn Flores Making Effective Assessment Habits Routine: Looking at Case Studies of Practice Pacific 18 Strand 5 K–5 Elementary	Edward Nolan Coaching Teachers to Create Positive Self-Fulfilling Prophecies in their Mathematics Lessons Pacific 18 Strand 1 General	Sherri Martinie, Connie Schrock, Melissa Fast Making Waves with Changes in Acceleration Practices Pacific 18 Strand 2 6–12 Secondary	John W. Staley, Diane Briars, Linda Gojak, Carole Greenes, Timothy Kanold, Henry Kepner, Steve Leinwand, Valerie Mills, Suzanne Mitchell NCSM Past Presidents: Speed Chats for Leaders Around Critical Challenges and Effective Solutions Pacific 18 Strand 3 General	M. Kathleen Heid, Diane Briars, Suzanne Mitchell, Steven Viktora, Rose Mary Zbiek NCSM Situations: Using Classroom-Based Scenarios to Build Mathematical Knowledge for Teaching Pacific 18 Strand 6 6–12 Secondary
	Nicole Rigelman, Amy McQueen, Karen Prigodich Cultivating Mathematics Teacher Leaders as Models and Advocates for Effective Teaching and Learning Pacific 19 Strand 3 General	Mary Hynes-Berry, Lauren Solarski, Stephanie Tominov, Tia Hanna, Faith Jones, Karen Griffin Teaching Teachers How to Fish: Strategies and Structures for Engaging and Effective Professional Learning Experiences Pacific 19 Strand 4 PK–2 Primary	ROSS TAYLOR/GLENN GILBERT SPEAKER SERIES: Diane Briars High-leverage Actions for Mathematics Education Leaders Pacific 19 Strand 6 General	Brenda Lynch Intentional Planning Improves Instruction Pacific 19 Strand 5 6–12 Secondary	Harold Asturias, Joan Easterday, Brent Jackson Forget the Ripple, Make a Wave: Using Equity Commentary in High-Quality Lesson Study Pacific 19 Strand 2 General
Pacific 23	Jeanette Scott, Kris Cunningham, Jorge Ambriz Experiencing Alignment, Rigor, and Engagement – Open Up Resources High School Math Pacific 23 Strand 5 6–12 Secondary	Justin Boyle Supporting a First-Year Teacher to Foster Students' Ability to Communicate Their Mathematical Thinking Pacific 23 Strand 1 6–12 Secondary	Melinda Griffin, Terri Marx, Jenna Richard It Takes More Than a Village: Engaged Professional Learning to Promote Math Outcomes for ALL Students Using Evidence-Based Practices Pacific 23 Strand 2 General	Gail Burrill, Tom Dick Recommendations for Statistics and Probability in the Secondary Curriculum: Implications for Teacher Leaders Pacific 23 Strand 6 6–12 Secondary	MEETING Paul Gray, Jr. NCSM Regional Directors and Regional Team Leaders Meeting Pacific 23 General
		Amy Lucenta, Grace Kelemanik Leverage A Common Problem Type to Design an Instructional Routine for ALL Students Pacific 24 Strand 2 6–8 Middle	Matthew Beyranevand Help Teachers Develop Growth Mindset in Students to Increase their Perseverance, Engagement, and Success in Mathematics Pacific 24 Strand 6 6–12 Secondary	Thomas Stricklin, Sharon Rendon Coaching and Leading for Collective Efficacy: Developing the Idea that Together Educators can Powerfully Impact Student Outcomes Pacific 24 Strand 3 General	Heidi Sabnani, Susan Looney A Former Math Hater's Strategies for Coaching Teachers with Math Anxiety Pacific 24 Strand 1 General
Pacific 25	Miriam Gates, Matt McLeod, Al Cuoco, Bowen Kerins MIST: A Virtual Mathematics Immersion Experience for Teachers and Teacher-Leaders Pacific 25 Strand 4 6–12 Secondary	Roger Blanco, Leandro Alvarez Strategic and Standardized Redesign of Gateway Mathematics Pacific 25 Strand 5 College	Vicki Jacobs, Susan Empson, Dinah Brown Building Teachers' Questioning Expertise by Calling Attention to Children's Mathematical Ideas Pacific 25 Strand 2 3–5 Intermediate	Duane Habecker, Jamie Garner Ensuring High-Quality Mathematics Instruction for Students with Special Needs Pacific 25 Strand 2 General	Christine Newell Building Precise Mathematical Language Through Routines Pacific 25 Strand 6 3–8 Upper Elementary/Middle



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	<p>Connie Schrock, Bill Barnes, Dr. Luis F. Cruz Welcome Presenters Grand Ballroom General</p> <p style="text-align: center;">KEYNOTE PRESENTER</p>	<p>Dr. Luis F. Cruz Recognizing and Overcoming the Barriers to Ensuring ALL Students Learn Mathematics Grand Ballroom Strand 2 General</p> <p style="text-align: center;">MONDAY LUNCHEON</p>		<p>Connie Schrock Ignite Presentation Grand Ballroom Strand 0 General</p>

	9:15 AM–10:15 AM	11:00 AM–12:00 PM	1:30 PM–2:30 PM	2:45 PM–3:45 PM	4:00 PM–5:00 PM
Pacific 26	<p>Amber Willis, Heather Beasley, Melissa Kemmerle, Sabrina Salazar, Karen Reinhardt, Deborah Ball Coaching to Advance Justice: Revising Coaching Tools to Explicitly Attend to Issues of Justice and Equity in Mathematics Teaching Pacific 26 Strand 1 K–5 Elementary</p>	<p>Elizabeth Phillips, Alden Edson, Yvonne Grant Over Thirty Years of Teaching Through Open Problem Activities: Going Deep with Mathematics Pacific 26 Strand 6 6–8 Middle</p>	<p>Nicora Placa Collaborative Coaching: How do we Learn Together as a Team? Pacific 26 Strand 1 3–8 Upper Elementary/Middle</p>	<p>Bernard Frost, Ed.D, Natalie Crist NCSM Initiative: Communication Exchange Pacific 26 Strand 0 General</p>	<p>Lisa Brown, Luis Lima, Emma Trevino, Sherri Jones Detracking Mathematics Meetup Pacific 26 Strand 2 General</p>
Rancho Santa Fe 1		<p>Connie Thomson, Valerie Byrnes But What Does It Really Look Like? Rancho Santa Fe 1 Strand 1 K–5 Elementary</p>	<p>Suzanne Mitchell Grants to Build Innovation in Mathematics Education Rancho Santa Fe 1 Strand 4 General</p>	<p>Andi Parr, Heather Plaisance, Denise Gilbert, Yvonne Williams, Arash Abnousi Reaching 21st Century Learners Through a Blended Learning Model Rancho Santa Fe 1 Strand 4 General</p>	<p>Cassie Sisemore, Breanne Phillips, Laurie Duerksen Coaching Teachers Through the Process of Secondary Mathematics Vertical Articulation Rancho Santa Fe 1 Strand 6 6–12 Secondary</p>
Rancho Santa Fe 2	<p>Kathy Prummer The Heart of Coaching Rancho Santa Fe 2 Strand 1 3–8 Upper Elementary/Middle</p>	<p>Karen Wootton How Might We Rethink Intervention? Rancho Santa Fe 2 Strand 4 6–8 Middle</p>	<p>Daniel Greenberg Peer Coaching Cohorts for Teachers: Why They Work and Getting One Started in Your School or School District Rancho Santa Fe 2 Strand 3 General</p>	<p>Cory Bennett, Kenneth Johnson, Minette Lewis Implementing a District-Wide Problem Solving Structure: Perspectives, Challenges, and Affordances from One International School Rancho Santa Fe 2 Strand 5 General</p>	<p>Katherine Marin, Elizabeth Petit Cunningham, Sarah Roller Coaching Teachers to use Photographs and Learning Progressions as Formative Assessment Tools Rancho Santa Fe 2 Strand 1 PK–2 Primary</p>
Rancho Santa Fe 3	<p>Sue Ball, Janine Franklin, Hilary Greavette Supporting Students with Learning Disabilities in Mathematics Rancho Santa Fe 3 Strand 2 General</p>	<p>Desiree Harrison, Andrea Edwards, Colleen Stamm How a Mathematics Leadership Team's Focus on Making Mathematics a Priority in Elementary Classrooms Changed School Culture Across the District Rancho Santa Fe 3 Strand 5 K–5 Elementary</p>		<p>Sarah Roller, Carrie Plank Leveraging Partnerships to Create Observations that Illuminate Effective Mathematics Teaching Practices in Elementary Classrooms Rancho Santa Fe 3 Strand 1 K–5 Elementary</p>	<p>Rachel Muren, Jean Capper, Alison Whittington What's in it for Me? Differentiating Professional Development for Adult Leaders Rancho Santa Fe 3 Strand 4 General</p>
Temecula 1	<p>Carole Greenes Project, Product, Performance: The 3P Approach to Professional Development Temecula 1 Strand 6 6–8 Middle</p>	<p>Sarah Arden What do we do now? Leading Implementation of Intensive Intervention for Students with Severe and Persistent Mathematics Learning Needs Temecula 1 Strand 3 3–8 Upper Elementary/Middle</p>	<p>Melissa Kemmerle Using Student Questions to Determine the Health of a Mathematics Learning Environment Temecula 1 Strand 6 General</p>		
Temecula 2	<p>Barbara Blanke, TJ Jemison Surfing the Waves of Change: Ready, Set, Go! How to Support Building a Math Classroom That Lets the Kids Talk! Temecula 2 Strand 1 PK–2 Primary</p>	<p style="text-align: center;">PRESIDENTS EXCHANGE–ASA</p> <p>Christine Franklin Teaching and Assessing Statistics with Simulation – Accessible to All Students Temecula 2 Strand 6 General</p>	<p style="text-align: center;">PRESIDENTS EXCHANGE–SSMA</p> <p>Stacy Reeder, Juliana Utley Tasks to Develop Deep Mathematical Understanding and Procedural Fluency Temecula 2 Strand 5 General</p>	<p>Denise Porch Learning to Use Visual Models to Make Connections For Procedural Fluency in Multiplication Through the Lens of a PLC Temecula 2 Strand 6 3–5 Intermediate</p>	<p style="text-align: center;">PRESIDENTS EXCHANGE–AMATYC</p> <p>James Ham Probability, Statistics, and Social Justice Temecula 2 Strand 2 General</p>



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Torrecula 3 & 4	9:15 AM–10:15 AM	11:00 AM–12:00 PM	1:30 PM–2:30 PM	2:45 PM–3:45 PM	4:00 PM–5:00 PM
	<p>Lisa Williams, John W. Staley Writing a New Narrative: Our Journey in Using an Equity Lens to Create a Mathematics Community That Values All Learners Torrecula 3 & 4 Strand 2 General</p>	<p>Ivan Cheng, Matthew Kim, Jaspreet Sandha Desmo-fy Your Mathematics Lesson: What the Latest Research Shows About How to Bridge the Achievement Gap Torrecula 3 & 4 Strand 6 6–12 Secondary</p>	<p>Eric Milou Reinventing & Reimagining the High School Mathematics Classroom Torrecula 3 & 4 Strand 4 9–12 High School</p>	<p>Tim Hudson How to Deepen Teachers' Mathematical Understanding, Facilitate Rich Student Thinking, and Improve Achievement by Leveraging Interactive Digital Technologies Torrecula 3 & 4 Strand 6 3–8 Upper Elementary/Middle</p>	<p>Sarah Dziak-Swanton What Strategy Did You Use?: How to Help Students Develop a Relationship with Mathematical Strategies to Advance their own Learning Torrecula 3 & 4 Strand 1 K–5 Elementary</p>
Torrey Pines 1	<p>Eden Badertscher Designing for Equity by Thinking In and About Mathematics (DEBT-M): A Systemic Look at Inequity in Mathematics Teaching and Learning Torrey Pines 1 Strand 2 6–12 Secondary</p>	<p>Cheryl Cantin, Shelly Jones, Kathlan Latimer, Steven Viktora, Sue Vohrer, Irma Cruz-White, Eden Badertscher NCSM Initiative: Equity and Access in Action Torrey Pines 1 Strand 2 General</p>	<p>Danielle Seabold Coaching Teachers to Engage Every Student in Discourse and Sense-making in the Mathematics Classroom Torrey Pines 1 Strand 1 General</p>	<p>Kit Norris, Hilary Kreisberg Preparing Mathematical Thinkers for the Future Torrey Pines 1 Strand 4 3–5 Intermediate</p>	<p>Carolyn Briles Have You Ever Wanted to Submit an Article for the NCSM Journal? Torrey Pines 1 Strand 0 General</p>
	<p>Stephanie Reddick Community, Collaboration, and Computers: Using Multimedia Platforms to Foster Effective Instructional Guidance, Collaboration, and Support Torrey Pines 2 Strand 4 K–5 Elementary</p>	<p>Jennifer Graziano, Stephen Arndt, Tim Hebert, Nova Katz Equity, Mathematics, and Mindset Torrey Pines 2 Strand 2 General</p>	<p>Renee McShane, Ellen McCrum, Antonia Cameron Designing Teacher Study Groups to Transform School Culture Torrey Pines 2 Strand 3 K–5 Elementary</p>	<p>Jere Confrey, Michael Belcher Engaging Students as Partners in Personalized Learning Based on Learning Trajectories Torrey Pines 2 Strand 5 6–8 Middle</p>	<p>Kimberly White, Nathan Rosin Meaningful Mathematical Tasks for Teacher Development Torrey Pines 2 Strand 6 College</p>
Torrey Pines 3	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE
	<p>Laurie Boswell Using Learning Intentions and Success Criteria to Improve Teacher Clarity Torrey Pines 3 General</p>	<p>Lawrence Korchnak Challenges and Opportunities in 21st Century Mathematics Education Torrey Pines 3 General</p>	<p>Melinda Schwartz The Science of Implementation Torrey Pines 3 General</p>	<p>Pia Hansen Bridges Intervention—Delivering Clear and Systematic Instruction Torrey Pines 3 K–5 Elementary</p>	<p>Grace Kelemanik, Amy Lucenta Helping Teachers Develop Manageable Instructional Practices to Elicit and use the Mathematical Thinking of all Students to Inform Instruction Torrey Pines 3 General</p>



MONDAY SESSIONS BY STRAND

STRAND 0: NCSM BUSINESS

LEVEL	LOCATION	TIME
GEN	GRAND BALLROOM	12:15-1:15
GEN	PACIFIC 26	2:45-3:45
GEN	TORREY PINES 1	4:00-5:00

STRAND 1: VISIONARY COACHING PRACTICES

LEVEL	LOCATION	TIME
GEN	PACIFIC 15	9:15-10:15
K-5	PACIFIC 26	9:15-10:15
3-8	RANCHO SANTA FE 2	9:15-10:15
PK-2	TEMECULA 2	9:15-10:15
3-5	PACIFIC 16	11:00-12:00
GEN	PACIFIC 18	11:00-12:00
GEN	PACIFIC 21	11:00-12:00
6-12	PACIFIC 23	11:00-12:00
K-5	RANCHO SANTA FE 1	11:00-12:00
GEN	PACIFIC 15	1:30-2:30
3-8	PACIFIC 26	1:30-2:30
GEN	TORREY PINES 1	1:30-2:30
K-5	RANCHO SANTA FE 3	2:45-3:45
GEN	PACIFIC 24	4:00-5:00
PK-2	RANCHO SANTA FE 2	4:00-5:00
K-5	TEMECULA 3 & 4	4:00-5:00

STRAND 2: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP

LEVEL	LOCATION	TIME
GEN	GRAND BALLROOM	8:00-9:15
K-5	PACIFIC 17	9:15-10:15
GEN	PACIFIC 21	9:15-10:15
GEN	RANCHO SANTA FE 3	9:15-10:15
GEN	TEMECULA 3 & 4	9:15-10:15
6-12	TORREY PINES 1	9:15-10:15
6-8	PACIFIC 24	11:00-12:00
GEN	TORREY PINES 1	11:00-12:00
GEN	TORREY PINES 2	11:00-12:00
GEN	PACIFIC 16	1:30-2:30
6-12	PACIFIC 18	1:30-2:30
GEN	PACIFIC 23	1:30-2:30
3-5	PACIFIC 25	1:30-2:30
GEN	PACIFIC 21	2:45-3:45
GEN	PACIFIC 25	2:45-3:45
GEN	PACIFIC 19	4:00-5:00
GEN	PACIFIC 26	4:00-5:00
GEN	TEMECULA 2	4:00-5:00

STRAND 3: ENGAGING LEADERSHIP COMMUNITIES

LEVEL	LOCATION	TIME
GEN	PACIFIC 19	9:15-10:15
K-5	PACIFIC 17	11:00-12:00
3-8	TEMECULA 1	11:00-12:00
GEN	PACIFIC 21	1:30-2:30
GEN	RANCHO SANTA FE 2	1:30-2:30
K-5	TORREY PINES 2	1:30-2:30
6-12	PACIFIC 14	2:45-3:45
GEN	PACIFIC 18	2:45-3:45
GEN	PACIFIC 24	2:45-3:45
GEN	PACIFIC 17	4:00-5:00

STRAND 4: INNOVATIVE ENGAGEMENT

LEVEL	LOCATION	TIME
6-12	PACIFIC 25	9:15-10:15
K-5	TORREY PINES 2	9:15-10:15
GEN	PACIFIC 14	11:00-12:00
PK-2	PACIFIC 19	11:00-12:00
GEN	PACIFIC 22	11:00-12:00
6-8	RANCHO SANTA FE 2	11:00-12:00
GEN	RANCHO SANTA FE 1	1:30-2:30
9-12	TEMECULA 3 & 4	1:30-2:30
GEN	RANCHO SANTA FE 1	2:45-3:45
3-5	TORREY PINES 1	2:45-3:45
GEN	RANCHO SANTA FE 3	4:00-5:00

STRAND 5: EXEMPLARY EXPERIENCES FROM THE FIELD

LEVEL	LOCATION	TIME
K-5	PACIFIC 18	9:15-10:15
6-12	PACIFIC 23	9:15-10:15
COLLEGE	PACIFIC 25	11:00-12:00
K-5	RANCHO SANTA FE 3	11:00-12:00
GEN	PACIFIC 14	1:30-2:30
3-8	PACIFIC 17	1:30-2:30
GEN	TEMECULA 2	1:30-2:30
GEN	RANCHO SANTA FE 2	2:45-3:45
6-8	TORREY PINES 2	2:45-3:45
6-12	PACIFIC 19	2:45-3:45
PK-2	PACIFIC 15	4:00-5:00
9-12	PACIFIC 22	4:00-5:00

STRAND 6: DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING

LEVEL	LOCATION	TIME
PK-2	PACIFIC 14	9:15-10:15
COLLEGE	PACIFIC 16	9:15-10:15
6-12	PACIFIC 22	9:15-10:15
6-8	TEMECULA 1	9:15-10:15
GEN	PACIFIC 15	11:00-12:00
6-8	PACIFIC 26	11:00-12:00
GEN	TEMECULA 2	11:00-12:00
6-12	TEMECULA 3 & 4	11:00-12:00
GEN	PACIFIC 19	1:30-2:30
3-5	PACIFIC 22	1:30-2:30
6-12	PACIFIC 24	1:30-2:30
GEN	TEMECULA 1	1:30-2:30
PK-2	PACIFIC 15	2:45-3:45
GEN	PACIFIC 17	2:45-3:45
K-5	PACIFIC 22	2:45-3:45
6-12	PACIFIC 23	2:45-3:45
3-5	TEMECULA 2	2:45-3:45
3-8	TEMECULA 3 & 4	2:45-3:45
GEN	PACIFIC 14	4:00-5:00
K-5	PACIFIC 16	4:00-5:00
6-12	PACIFIC 18	4:00-5:00
K-5	PACIFIC 21	4:00-5:00
3-8	PACIFIC 25	4:00-5:00
6-12	RANCHO SANTA FE 1	4:00-5:00
COLLEGE	TORREY PINES 2	4:00-5:00



MONDAY SESSIONS

HOW TO READ THIS SPEAKER PROGRAM:

TITLE OF PRESENTATION

Time of Presentation | Room Location | Strand Number | Grade Level/Target Audience

Description of presentation.

Speaker Name, Position/Affiliation, City, State

MONDAY LEADERSHIP EXCHANGE—EXHIBIT HALL

TIME	FACILITATOR	TOPIC
11:15 am–11:45 am	Michelle Rinehart and Dr. Dan Ilaria	Facilitating Instructional Routines in Coaching and Professional Learning
1:45 pm–2:15 pm	Beatrice Moore-Luchin	How do You Customize Coaching and Capitalize on Individual and Team Strengths?
3:00 pm–3:30 pm	Courtney Baker	Developing an Intentional and Proactive Coaching Practice

AFFILIATE LEADERS MEETING

7:00 AM–7:30 AM | Pacific 23 | General

Gather with NCSM Affiliate Leaders from across North America as we share ideas, discuss concerns and resolutions, and identify ways to serve the leaders of mathematics in our areas. We will brainstorm how NCSM can support your organization's goals for leadership development and member support. Come meet and share ideas with new colleagues. This meeting is for invited Affiliate Leaders only.

Nanci Smith, NCSM Affiliate Chair, Peoria, Arizona

CONFERENCE ORIENTATION – FIRST-TIMER'S SESSION

WHAT'S IT ALL ABOUT?

AN ORIENTATION FOR THOSE NEW TO THE NCSM ANNUAL CONFERENCE

7:00 AM–7:30 AM | Pacific 14 | General

This session is for attendees 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.

Jessica McIntyre, NCSM Membership and Volunteer Coordinator, Barrington, Illinois

OPENING SESSION—KEYNOTE PRESENTATION



Connie Schrock



Bill Barnes



Dr. Luis F. Cruz

WELCOME PRESENTERS

7:45 AM–9:15 AM | Grand Ballroom | General

Welcome to San Diego, CA and the 51st NCSM Annual Conference. Join us for greetings from the NCSM President and 2019 Program Chair.

Connie Schrock, NCSM President, Emporia, Kansas

Bill Barnes, NCSM 1st Vice President, Ellicott City, Maryland

Dr. Luis F. Cruz, Cruz & Associates Consulting, Aurora, Colorado



MONDAY SESSIONS

KEYNOTE PRESENTER

RECOGNIZING AND OVERCOMING THE BARRIERS TO ENSURING ALL STUDENTS LEARN MATHEMATICS

7:45 AM–9:15 AM | Grand Ballroom | Strand 2 | General

The public school system we have inherited was never designed to ensure high levels of learning for ALL students. The critical thinking students develop as a result of engaging in meaningful mathematical learning experiences does not intentionally include students from certain low-income communities or students of color. To put it mathematically, equal does not equate to equitable.



Join **Dr. Luis F. Cruz** as he passionately challenges us to reflect on the historical purpose of our public school system and discover how to ensure high levels of learning for ALL students in our schools. As school leaders we need to first embrace the discomfort of the current reality in our school mathematics programs, and then act to change a process for learning mathematics so that it is designed to help each and every child learn.

Luis F. Cruz, Cruz & Associates Consulting, Aurora, Colorado

President, Bill Barnes, NCSM 1st Vice President, Ellicott City, Maryland

9:15 AM–10:15 AM

MAJOR PRESENTATION

MATH STRONG: CULTIVATING EQUITY AND SOCIAL JUSTICE IN MATHEMATICS EDUCATION

9:15 AM–10:15 AM | Pacific 21 | Strand 2 | General



As a leader, you are a critical change agent for equity and social justice in mathematics education. In this session, conceptual and practical tools will be introduced to critically examine beliefs and structures impacting your professional vision for teaching and learning “math strong.”

Learn to reframe discussions and cultivate equity-based practices that leverages students’ mathematical strengths and supports rich, rigorous, and relevant mathematics education experiences for our nation’s children and youth.

Julia Aguirre, University of Washington, Tacoma, Washington

President, Karen Hyers, NCSM Newsletter Editor, Oakdale, Minnesota

SPOTLIGHT SPEAKER

MOVING BEYOND THINK-PAIR-SHARE: ROUTINES FOR MATHEMATICAL DISCOURSE

9:15 AM–10:15 AM | Pacific 22 | Strand 6 | 6–12 Secondary



How might we build shared understanding of mathematical ideas by facilitating meaningful mathematical discourse? How might different discussion routines elicit different types of mathematical reasoning, justification, and analysis? How might we move beyond think-pair-share by adding

routines for visible thinking and mathematical discourse to our professional toolboxes? Explore a host of routines for making student thinking visible and creating a classroom culture of discourse, while considering the mathematics specialist’s role in moving mathematical discussions forward.

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

Daniel Ilaria, West Chester University, West Chester, Pennsylvania

President, Carolyn Briles, NCSM Journal Editor, Leesburg, Virginia

EARLY NUMERACY PARTNERSHIPS: BLENDING PROFESSIONAL DEVELOPMENT AND RESEARCH TO ENHANCE EARLY NUMERACY DEVELOPMENT

9:15 AM–10:15 AM | Pacific 14 | Strand 6 | PK–2 Primary

Explore how a large urban school district partnered with researchers with the University of Alberta to create a professional development series aiming to improve mathematics instruction in Early Learning. Learn how participants worked together to collaboratively plan for rich mathematical experiences, capitalizing on the mathematical opportunities that routinely take place in Early Learning classrooms.

Amy Swinkels, Edmonton Catholic Schools, Edmonton, Alberta, Canada

Stephanie Power, Edmonton Catholic Schools, Edmonton, Alberta, Canada



MONDAY SESSIONS

COACHING KICKOFF: COACHING BOOK

9:15 AM–10:15 AM | Pacific 15 | Strand 1 | General

Have you ever wondered which systemic actions drive high-quality mathematics coaching? What are the key characteristics of effective mathematics coaching programs? NSCM has answered those questions in its new coaching resource, NSCM Essential Actions: Mathematics Coaching. In this session, leaders will learn about the Foundational Elements and Essential Actions necessary for both the design of coaching programs and behaviors that highly effective coaches exhibit.

Nanci Smith, NSCM Affiliate Chair, Peoria, Arizona

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

Jason Gauthier, NSCM C1 Regional Director, Dorr, Michigan

Sara Frisbie, NSCM Secretary, Topeka, Kansas

Donna Karsten, NSCM NCTM Representative, Halifax, Nova Scotia, Canada

EXPLORING TASKS AND ASSESSMENTS TO DEVELOP PROSPECTIVE AND IN-SERVICE ELEMENTARY TEACHERS' SPECIALIZED CONTENT KNOWLEDGE OF GEOMETRY AND MEASUREMENT

9:15 AM–10:15 AM | Pacific 16 | Strand 6 | College

This session will focus on the design and use of tasks in content courses for prospective and in-service elementary teachers to develop and assess their specialized content knowledge (SCK) of geometry and measurement. The presenter will share experiences with SCK tasks and participants will evaluate and adapt tasks for their own classrooms.

Betsy Berry, Indiana Purdue Fort Wayne, Fort Wayne, Indiana

CHANGING MINDSETS TO TACKLE EQUITY: FROM THE NEW YORK TIMES TO THE CLASSROOM-ONE DISTRICT'S JOURNEY

9:15 AM–10:15 AM | Pacific 17 | Strand 2 | K-5 Elementary

Disrupting the status quo cannot happen without vision, relationships built on trust, and capacity-building. Participants will engage in structures designed to increase purposeful collaboration, support differentiated professional development, and sustain reflective practice in order to bring about systemic change designed to increase access to rigorous equitable mathematics instruction. Participants will identify ways to leverage their district resources and stakeholders to support sustainable high impact engagement, increase collective efficacy, and to frame equitable mathematics teaching.

Melissa Pearson, West Windsor-Plainsboro Regional School District, West Windsor, New Jersey

Susan Totaro, West Windsor-Plainsboro Regional School District, West Windsor, New Jersey

Mary Ann Carnevale, West Windsor-Plainsboro Regional School District, West Windsor, New Jersey

MAKING EFFECTIVE ASSESSMENT HABITS ROUTINE: LOOKING AT CASE STUDIES OF PRACTICE

9:15 AM–10:15 AM | Pacific 18 | Strand 5 | K-5 Elementary

Teachers understand the importance of formative assessment as they thoughtfully observe students engaging in mathematics. However, without efficient processes for gathering data, teachers may struggle to set a routine. We will explore two case studies of teachers who have routinized effective assessment practice for various formats, including games and small-group lessons.

Denise Porter, UChicago STEM Education, Chicago, Illinois

Rachel Muren, UChicago STEM Education, Chicago, Illinois

Kathryn Flores, UChicago STEM Education, Chicago, Illinois

CULTIVATING MATHEMATICS TEACHER LEADERS AS MODELS AND ADVOCATES FOR EFFECTIVE TEACHING AND LEARNING

9:15 AM–10:15 AM | Pacific 19 | Strand 3 | General

We will: 1) describe structures for cultivating building-based mathematics teacher leaders that sustain and scale a research-informed vision of instruction and assessment; and 2) discuss ways they support curriculum implementation and ongoing collegial learning at the classroom, school, and district level in an effort to support both student and teacher learning. Participants will consider their own advocacy efforts and implications for their setting.

Nicole Rigelman, Portland State University, Portland, Oregon

Amy McQueen, David Douglas School District, Portland, Oregon

Karen Prigodich, Professional Developer, Portland, Oregon

EXPERIENCING ALIGNMENT, RIGOR AND ENGAGEMENT – OPEN UP RESOURCES HIGH SCHOOL MATH

9:15 AM–10:15 AM | Pacific 23 | Strand 5 | 6-12 Secondary

Participants will learn about one district's journey piloting the new high school mathematics program from Open Up Resources, developed by Illustrative Mathematics. Teachers will discuss their experience as they engaged in their own understanding of what it means to teach problem-based lessons and facilitate goal-oriented mathematical conversations. Participants will get a window into student thinking as teachers share student reactions by highlighting the resulting understanding of the mathematics they have engaged in.

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

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

Jorge Ambriz, Phoenix Union High School, Phoenix, Arizona



MONDAY SESSIONS

MIST: A VIRTUAL MATHEMATICS IMMERSION EXPERIENCE FOR TEACHERS AND TEACHER-LEADERS

9:15 AM–10:15 AM | Pacific 25 | Strand 4 | 6–12 Secondary

Mathematics Immersion for Secondary Teachers (MIST) is a professional learning experience that connects one school-based group with others across the country. Facilitated by a real-time instructor, teachers meet through videoconference and are immersed in mathematics—solving new problems, conjecturing, exploring new ideas, and making connections among content. Come experience some mathematics for yourself, remembering what it was like to be a student, and learn how we are making this a low-cost option for professional development.

Miriam Gates, Education Development Center, Inc., Waltham, Massachusetts

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

Al Cuoco, Education Development Center, Inc., Waltham, Massachusetts

Bowen Kerins, Education Development Center, Inc., Waltham, Massachusetts

COACHING TO ADVANCE JUSTICE: REVISING COACHING TOOLS TO EXPLICITLY ATTEND TO ISSUES OF JUSTICE AND EQUITY IN MATHEMATICS TEACHING

9:15 AM–10:15 AM | Pacific 26 | Strand 1 | K–5 Elementary

Mathematics class provides a powerful setting for disrupting historical biases about who is seen as “smart.” Coaches can take action toward this end by using coaching tools with mathematics teachers to make deliberate teaching moves that advance social justice. Examples include: attending to issues of status and positioning and intentionally highlighting all students’ mathematical competencies. Analyze and try out our tools and bring one of your own to share/revise with colleagues.

Amber Willis, School of Education, Ann Arbor, Michigan

Heather Beasley, TeachingWorks, University of Michigan, Ann Arbor, Michigan

Melissa Kemmerle, University of Michigan, Ann Arbor, Michigan

Sabrina Salazar, University of Michigan, Ann Arbor, Michigan

Karen Reinhardt, TeachingWorks, University of Michigan, Ann Arbor, Michigan

Deborah Ball, University of Michigan, Ann Arbor, Michigan

THE HEART OF COACHING

9:15 AM–10:15 AM | Rancho Santa Fe 2 | Strand 1

3–8 Upper Elementary/Middle

Why are some coaches more effective than others? We will consider the personal and professional characteristics that shape an effective math instructional coach and how to utilize those characteristics to more effectively support teachers and students. We’ll discuss creating equitable lessons that keep expectations high for ALL students, and how changing the culture one classroom at a time has the potential to change an entire school district and its community!

Kathy Prummer, Lake Pend Oreille School District, Ponderay, Idaho

SUPPORTING STUDENTS WITH LEARNING DISABILITIES IN MATHEMATICS

9:15 AM–10:15 AM | Rancho Santa Fe 3 | Strand 2 | General

This presentation will focus on exploring learning disabilities and how they affect our students in mathematics class. Participants will have the opportunity to work through mathematical tasks, analyze student work based on learner profiles, and determine strategies that will ensure ALL students have access to the learning experiences and can succeed. We will examine how to plan and support mathematics programming in response to a student’s assessed areas of strength and need.

Sue Ball, York Region District School Board, Aurora, Ontario, Canada

Janine Franklin, York Region District School Board, Aurora, Ontario, Canada

Hilary Greavette, York Region District School Board, Aurora, Ontario, Canada

PROJECT, PRODUCT, PERFORMANCE: THE 3P APPROACH TO PROFESSIONAL DEVELOPMENT

9:15 AM–10:15 AM | Temecula 1 | Strand 6 | 6–8 Middle

Research studies show that teachers learn best from collaboratively engaging in long-term challenging problems/projects like those for students; exploring key concepts, seeing how they grow and become more robust; identifying multiple contexts for developing the same concept; developing strategies that help students “undress” problems; designing and evaluating problems/projects; and conducting Showcase performances. The 3P approach, focusing on proportional reasoning, was validated with middle school teachers. Attendees will receive copies of several of these studies.

Carole Greenes, Arizona State University, Tempe, Arizona

SURFING THE WAVES OF CHANGE: READY, SET, GO! HOW TO SUPPORT BUILDING A MATH CLASSROOM THAT LETS THE KIDS TALK!

9:15 AM–10:15 AM | Temecula 2 | Strand 1 | PK–2 Primary

Surfers “learn by doing” and we can, too! We can empower ALL students to be budding mathematicians by nurturing their ideas, questions, and arguments. Learn how talk moves and questioning promotes equitable access to the mathematics. We can energize our teachers to let the kids talk, justify, challenge, and appreciate each other’s mathematical thinking in the early years. Experience how PK–2 teachers engage students in mathematical discourse during the first 20 days of mathematics class.

Barbara Blanke, Cal Poly State University, San Luis Obispo, California

TJ Jemison, TJ Consulting, Colchester, Vermont



MONDAY SESSIONS

WRITING A NEW NARRATIVE: OUR JOURNEY IN USING AN EQUITY LENS TO CREATE A MATHEMATICS COMMUNITY THAT VALUES ALL LEARNERS

9:15 AM–10:15 AM | Temecula 3 & 4 | Strand 2 | General

The demographics of school systems are changing across the country. More students of color, who are linguistically and socioeconomically diverse, are populating classrooms. This session is designed to engage participants in an interactive discussion of how Baltimore area schools are working to apply an equity lens to frame its work in mathematics instruction. We will explore how identity is related to students' sense of self-efficacy and agency as they develop competency as mathematicians as well.

Lisa Williams, Baltimore County Public Schools, Baltimore, Maryland

John W. Staley, Baltimore County Public Schools, Towson, Maryland

DESIGNING FOR EQUITY BY THINKING IN AND ABOUT MATHEMATICS (DEBT-M): A SYSTEMIC LOOK AT INEQUITY IN MATHEMATICS TEACHING AND LEARNING

9:15 AM–10:15 AM | Torrey Pines 1 | Strand 2 | 6–12 Secondary

The DEBT-M project, a five-year National Science Foundation (NSF) Mathematics-Science Partnership (MSP), has been devoted to closing the opportunity gap for marginalized secondary mathematics students. In order to affect change, we could not work with teachers in isolation, or learners in isolation, or schools in isolation but rather we needed to take a “systems perspective” to inequity. In this session, we will share our thinking, learning, successes, and challenges in ways that might help others who engage in this work.

Eden Badertscher, Education Development Center, Inc., Waltham, Massachusetts

COMMUNITY, COLLABORATION AND COMPUTERS: USING MULTIMEDIA PLATFORMS TO FOSTER EFFECTIVE INSTRUCTIONAL GUIDANCE, COLLABORATION AND SUPPORT

9:15 AM–10:15 AM | Torrey Pines 2 | Strand 4 | K–5 Elementary

Participants will learn meaningful methods for engaging instructional staff via a multi-media approach. Strategies will be shared for how to engage screenagers, tweeners, and almost-retireeners for increased collaboration. If you are not sure how to engage these three instructional employee groups, this session is for you! Come learn how to use technology to support teachers' instructional practice, increase productivity, broaden communication, and strengthen collaboration...all while being fiscally conservative!

Stephanie Reddick, Atlanta Public Schools, Atlanta, Georgia

SPONSOR SHOWCASE

USING LEARNING INTENTIONS AND SUCCESS CRITERIA TO IMPROVE TEACHER CLARITY

9:15 AM–10:15 AM | Torrey Pines 3 | General

Teacher clarity has a 0.75 effect size on student learning (Hattie, 2015) and it begins with clearly communicating learning intentions and success criteria. Classroom video and examples bring clarity to writing and using learning intentions and success criteria. Learn how a small change in your practice can have a huge impact on student learning.

Laurie Boswell, Big Ideas Learning, Author, Franconia, New Hampshire

11:00 AM–12:00 PM

MAJOR PRESENTATION

POWER HOURS—CUSTOMIZED COACHING CAPITALIZING ON INDIVIDUAL AND TEAM STRENGTHS

11:00 AM–12:00 PM | Pacific 21 | Strand 1 | General



Teachers want a coach who cares about them, builds upon their talents, and finds ways to develop and integrate those talents into their best work as they support improved student achievement through authentic, meaningful instructional practices and the creation of a classroom culture that promotes success. Coaching requires that teachers be given opportunities that maximize their individual and team strengths and develop positive professional growth mindsets—I am not someone who just takes them up a ladder that they may not want to climb. The result is team members who are respected, engaged, and energized. Although I use specifically designed tools and traditional coaching methods, I don't do “cookie cutter.” Instead, I personalize each coaching experience to guide teachers along their own unique path during our “Power Hours” where we meet (individually and as teams) to plan, observe, debrief, and repeat!

Beatrice Moore-Luchin, Luchin Educational Consulting, Houston, Texas

Presider, Paul Gray, Jr., NCSM S2 Regional Director, Dallas, Texas



MONDAY SESSIONS

SPOTLIGHT SPEAKER

PRACTICE MAKES PERFECT: DEVELOPING AN EFFECTIVE MATHEMATICS COACHING PRACTICE THROUGH INTENTIONALLY PLANNED REHEARSALS

11:00 AM–12:00 PM | Pacific 22 | Strand 4 | General



Learning the necessary skills to become an effective mathematics mentor and coach is challenging. These skills are best learned through professional development that centers on common problems of practice connected to mathematics instruction. One tool supporting such learning is coaching rehearsals; however, effectiveness depends on several considerations. Participants will examine current literature and experience a coaching rehearsal to consider the potential of using intentionally planned rehearsals as coaching professional development.

Courtney Baker, George Mason University, Fairfax, Virginia

Melinda Knapp, Oregon State University-Cascades, Bend, Oregon

Nicole Rigelman, Portland State University, Portland, Oregon

Presenter, Linda Griffith, NCSM Treasurer, Quitman, Arkansas

CREATING OPPORTUNITIES TO LEARN FOR RURAL AND ISOLATED TEACHERS: EFFECTIVE STRATEGIES FOR BLENDED FACE-TO-FACE AND ONLINE PROFESSIONAL LEARNING

11:00 AM–12:00 PM | Pacific 14 | Strand 4 | General

Effective professional learning is content-focused, standards-based, and classroom-relevant. However, rural and otherwise isolated mathematics teachers lack equitable access to learning due to barriers of distance, time, and expense. In our state, 75 percent of schools and teachers are rural; addressing their professional learning needs fueled six years of design, implementation, and research in online/blended learning (OBL). We will share findings and effective OBL practices for rural K–12 mathematics teachers that also benefit those from non-rural settings.

Jennifer Luebeck, Montana State University, Bozeman, Montana

Matt Roscoe, University of Montana, Missoula, Montana

ADOPTING NEW MATH BOOKS? START BY SELECTING AN EFFECT TEXTBOOK ANALYSIS TOOLKIT TO INFORM YOUR WORK!

11:00 AM–12:00 PM | Pacific 15 | Strand 6 | General

Explore the updated NCSM/NCTM Curriculum Analysis Toolkit developed under the direction of the Council of Chief State School Officers. In addition to three analysis tools: Content, Practices, and Overarching Considerations (Technology, Equity, and Assessment), we will share two new supporting resources: Look For guides to focus users on critical textbook features, and Textbook Analysis Professional Learning Activities to build a shared vision of effective textbook design among members of review committees.

Valerie Mills, Independent Mathematics Education Consultant, Ypsilanti, Michigan

Diane Briars, NCSM Consultant, Pittsburgh, Pennsylvania

TURNING MISCONCEPTIONS INTO AHA! MOMENTS

11:00 AM–12:00 PM | Pacific 16 | Strand 1 | 3–5 Intermediate

Teachers are frequently challenged with asking the right questions when implementing mathematical tasks. This session will stress the importance of anticipating student misconceptions so that leaders and coaches can provide tools for teachers to design effective lessons that promote a deep understanding of mathematics. Through group discussion and analysis of classroom video clips, participants will develop questions which advance student thinking and discourse, resulting in modification of student understanding and “Aha!” moments.

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

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

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

“BUILDING” CAPACITY IN MATHEMATICS THROUGH A MATHEMATICS PLC (PROFESSIONAL LEARNING COMMUNITY): A COLLABORATIVE APPROACH

11:00 AM–12:00 PM | Pacific 17 | Strand 3 | K–5 Elementary

Collaboration is critical to a successful mathematics program within a school. Who best for teachers to learn from? Their colleagues! Learn how administration (principal and district administrator) in a low-income, high-need school created a professional learning community to increase the quality of mathematics instruction for all students. Models and structures will be shared to illustrate the path to success. Structures such as collaborative unit planning, classroom visits, coaching sessions, and cross grade planning will be highlighted.

Natalie Crist, Baltimore County Public Schools, Towson, Maryland

Kelly O’Connell, Baltimore County Public Schools, Baltimore, Maryland



MONDAY SESSIONS

COACHING TEACHERS TO CREATE POSITIVE SELF-FULFILLING PROPHECIES IN THEIR MATHEMATICS LESSONS

11:00 AM–12:00 PM | Pacific 18 | Strand 1 | General

As coaches and supervisors, we sometimes observe lessons that feel scripted, with teachers not responding to what is happening in the lesson. How can envisioning what a lesson will look like while planning limit a teacher when they enact the lesson? Explore strategies to support teachers to create lesson images and lesson plans that allow for flexible enactment based on what they learn from students, so the “self-fulfilling prophecy” turns into a positive learning experience.

Edward Nolan, Towson University, Towson, Maryland

TEACHING TEACHERS HOW TO FISH: STRATEGIES AND STRUCTURES FOR ENGAGING AND EFFECTIVE PROFESSIONAL LEARNING EXPERIENCES

11:00 AM–12:00 PM | Pacific 19 | Strand 4 | PK–2 Primary

Examine how to purposefully structure professional development to attend to the whole teacher and engage adult learners in actively constructing their own understanding of how to support young children’s learning. Experience a mini Learning Lab on Number Sense for 3- to 8-year-olds and unpack facilitation strategies including a focus on conceptual knowledge, parallel processing, unlocked questions, and more! Leave with access to an online library with video examples of student mathematical thinking and teaching strategies.

Mary Hynes-Berry, Erikson Institute, Chicago, Illinois

Lauren Solarski, Erikson Institute, Chicago, Illinois

Stephanie Tominov, St. Genevieve School Archdiocese of Chicago, Chicago, Illinois

Tia Hanna, Genevieve School Archdiocese of Chicago, Chicago, Illinois

Faith Jones, St. Genevieve School Archdiocese of Chicago, Chicago, Illinois

Karen Griffin, St. Ethelreda School, Chicago, Illinois

SUPPORTING A FIRST-YEAR TEACHER TO FOSTER STUDENTS’ ABILITY TO COMMUNICATE THEIR MATHEMATICAL THINKING

11:00 AM–12:00 PM | Pacific 23 | Strand 1 | 6–12 Secondary

A teacher educator and first-year teacher collaborated on designing high school geometry lessons. We engaged in planning sessions and video recorded seven of them. Initial findings suggest that the focus on long term and short term planning to sequence opportunities for students to communicate thinking was productive. The participants will analyze video of small group and whole class discussions, which may be productive for educators that aim to support teachers in collaborative classroom discourse.

Justin Boyle, University of Alabama, Tuscaloosa, Alabama

LEVERAGE A COMMON PROBLEM TYPE TO DESIGN AN INSTRUCTIONAL ROUTINE FOR ALL STUDENTS

11:00 AM–12:00 PM | Pacific 24 | Strand 2 | 6–8 Middle

The same mathematical activity with varying mathematical practice goals and designs for learning impact student experiences and outcomes. Mathematics curricula makes use of common task types—sorting, error analysis, which one doesn’t belong, etc. In this session, we will explore how to leverage them to craft instructional routines with specific mathematical practice goals and repeatable designs for learning that provide access and engagement for all students and equitable teaching practices in buildings and districts.

Amy Lucenta, Fostering Math Practices, Natick, Massachusetts

Grace Kelemanik, Fostering Math Practices, Natick, Massachusetts

STRATEGIC AND STANDARDIZED REDESIGN OF GATEWAY MATHEMATICS

11:00 AM–12:00 PM | Pacific 25 | Strand 5 | College

Completing gateway mathematics is one of the most significant predictors of student retention, progression, and completion at Miami Dade College. Data revealed a need for transformation of MDC’s gateway mathematics courses. MDC redesigned the curriculum of those courses, trained professors, and improved academic placement. The next stage is underway, with contextualized curriculum designed to appeal to Miami residents, and Instructional Learning Assistants using Co-Requisite materials in Recitation Hall to improve mathematics competency in sequential courses.

Roger Blanco, Miami Dade College, Miami, Florida

Leandro Alvarez, Miami Dade College, Miami, Florida

OVER THIRTY YEARS OF TEACHING THROUGH OPEN PROBLEM ACTIVITIES: GOING DEEP WITH MATHEMATICS

11:00 AM–12:00 PM | Pacific 26 | Strand 6 | 6–8 Middle

This session focuses on teaching through open problem activities. Defined as sources of classroom activity devoted to the developing mathematical ideas, open problems refer to contextual situations involving multiple access points, methods/pathways, and solutions. Teaching through open problems is pivotal for fostering equity-based teaching practices. We will discuss the practice of “going deep with mathematics,” particularly around helping students to solve an open problem, unpack the embedded mathematics, and connect learning to prior and future knowledge.

Elizabeth Phillips, Michigan State University, East Lansing, Michigan

Alden Edson, Michigan State University, East Lansing, Michigan

Yvonne Grant, Portland Middle School, Portland, Michigan



MONDAY SESSIONS

BUT WHAT DOES IT REALLY LOOK LIKE?

11:00 AM–12:00 PM | Rancho Santa Fe 1 | Strand 1 | K–5 Elementary

In this interactive session, participants will learn how to implement an innovative coaching protocol—Visible Instructional Design (VID). VID encompasses intentional planning, task complexity, learning trajectories, and questioning to promote a reflective practice. Presenters will demonstrate the VID protocol in action using a model lesson. Participants will walk away knowing how to use the VID protocol to support teachers in knowing what implementation of intentional instructional design really looks like.

Connie Thomson, Northeastern Nevada Regional Professional Development Program, Elko, Nevada

Valerie Byrnes, Northeastern Nevada Professional Development Program, Elko, Nevada

HOW MIGHT WE RETHINK INTERVENTION?

11:00 AM–12:00 PM | Rancho Santa Fe 2 | Strand 4 | 6–8 Middle

Do you have students who struggle and need intervention? What is the answer? Pre-teach? Vocab drill? More practice? Join us to experience intervention redesigned; a course focusing on relationships, problem-solving, and enjoying mathematics. Experience activities to support students as they rebuild their mathematical identity and hear comments from student surveys.

Karen Wootton, CPM Educational Program, Elk Grove, California

HOW A MATHEMATICS LEADERSHIP TEAM'S FOCUS ON MAKING MATHEMATICS A PRIORITY IN ELEMENTARY CLASSROOMS CHANGED SCHOOL CULTURE ACROSS THE DISTRICT

11:00 AM–12:00 PM | Rancho Santa Fe 3 | Strand 5 | K–5 Elementary

How can leadership teams inspire teachers to make mathematics a priority? Learn how one district's framework for the implementation of an elementary Mathematics Leadership Team helped change school culture by strengthening the understanding and implementation of best practices in mathematics instruction. Learn how to create this framework to create a school culture that makes mathematics a priority instead of just another thing on a teacher's plate.

Desiree Harrison, Farmington Public Schools, Farmington, Michigan

Andrea Edwards, Farmington Public Schools, Farmington, Michigan

Colleen Stamm, Farmington Public Schools, Farmington, Michigan

WHAT DO WE DO NOW? LEADING IMPLEMENTATION OF INTENSIVE INTERVENTION FOR STUDENTS WITH SEVERE AND PERSISTENT MATHEMATICS LEARNING NEEDS

11:00 AM–12:00 PM | Temecula 1 | Strand 3 | 3–8 Upper Elementary/Middle

Despite the prevalence of Multi-Tiered Systems of Support (MTSS) in states' Elementary and Secondary Education Act (ESSA) plans, many schools continue to struggle to implement the most intensive level of MTSS, particularly in mathematics. Thus, this session will introduce participants to Data-Based Individualization (DBI), a validated process for providing intensive intervention in mathematics. The presenter will also address the critical role that school and district leaders play in ensuring successful implementation.

Sarah Arden, American Institutes for Research, Washington, District of Columbia

PRESIDENTS EXCHANGE—ASA

TEACHING AND ASSESSING STATISTICS WITH SIMULATION – ACCESSIBLE TO ALL STUDENTS

11:00 AM–12:00 PM | Temecula 2 | Strand 6 | General

Simulation, as a tool for teaching statistics at the school level, is greatly needed in the classroom. Simulation provides the opportunity to deliver challenging curricula to all students motivating conceptual understanding once only accessible to students with an advanced mathematical background. This session will investigate using simulation, modeling a statistical problem that traditionally has been approached only using mathematical theory. The session will also explore the use of simulation for assessment at grades 6–16 by utilizing past national high stakes exams to demonstrate ways teachers can evaluate student understanding of important statistical concepts.

Christine Franklin, American Statistical Association, Alexandria, Virginia

DESMO-FY YOUR MATHEMATICS LESSON: WHAT THE LATEST RESEARCH SHOWS ABOUT HOW TO BRIDGE THE ACHIEVEMENT GAP

11:00 AM–12:00 PM | Temecula 3 & 4 | Strand 6 | 6–12 Secondary

In this session, we will share the latest research in how using and creating Desmos activities helped to make a statistically significant impact for students, especially students of color. Case studies and ready to use example activities will be shared. Participants are encouraged to bring laptops to use in this interactive presentation.

Ivan Cheng, CSU Northridge, Northridge, California

Matthew Kim, Learn4Life, Lancaster, California

Jaspreet Sandha, LAUSD, Los Angeles, California



MONDAY SESSIONS

NCSM INITIATIVE: EQUITY AND ACCESS IN ACTION

11:00 AM–12:00 PM | Torrey Pines 1 | Strand 2 | General

The Equity and Access in Action initiative was established to build on past initiative's work of creating and promoting a common understanding around equity. After a brief overview of this new initiative, we'll explore, in conjunction with Eden Badertscher & others from the DEbT-M project, tools presented in the monograph. Our focus will be on how mathematics leaders can use tools to facilitate difficult but critical conversations about inequities in teaching and learning mathematics.

Cheryl Cantin, NCSM Canadian Regional Director, Magog, Quebec, Canada

Shelly Jones, NCSM Position Papers Editor, New Britain, Connecticut

Kathlan Latimer, NCSM W2 Regional Director, Suisun City, California

Steven Viktora, NCSM Nominations Chair, Winnetka, Illinois

Sue Vohrer, NCSM E2 Regional Director, Annapolis, Maryland

Irma Cruz-White, NCSM Awards Chair, Marianne, Florida

Eden Badertscher, Education Development Center, Inc., Waltham, Massachusetts

EQUITY, MATHEMATICS, AND MINDSET

11:00 AM–12:00 PM | Torrey Pines 2 | Strand 2 | General

This session will highlight some of Jo Boaler's work around growth mindset and equity in mathematics. During our time together, we will reflect on current beliefs, structures, and practices in our systems, experience mathematical tasks that incorporate effective strategies for increasing equitable access and outcomes for all students, consider relevant current research, engage in conversations with colleagues, and identify ways to bring reflective conversations about equitable practices into our work with others in our communities.

Jennifer Graziano, Sacramento City Unified School District, Sacramento, California

Stephen Arndt, Sacramento City Unified School District, Sacramento, California

Tim Hebert, Sacramento City Unified School District, Sacramento, California

Nova Katz, Sacramento City Unified School District, Sacramento, California

SPONSOR SHOWCASE

CHALLENGES AND OPPORTUNITIES IN 21ST CENTURY MATHEMATICS EDUCATION

11:00 AM–12:00 PM | Torrey Pines 3 | General

Join us for a hands-on discussion regarding the challenges facing 21st century mathematics education, the opportunities afforded today's students in this Third Industrial Revolution, and creative solutions for reaching and preparing more students for tomorrow's challenges.

Lawrence Korchnak, Matific, New York, New York

12:15 PM–1:15 PM

MONDAY LUNCHEON

IGNITE PRESENTATION

12:15 PM–1:15 PM | Grand Ballroom | Strand 0 | General



Join us for this fun, fast-paced, educational Ignite presentation. You will have some time to network with your peers, have a relaxing lunch followed by some educational tidbits through Ignite sessions. This will be a great addition to all the in-depth programs you will hear throughout the conference.

Connie Schrock, NCSM President, Emporia, Kansas

1:30 PM–2:30 PM

MAJOR PRESENTATION

FIVE (UN)PRODUCTIVE PRACTICES IN MATHEMATICS TEACHING

1:30 PM–2:30 PM | Pacific 21 | Strand 3 | General



Make sense of five ways teachers potentially undermine efforts to increase student achievement. These teaching practices are commonplace and often required by administrators. Many of them may have been generated from practices in English language arts (ELA) and might work very well in that content area. See why they are often unproductive when applied during mathematics instruction and generate a plan for what to do about them in your school or district.

Juli Dixon, University of Central Florida, Orlando, Florida
President, Cheryl Cantin, NCSM Canadian Regional Director, Magog, Quebec

SPOTLIGHT SPEAKER

EMBOLDEN YOUR INNER MATHEMATICIAN

1:30 PM–2:30 PM | Pacific 22 | Strand 6 | 3–5 Intermediate



How can we strengthen and deepen understanding, confidence, and efficacy in the learning and teaching of mathematics? We will discuss, sketch, and solve tasks that promote flexibility, critical reasoning, and problem solving. Learning mathematics should be anchored in depth of understanding and built on conceptual understanding as well as procedural fluency.

Jill Gough, Trinity School, Atlanta, Georgia
President, Mona Toncheff, NCSM President-Elect, Phoenix, Arizona



MONDAY SESSIONS

THE INTERSECTION OF MATHEMATICS AND COMPUTER SCIENCE IN PROJECT BASED EDUCATION

1:30 PM–2:30 PM | Pacific 14 | Strand 5 | General

Many schools are beginning to focus on using project-based education as a way for students to demonstrate their understanding. Yet many teachers struggle with how to fit grade-level mathematics concepts and computer science into these projects. This session will explore where these connections exist, and how coaches can support teachers with implementing high-quality, real-world activities including mathematics and computer science.

Renee Charette, Maine Math and Science Alliance, Augusta, Maine

WHO'S DOING THE WORK? SHIFTING THE COGNITIVE LIFT TO STUDENTS IN MATHEMATICS CLASS

1:30 PM–2:30 PM | Pacific 15 | Strand 1 | General

Learning mathematics requires students to think deeply and engage cognitively. Oftentimes, well-meaning teachers employ practices that take the “cognitive lift” out of students’ hands. In this session, consider tools for helping teachers identify when and how they might be creating this unintended outcome, and explore instructional practices and classroom resources that can be used to help shift the “cognitive lift” back to students. This session will be helpful for teachers, coaches, and mathematics specialists.

Joanie Funderburk, Illustrative Mathematics, Oro Valley, Arizona

PRESIDENTS EXCHANGE–TODOS

RESISTING THE CULTURE OF EXCLUSION

1:30 PM–2:30 PM | Pacific 16 | Strand 2 | General

Why is equity elusive? What is a culture of exclusion? What does equity in the classroom mean? What does it look like, sound like, and feel like? We will take some time to discuss characteristics, practices, actions, and data that resist the unintentional positioning of students as deficient, which impedes their access to rich and relevant learning.

Diana Ceja, Riverside County Office of Education, Riverside, California

GOING BEYOND DIAGNOSTIC: ACTING ON DATA FROM FORMATIVE ASSESSMENT PROBES

1:30 PM–2:30 PM | Pacific 17 | Strand 5 | 3–8 Upper Elementary/Middle

Teachers need diagnostic approaches for identifying students’ strengths and difficulties of concepts. Experience professional development activities that support teacher use of formative assessment probes—a powerful tool for collecting focused, actionable information about student thinking and potential misconceptions. Leave with a collection of probes and resources that support a teacher’s ability to move from diagnostic to formative use of the information gathered. Connections will be made to multiple teaching practices including establishing mathematics goals to focus learning.

Cheryl Tobey, Maine Department of Education, Augusta, Maine

MAKING WAVES WITH CHANGES IN ACCELERATION PRACTICES

1:30 PM–2:30 PM | Pacific 18 | Strand 2 | 6–12 Secondary

The implementation of rigorous and coherent mathematics standards, along with the expectation that mathematics education meets the needs every student, has caused a sea change in the use of acceleration practices. Learn how schools in one state shifted away from the “traditional” acceleration practice of skipping toward one of coherence. Participants will receive the white paper, communication tools, and the “blueprint” developed by the Kansas State Department of Education, to support changes in practices.

Sherri Martinie, Kansas State University, Manhattan, Kansas

Connie Schrock, Emporia State University, Emporia, Kansas

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

ROSS TAYLOR/GLENN GILBERT SPEAKER SERIES:

HIGH-LEVERAGE ACTIONS FOR MATHEMATICS EDUCATION LEADERS

1:30 PM–2:30 PM | Pacific 19 | Strand 6 | General



Learn about high-leverage actions—those that produce the greatest benefits for your efforts—to improve mathematics teaching and learning, and ensure that each and every student is mathematically prepared for his or her future. We will discuss the research that demonstrates the effectiveness

these actions and give practical suggestions for effectively implementing them in your setting.

Diane Briars, Consultant, Pittsburgh, Pennsylvania

President, Connie Schrock, NCSM President, Emporia, Kansas

IT TAKES MORE THAN A VILLAGE: ENGAGED PROFESSIONAL LEARNING TO PROMOTE MATH OUTCOMES FOR ALL STUDENTS USING EVIDENCE-BASED PRACTICES

1:30 PM–2:30 PM | Pacific 23 | Strand 2 | General

Evidence-based practices (EBPs) in mathematics exist, yet mathematics scores continue to remain stagnant for students with and at-risk for disabilities. How can we ensure teachers’ use of EBPs to improve mathematics outcomes? This session, intended for school and district leaders, will share strategies for supporting and sustaining mathematics teachers’ EBP implementation. We will discuss common pitfalls related to EBP implementation, and will share an observational tool that can be used to provide specific feedback.

Melinda Griffin, American Institutes for Research (AIR), Waltham, Massachusetts

Terri Marx, American Institutes for Research, Washington, District of Columbia

Jenna Richard, American Institutes for Research (AIR), Washington, District of Columbia



MONDAY SESSIONS

HELP TEACHERS DEVELOP GROWTH MINDSET IN STUDENTS TO INCREASE THEIR PERSEVERANCE, ENGAGEMENT AND SUCCESS IN MATHEMATICS

1:30 PM–2:30 PM | Pacific 24 | Strand 6 | 6–12 Secondary

Teachers now understand the principles of growth mindset, but what does it mean to teach with those principles? Come learn concrete examples to support your teachers and empower their students through proven mathematical planning and instruction techniques. We will also experience powerful strategies that change students' attitudes to maximize learning experiences; you will leave with activities to immediately bring back to your teachers.

Matthew Beyranevand, Chelmsford Public Schools, Chelmsford, Massachusetts

BUILDING TEACHERS' QUESTIONING EXPERTISE BY CALLING ATTENTION TO CHILDREN'S MATHEMATICAL IDEAS

1:30 PM–2:30 PM | Pacific 25 | Strand 2 | 3–5 Intermediate

Questioning that elicits and builds on children's diverse ways of reasoning is critical, yet challenging. Participants will engage with a research-based questioning framework and explore the strategic selection and use of video and written work to support the development of teachers' questioning expertise. We will also share tips for capitalizing on teachers' curiosity and children's partial understandings. Examples will focus on questioning children's fraction thinking, but the ideas are relevant for all mathematics instruction.

Vicki Jacobs, University of North Carolina at Greensboro, Greensboro, North Carolina

Susan Empson, University of Missouri, Columbia, Missouri

Dinah Brown, Del Mar Union School District, San Diego, California

COLLABORATIVE COACHING: HOW DO WE LEARN TOGETHER AS A TEAM?

1:30 PM–2:30 PM | Pacific 26 | Strand 1 | 3–8 Upper Elementary/Middle

Coaching is often seen as a one-on-one activity between a coach or administrator and a teacher. What if we also created activities that allow us to learn together as a team? Collaborative coaching tools that have been successful in K–8 schools, such as student interviews and mini-lesson studies, will be shared and discussed. The role of administrators, coaches, and teacher leaders in these teams will also be analyzed and explored.

Nicora Placa, Hunter College, New York, New York

GRANTS TO BUILD INNOVATION IN MATHEMATICS EDUCATION

1:30 PM–2:30 PM | Rancho Santa Fe 1 | Strand 4 | General

Do you want to improve your leadership, collaboration, and professional development in your schools? The Mathematics Education Trust (MET) provides grants, scholarships, and awards that support teachers, mathematics leaders, and mathematics researchers with funds for materials, lesson development, conferences, coursework, professional development, technology, in-service, and action research.

Suzanne Mitchell, Arkansas State University, Jonesboro, Arkansas

PEER COACHING COHORTS FOR TEACHERS: WHY THEY WORK AND GETTING ONE STARTED IN YOUR SCHOOL OR SCHOOL DISTRICT

1:30 PM–2:30 PM | Rancho Santa Fe 2 | Strand 3 | General

For districts to foster true teacher leadership and comprehensive professional learning, embedded non-evaluative peer feedback is a high-leverage strategy that fosters teacher growth, impacts instruction, and supports student success. Participants will learn from one instructional leader who has successfully implemented this model. Participants will hear from teachers who have participated in this model and collaborate with each other as to how they might implement peer coaching in their own district.

Daniel Greenberg, Boulder Valley School District, Boulder, Colorado

USING STUDENT QUESTIONS TO DETERMINE THE HEALTH OF A MATHEMATICS LEARNING ENVIRONMENT

1:30 PM–2:30 PM | Temecula 1 | Strand 6 | General

Students ask a variety of questions during mathematics lessons. Some questions focus on procedures or formal notation, while others focus on ideas, connections, or representations. Student questions are important as they provide vastly different learning opportunities for students. This session explores the types of questions students ask while learning mathematics and discusses how analyzing student questions can help teachers work towards promoting more conceptual and curious questions from students.

Melissa Kemmerle, University of Michigan, Ann Arbor, Michigan

PRESIDENTS EXCHANGE–SSMA

TASKS TO DEVELOP DEEP MATHEMATICAL UNDERSTANDING AND PROCEDURAL FLUENCY

1:30 PM–2:30 PM | Temecula 2 | Strand 5 | General

Developing deep mathematical understanding and procedural fluency is a goal and challenge for all teachers. This session will provide several ideas and tasks that can be utilized for professional development for teachers of all grade levels and by teachers in all grade level classrooms to help students develop deep mathematical understanding and procedural fluency.

Stacy Reeder, University of Oklahoma, Norman, Oklahoma

Juliana Utley, Oklahoma State University, Stillwater, Oklahoma



MONDAY SESSIONS

REINVENTING & REIMAGINING THE HIGH SCHOOL MATHEMATICS CLASSROOM

1:30 PM–2:30 PM | Temecula 3 & 4 | Strand 4 | 9–12 High School

Today, it seems as if nearly everyone agrees that mathematics (especially high school mathematics) needs to change. For far too long, mathematics has not worked for far too many students. Mathematics has not changed substantially in my lifetime, nor has it changed substantially for most students, teachers, and schools. It is clearly an issue—and it is time to discuss and make serious changes.

Eric Milou, Rowan University, Glassboro, New Jersey

COACHING TEACHERS TO ENGAGE EVERY STUDENT IN DISCOURSE AND SENSE-MAKING IN THE MATHEMATICS CLASSROOM

1:30 PM–2:30 PM | Torrey Pines 1 | Strand 1 | General

Are you a coach committed to helping teachers create reasoning-centered, discourse-rich classrooms in which each student is meaningfully engaged? Impactful coaching does not happen by chance, it happens by design. Learn about a coaching framework that empowers coaches and teachers to enact student engagement strategies that support students learning mathematics deeply, especially for diverse populations. Explore the framework and tools, critique them alongside your own process, and identify potential enhancements to your current coaching framework.

Danielle Seabold, Bold Educational Consulting LLC, Kalamazoo, Michigan

DESIGNING TEACHER STUDY GROUPS TO TRANSFORM SCHOOL CULTURE

1:30 PM–2:30 PM | Torrey Pines 2 | Strand 3 | K–5 Elementary

How can we sustain teachers' collective desire to study their practice across the school community? We will examine video case studies to analyze how teachers became the leaders of their own learning in developing the goals and action plan for studying their practice, which ultimately enhances the student learning in the classroom. Collectively, the teacher-designed study group along with the support of a coach and principal created opportunities for transforming school culture.

Renee McShane, Metamorphosis Teaching Learning Communities, New York, New York

Ellen McCrum, Metamorphosis Teaching Learning Communities, New York, New York

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

SPONSOR SHOWCASE

THE SCIENCE OF IMPLEMENTATION

1:30 PM–2:30 PM | Torrey Pines 3 | General

Choosing a good program is one thing; implementing it well is another. Learn about the data-driven science of implementation and structures for improving the implementation of your next program. What needs to happen at the district and building levels to maximize your chances of success? How can you partner with your provider most effectively?

Melinda Schwartz, ORIGO Education, Earth City, Missouri

2:45 PM–3:45 PM

MAJOR PRESENTATION

FIVE KEYS TO EQUITY IN STEM

2:45 PM–3:45 PM | Pacific 21 | Strand 2 | General



NCSM/NCTM's 2018 joint position statement on STEM raises important issues about equity. What steps can we take as leaders to ensure that every student has access to the benefits of STEM activities and programs? It starts with a commitment to ensure a strong mathematical foundation for each and

every one. Let's think together about how we can prepare all students to thrive in a STEM-rich world, regardless of the career path they choose.

Cathy Seeley, Speaker, Author, Consultant, Austin, Texas
President, Sue Vohrer, NCSM E2 Regional Director, Annapolis, Maryland

SPOTLIGHT SPEAKER

AVOIDING THE INEFFECTIVE KEY WORD STRATEGY!

2:45 PM–3:45 PM | Pacific 22 | Strand 6 | K–5 Elementary



Join us in a passionate conversation about avoiding the use of the ineffective Key Word strategy when solving word problems. In this session, we present five limitations that explain the reasoning why this strategy should be avoided.

We also share more than 10 effective strategies to use in place of ineffective and harmful Key Word strategies. Leave with a plan to eliminate the use of Key Words in your school or district.

Karen Karp, Johns Hopkins University, Baltimore, Maryland
Sarah Bush, University of Central Florida, Orlando, Florida
Barbara Dougherty, University of Hawaii, Honolulu, Hawaii
President, Shelly Jones, NCSM Position Paper Editor, New Britain, Connecticut



MONDAY SESSIONS

BUILDING COMMUNITY TO IMPROVE MATHEMATICS EDUCATION

2:45 PM–3:45 PM | Pacific 14 | Strand 3 | 6–12 Secondary

How do we get our message out? What is it about mathematics education we need to share? Come hear how one school district communicates with stakeholders—students, parents, teachers, and administrators. District-created documents like unit newsletters, pacing guides, mathematics messages, and year-at-a-glance will be shared. Participants will have an opportunity to create a mathematics message to take back and share with their districts.

Tammy Rudolph, Baltimore County Public Schools, Towson, Maryland

Maria Everett, Baltimore County Public Schools, Towson, Maryland

Christina Pirie, Baltimore County Public Schools, Towson, Maryland

Laura Potter, Baltimore County Public Schools, Towson, Maryland

Salli Waraksa, Baltimore County Public Schools, Towson, Maryland

THE LONG AND SHORT OF IT—PRIMARY NON-STANDARD MEASUREMENT

2:45 PM–3:45 PM | Pacific 15 | Strand 6 | PK–2 Primary

Journey with students as they experience and reason about non-standard measurement. Students engage in activities and participate in debrief discussions. Video cases and student work bring this presentation to life. Engage in discussions about activities, videos, and student work to address best practices, insights into students learning, and next steps, based on the trajectory of student learning and performance assessment results. Receive a Non-Standard Measurement unit of study to strengthen your own practice.

Tracy Sola, Silicon Valley Mathematics Initiative, Morgan Hill, California

DEVELOPING A POSITIVE ERROR-CLIMATE: ACTION STEPS FROM RESEARCH AND PRACTICE

2:45 PM–3:45 PM | Pacific 17 | Strand 6 | General

Researchers and practitioners both discuss the benefits of using errors as a learning tool in a mathematics classroom, albeit sometimes from different perspectives. Additionally, students' experiences and perceptions of using mathematical errors for learning may align or diverge from what teachers and leaders predict. Join us to help unify these perspectives towards the goal of developing a positive and productive error-climate for both teachers and students.

Karin Lange, Loyola University Chicago, Chicago, Illinois

Christina Barbieri, University of Delaware, Newark, Delaware

Julie Booth, Temple University, Philadelphia, Pennsylvania

Tim Fukawa-Connelly, Temple University, Philadelphia, Pennsylvania

NCSM PAST PRESIDENTS: SPEED CHATS FOR LEADERS AROUND CRITICAL CHALLENGES AND EFFECTIVE SOLUTIONS

2:45 PM–3:45 PM | Pacific 18 | Strand 3 | General

Join us for this fast-paced session as NCSM members and former NCSM presidents meet to explore critical leadership issues in a series of charged and engaging Speed Chats. The series of brief small group conversations will allow colleagues to discuss critical issues facing mathematics education today and to explore possible solutions to benefit leaders at all levels. This session is designed for new and experienced leaders alike!

John W. Staley, Baltimore County Public Schools, Towson, Maryland

Diane Briars, Consultant, Pittsburgh, Pennsylvania

Linda Gojak, Mathematics Consultant, Willowick, Ohio

Carole Greenes, Arizona State University, Tempe, Arizona

Timothy Kanold, Loyola University, Chicago, Illinois

Henry Kepner, University of Wisconsin, Milwaukee, Wisconsin

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

Valerie Mills, Independent Mathematics Education Consultant, Ypsilanti, Michigan

Suzanne Mitchell, Arkansas State University, Jonesboro, Arkansas

INTENTIONAL PLANNING IMPROVES INSTRUCTION

2:45 PM–3:45 PM | Pacific 19 | Strand 5 | 6–12 Secondary

Teachers need time to plan for instruction. In this session, I will share the process New Caney ISD has gone through to create an environment where planning for instruction is intentional and reflective. You will get to experience this process firsthand as we discuss the preplanning protocol, lesson planning guide and cycle, and our lesson planning template.

Brenda Lynch, New Caney ISD, New Caney, Texas

RECOMMENDATIONS FOR STATISTICS AND PROBABILITY IN THE SECONDARY CURRICULUM: IMPLICATIONS FOR TEACHER LEADERS

2:45 PM–3:45 PM | Pacific 23 | Strand 6 | 6–12 Secondary

NCTM's Catalyzing Change recommends essential statistical concepts that should be part of the curriculum for every high school graduate, building on the foundation laid in the middle grades. The challenge: statistics is very different from mathematics. What do teachers need to know to teach statistics well? How can we, as instructional leaders, help teachers learn this content and how to teach it?

Gail Burrill, Michigan State University, East Lansing, Michigan

Tom Dick, Oregon State University, Corvallis, Oregon



MONDAY SESSIONS

COACHING AND LEADING FOR COLLECTIVE EFFICACY: DEVELOPING THE IDEA THAT TOGETHER EDUCATORS CAN POWERFULLY IMPACT STUDENT OUTCOMES

2:45 PM–3:45 PM | Pacific 24 | Strand 3 | General

When a team of teachers share a belief that their collective actions can make a difference, student learning increases. This session will illustrate the importance and impact of collective teacher efficacy as well as methods for developing it within professional learning communities. We will share examples of how we have developed this collective belief in our own work as well as a roadmap for developing this collective belief in any school or teacher team.

Thomas Stricklin, Salem-Kiezer Public School, Salem, Oregon

Sharon Rendon, CPM Educational Program, Summerset, South Dakota

ENSURING HIGH-QUALITY MATHEMATICS INSTRUCTION FOR STUDENTS WITH SPECIAL NEEDS

2:45 PM–3:45 PM | Pacific 25 | Strand 2 | General

Providing high-quality mathematics instruction to ALL students means including those with special needs and IEPs, too! Join us as we share best practices for adapting common mathematics routines to support students with special needs and learning challenges and how administrators and leaders can guide the process for doing so. This session is appropriate for teachers and mathematics leaders of ALL grade levels.

Duane Habecker, Merced County Office of Education, Merced, California

Jamie Garner, Stanislaus County Office of Education, Modesto, California

NCSM INITIATIVE: COMMUNICATION EXCHANGE

2:45 PM–3:45 PM | Pacific 26 | Strand 0 | General

In this session, participants will learn how NCSM is creating the communication exchange to ensure the consistency and the quality of the initiatives and projects that will ultimately brand us as the premier mathematics education leadership organization.

Bernard Frost, Ed.D., NCSM S1 Regional Director, Chesnee, South Carolina

Natalie Crist, NCSM Web Editor, Towson, Maryland

REACHING 21ST CENTURY LEARNERS THROUGH A BLENDED LEARNING MODEL

2:45 PM–3:45 PM | Rancho Santa Fe 1 | Strand 4 | General

Join us as Texas Education Service Center Region 12 shares how we have redesigned professional learning to support mathematics teachers and instructional coaches from traditional professional development to a blended model. Find out how ESC 12 designed their instructional model to empower educators to take new tools and high-yield strategies and create relevant, collaborative and innovative experiences that engage learners. We will share our journey and the shifts in our thinking.

Andi Parr, ESC Region 12, Waco, Texas

Heather Plaisance, ESC Region 12, Waco, Texas

Denise Gilbert, CESC Region 12, Waco, Texas

Yvonne Williams, ESC Region 12, Waco, Texas

Arash Abnoussi, ESC Region 12, Waco, Texas

IMPLEMENTING A DISTRICT-WIDE PROBLEM SOLVING STRUCTURE: PERSPECTIVES, CHALLENGES, AND AFFORDANCES FROM ONE INTERNATIONAL SCHOOL

2:45 PM–3:45 PM | Rancho Santa Fe 2 | Strand 5 | General

Effectively implementing problem solving across K–12 classrooms poses many challenges, especially when the focus of learning mathematics typically centers on procedures. This session shares the process by which a team of mathematics leaders within one international school—including coaches, principals, and teachers—developed and implemented a K–12 problem solving structure to help students better understand what it means to be a mathematician and do mathematics through authentic problem solving experiences.

Cory Bennett, Idaho State University, Pocatello, Idaho

Kenneth Johnson, American United School of Kuwait, Kuwait City, Kuwait

Minette Lewis, American United School of Kuwait, Kuwait City, Kuwait

LEVERAGING PARTNERSHIPS TO CREATE OBSERVATIONS THAT ILLUMINATE EFFECTIVE MATHEMATICS TEACHING PRACTICES IN ELEMENTARY CLASSROOMS

2:45 PM–3:45 PM | Rancho Santa Fe 3 | Strand 1 | K–5 Elementary

How can we support teachers to envision the effective mathematics teaching practices within their own elementary classroom? Join us to discuss the ways a mathematics specialist, local school districts, and a university methods instructor partnered to create opportunities for preservice and inservice teachers to learn from an expert teacher/coach. We will share what components worked, video of the observations highlighting effective mathematics teaching practices, and teacher perception data.

Sarah Roller, University of Alabama in Huntsville, Huntsville, Alabama

Carrie Plank, University of Alabama in Huntsville/Alabama Math Science Technology Initiative (AMSTI), Huntsville, Alabama



MONDAY SESSIONS

LEARNING TO USE VISUAL MODELS TO MAKE CONNECTIONS FOR PROCEDURAL FLUENCY IN MULTIPLICATION THROUGH THE LENS OF A PLC

2:45 PM–3:45 PM | Temecula 2 | Strand 6 | 3–5 Intermediate

This hands-on session emphasizes the vital role of exploration using visual models and manipulatives to develop a foundation for procedural fluency with multiplication. A glimpse into the work of one district's professional learning community involving four diversely populated schools highlights the effects of teacher learning through the principles posed in Teaching Student-Centered Mathematics and Principles to Actions. Work samples and video clips illustrate the impact of using visual models on teacher and student learning.

Denise Porch, AMSTI-UAH, Huntsville, Alabama

HOW TO DEEPEN TEACHERS' MATHEMATICAL UNDERSTANDING, FACILITATE RICH STUDENT THINKING, AND IMPROVE ACHIEVEMENT BY LEVERAGING INTERACTIVE DIGITAL TECHNOLOGIES

2:45 PM–3:45 PM | Temecula 3 & 4 | Strand 6 | 3–8 Upper Elementary/Middle

Digital mathematics tools can provide rich opportunities to engage with mathematical concepts in ways that aren't possible without technology. Since many teachers didn't experience these tools when they were K–12 students, digital resources provide a unique new approach to improving mathematical knowledge for teaching while also helping teachers empathize with how students develop their own mathematical conceptions. Participants will explore free digital mathematics tools and hear research about their use in professional development models.

Tim Hudson, Chief Learning Officer, DreamBox Learning, Bellevue, Washington

PREPARING MATHEMATICAL THINKERS FOR THE FUTURE

2:45 PM–3:45 PM | Torrey Pines 1 | Strand 4 | 3–5 Intermediate

The World Economic Forum released the top 10 job skills people need to have by 2020 to be most successful. The number one skill is “complex problem solving.” In order for students today to be prepared to own these skills in the future, we have to encourage students to think critically. Come join us as we share ways to support teachers as they implement meaningful tasks to challenge students' thinking and deepen their learning.

Kit Norris, Consultant, Hudson, Massachusetts

Hilary Kreisberg, Lesley University, Cambridge, Massachusetts

ENGAGING STUDENTS AS PARTNERS IN PERSONALIZED LEARNING BASED ON LEARNING TRAJECTORIES

2:45 PM–3:45 PM | Torrey Pines 2 | Strand 5 | 6–8 Middle

Middle grade students are provided with timely and relevant feedback on current instruction based on their progress along learning trajectories; their teachers leverage the data to support them in focusing on what they know and what they still need to know. Their perspectives are shared through interview data and changes in the measures of socio-emotional learning. Examples are provided for multiple clusters of middle school content, including ratio, percent, and algebraic thinking.

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

Michael Belcher, North Carolina State University, Raleigh, North Carolina

SPONSOR SHOWCASE

BRIDGES INTERVENTION—DELIVERING CLEAR AND SYSTEMATIC INSTRUCTION

2:45 PM–3:45 PM | Torrey Pines 3 | K–5 Elementary

Searching for an effective K–5 intervention resource with built-in assessments and frequent progress monitoring? Discover how Bridges Intervention uses the power of visual models to reach struggling students. Organized by content rather than grade, each session includes warm-ups, teaching lessons and practice pages focused on the priority standards and practices.

Pia Hansen, Math Learning Center, Salem, Oregon

4:00 PM–5:00 PM

MAJOR PRESENTATION

TEACHING ON THE EDGE OF UNDERSTANDING AND AT THE SPEED OF LEARNING

4:00 PM–5:00 PM | Pacific 21 | Strand 6 | K–5 Elementary



There are many things to consider when we engage students in mathematics. Why do we choose one task over another, how do we know which ones work, and what drives our decision-making? The purposeful use and sequence of the right tasks can unlock what students know and inform our next move in the progression of learning.

Graham Fletcher, Self-Employed, McDonough, Georgia

President, Pat Baltzley, NCSM Marketing and eNews Editor, Gardiner, Montana



MONDAY SESSIONS

SPOTLIGHT SPEAKER

THE INTERSECTION OF CURRICULUM, INSTRUCTION, AND TECHNOLOGY: LESSONS LEARNED FROM IMPLEMENTING AND PILOTING ILLUSTRATIVE MATHEMATICS' CURRICULUM

4:00 PM–5:00 PM | Pacific 22 | Strand 5 | 9–12 High School



We talk about how curriculum, instruction, and technology should work together to meet the need of all learners. But what does this look like in a secondary classroom? How does a problem-based curriculum provide authentic opportunities for students to use technology tools? With Bill

McCallum of Illustrative Mathematics, Corrine Williams of Evergreen Public Schools, and Eric Westendorf of LearnZillion, our panel will bring the lenses of mathematics, instructional leadership, and technology to examine these questions.

William McCallum, Illustrative Mathematics, Tucson, Arizona
Presider, Nanci Smith, Affiliate Group Chair, Peoria, Arizona

BUILDING REASONING THROUGH ADDITION STRUCTURES AND STRATEGIES FROM KINDERGARTEN THROUGH HIGH SCHOOL

4:00 PM–5:00 PM | Pacific 14 | Strand 6 | General

Can your teachers recognize and build from students' earliest experiences with structures and strategies related to addition? Understanding where students are coming from and where they are going allows educators to provide multiple access points to increase all students' conceptual understandings. Come explore tasks from kindergarten through high school you can use with your teachers to engage them in meaningful discourse about students' overall mathematical development. Let's quit leaving their prior knowledge at the door.

Janet Tomlinson, Carnegie Learning, Pittsburgh, Pennsylvania
Stephanie Doran, Discovery School, Jacksonville Beach, Florida

BRIDGING THE GAP FRAMEWORK: WHEN A YEAR'S GROWTH IS NOT ENOUGH

4:00 PM–5:00 PM | Pacific 15 | Strand 5 | PK–2 Primary

In order to improve students' application of the concepts and skills relating to Number and Operations in Base Ten and Operations in Algebraic Thinking, participants will learn how to bridge the mathematical gap between early elementary and middle elementary grades. This framework will address K–2 skills that directly impact students' mathematical foundation throughout their elementary school years.

Jennifer Towles, AMSTI University of Montevallo, Pelham, Alabama

Mindy Cooper, AMSTI University of Montevallo, Pelham, Alabama

Kimberly Davis, AMSTI University of Montevallo, Pelham, Alabama

Ashley Tilley, AMSTI University of Montevallo, Pelham, Alabama

MATH WORKSHOP: DEVELOPING MATHEMATICAL KNOWLEDGE THROUGH GUIDED MATH, LEARNING STATIONS, STUDENT REFLECTION, AND MORE

4:00 PM–5:00 PM | Pacific 16 | Strand 6 | K–5 Elementary

Participants will learn about the different structures of mathematics workshop and explore ways to increase student engagement and decrease mathematics anxiety. Come learn tips to begin and maintain this successful model that creates a classroom environment that includes deep discourse, meaningful learning stations, rich problem-solving tasks, and guided mathematics. You will learn how valuable a mathematics workshop can be for teachers and students and learn how to start a mathematics workshop in your school/school system.

Jennifer Lempp, Fairfax County Public Schools, Fairfax, Virginia

THE COMMON CORE AT NINE YEARS: AN ANALYSIS

4:00 PM–5:00 PM | Pacific 17 | Strand 3 | General

The Common Core was designed in 2010 to improve student performance by focusing on fewer topics each year, having clear standards for each topic, and testing on these standards each year. Yet, as of this writing, there has been little or no improvement of student performance even on Common Core tests, and no improvement overall on the 4th, 8th, or 12th grade NAEP. Reasons for the lack of substantial improvement provide guidance for future efforts.

Zalman Usiskin, University of Chicago, Chicago, Illinois

NCSM SITUATIONS: USING CLASSROOM-BASED SCENARIOS TO BUILD MATHEMATICAL KNOWLEDGE FOR TEACHING

4:00 PM–5:00 PM | Pacific 18 | Strand 6 | 6–12 Secondary

Daily, teachers use their mathematical knowledge to ask purposeful questions, facilitate discussions, explain ideas, generate examples, create counter-examples, and more. How can we develop this mathematical knowledge for teaching? In this session, participants will explore ready-to-use professional development cases from the NCSM Facilitator's Guidebook for Use of Mathematics Situations in Professional Learning. Cases build on authentic secondary mathematics classroom episodes. Implications for design of similar learning experiences for teachers in your setting will be discussed.

M. Kathleen Heid, Pennsylvania State University, University Park, Pennsylvania

Diane Briars, Consultant, Pittsburgh, Pennsylvania

Suzanne Mitchell, Arkansas State University, Jonesboro, Arkansas

Steven Viktora, New Trier Township High School, Winnetka, Illinois

Rose Mary Zbiek, Pennsylvania State University, University Park, Pennsylvania



MONDAY SESSIONS

FORGET THE RIPPLE, MAKE A WAVE: USING EQUITY COMMENTARY IN HIGH-QUALITY LESSON STUDY

4:00 PM–5:00 PM | Pacific 19 | Strand 2 | General

In this session, we will look at a lesson study protocol, focused on excellence and equity in mathematics, developed by a statewide lesson study network improvement community. The addition of an equity commentator has been crucial in helping lesson study groups take actionable steps in improving their practice. We will delve deeply into the development of the role of an equity commentator by watching video and rehearsing commentary.

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

Joan Easterday, California Mathematics Project, Santa Rosa, California

Brent Jackson, Michigan State University, East Lansing, Michigan

MEETING

NCSM REGIONAL DIRECTORS AND REGIONAL TEAM LEADERS MEETING

4:00 PM–5:00 PM | Pacific 23 | General

This meeting of the appointed NCSM Regional Team Leaders and NCSM Regional Directors will focus on preparing for the Caucus meetings, developing collective knowledge about the potential roles and influence of Team Leaders, and planning for regional initiatives with individual Regional Directors.

Paul D. Gray, Jr., NCSM S2 Regional Director, Dallas, Texas

A FORMER MATH HATER'S STRATEGIES FOR COACHING TEACHERS WITH MATH ANXIETY

4:00 PM–5:00 PM | Pacific 24 | Strand 1 | General

How do mathematics coaches distinguish between teachers' resistance to changing teaching styles and having mathematics anxiety? Can middle and high school teachers who are content specialists still have mathematics anxiety? This session will explore research and stories from the field on teacher mathematics anxiety. The presenter, a former mathematics hater, will share research-based strategies and experiences from working with teachers that can be utilized by mathematics coaches and administrators.

Heidi Sabnani, Looney Math Consulting, North Easton, Massachusetts

Susan Looney, Looney Math Consulting, North Easton, Massachusetts

BUILDING PRECISE MATHEMATICAL LANGUAGE THROUGH ROUTINES

4:00 PM–5:00 PM | Pacific 25 | Strand 6 | 3–8 Upper Elementary/Middle

How do we support students in our mathematics classes who say nothing because they are afraid they won't say the perfect thing? Mathematics Language Routines (MLR) provide opportunities and scaffolding for all students to engage in meaningful discussions by intentionally and systematically developing the language of mathematics. Experience MLRs and see them in action in classrooms as we explore how to build students' precision by honoring and amplifying their emerging language and ideas.

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

DETRACKING MATHEMATICS MEETUP

4:00 PM–5:00 PM | Pacific 26 | Strand 2 | General

Network and learn with educators who are interested in, and/or committed to, de-tracking and the elimination of ability grouping in mathematics education. This interactive gathering will include a basic discussion of research and trends in the field and time to share and learn practical strategies you can use in your district, campus, and community. Bring your ideas and questions! We provide a structure for participation and conversation. Leave with inspiration, fresh ideas, and new collaborators.

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

Luis Lima, CenterPoint Education Solutions, Washington, District of Columbia

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

Sherri Jones, Charles A. Dana Center, Austin, Texas

COACHING TEACHERS THROUGH THE PROCESS OF SECONDARY MATHEMATICS VERTICAL ARTICULATION

4:00 PM–5:00 PM | Rancho Santa Fe 1 | Strand 6 | 6–12 Secondary

Do teachers look to you for guidance on which standards, topics, or depth they should be teaching? How much would your teachers benefit from learning how to work collaboratively to make these decisions as a team? In this session, we will explore ways to develop teacher teams' abilities to interpret and vertically articulate the CCSSM standards.

Cassie Sisemore, Visalia Unified School District, Visalia, California

Breanne Phillips, Visalia Unified School District, Visalia, California

Laurie Duerksen, Visalia Unified School District, Visalia, California



MONDAY SESSIONS

COACHING TEACHERS TO USE PHOTOGRAPHS AND LEARNING PROGRESSIONS AS FORMATIVE ASSESSMENT TOOLS

4:00 PM–5:00 PM | Rancho Santa Fe 2 | Strand 1 | PK–2 Primary

How can we help teachers capture evidence of children's mathematical thinking and use it as a formative assessment tool? Cameras, which are readily available, can enable teachers to document young children's mathematical thinking/actions in photographs. In this session, we will discuss how to coach teachers to gather evidence with photographs, assess photographs with a learning progression to make sense of children's thinking, and make responsive instructional decisions for moving children's mathematical thinking forward.

Katherine Marin, Stonehill College, Easton, Massachusetts

Elizabeth Petit Cunningham, University of Michigan-Flint, Flint, Michigan

Sarah Roller, University of Alabama in Huntsville, Huntsville, Alabama

WHAT'S IN IT FOR ME? DIFFERENTIATING PROFESSIONAL DEVELOPMENT FOR ADULT LEARNERS

4:00 PM–5:00 PM | Rancho Santa Fe 3 | Strand 4 | General

We expect classroom teachers to differentiate in their classrooms, but when they attend professional development it is often a one-size-fits-all approach. Come experience one method that allows for differentiation for teachers, which also can be applied in their classrooms.

Rachel Muren, UChicago STEM Education, Chicago, Illinois

Jean Capper, UChicago STEM Education, Chicago, Illinois

Alison Whittington, UChicago STEM Education, Chicago, Illinois

PRESIDENTS EXCHANGE–AMATYC

PROBABILITY, STATISTICS, AND SOCIAL JUSTICE

4:00 PM–5:00 PM | Temecula 2 | Strand 2 | General

Several national reports and standards documents recommend a greater attention to the use of real data, mathematical modeling, and appropriate use of technology in the mathematics classroom. Several social justice topics linked to statistics and probability concepts will be shared.

James Ham, Delta College, University Center, Michigan

WHAT STRATEGY DID YOU USE?: HOW TO HELP STUDENTS DEVELOP A RELATIONSHIP WITH MATHEMATICAL STRATEGIES TO ADVANCE THEIR OWN LEARNING

4:00 PM–5:00 PM | Temecula 3 & 4 | Strand 1 | K–5 Elementary

While analyzing student work, our teachers came to the realization that students were using inefficient strategies to solve problems and struggling to apply efficient strategies. In the past, we used assessment scores to determine whether a student was on track, but we were not getting to the heart of the problem. This presentation explores how we moved to using operations-based micro-progressions to develop strategic discourse about student work with teachers and students to advance learning.

Sarah Dziak-Swanton, South-Western City Schools, Grove City, Ohio

HAVE YOU EVER WANTED TO SUBMIT AN ARTICLE FOR THE NCSM JOURNAL?

4:00 PM–5:00 PM | Torrey Pines 1 | Strand 0 | General

Join NCSM's Journal Editor, Carolyn Briles as she discusses tips for submitting articles for our Journal. You will learn the things that the editors look for in accepting articles to assist in your article being accepted for publication. Our Editor will answer any of your questions you may have in the submission, review and acceptance process.

Carolyn Briles, NCSM Journal Editor, Leesburg, Virginia

MEANINGFUL MATHEMATICAL TASKS FOR TEACHER DEVELOPMENT

4:00 PM–5:00 PM | Torrey Pines 2 | Strand 6 | College

This presentation shares five tasks designed to increase the mathematical understanding of PK–8 mathematics teachers. Through these tasks, teachers develop their Strands of Mathematical Proficiency (NRC, 2001) so they are more equipped to support students' mathematical identities (Aguirre, Mayfield-Ingram, & Martin, 2013). Teachers engage in the Standards for Mathematical Practice, preparing them to lead their learners in deep mathematical exploration through implementing teaching practices to support high-quality mathematics education for all students (NCTM, 2014).

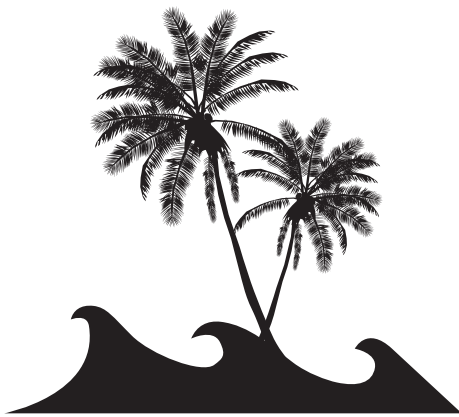
Kimberly White, Carroll University, Waukesha, Wisconsin

Nathan Rosin, Sun Prairie Area School District, Sun Prairie, Wisconsin





Balboa Park in San Diego



PROGRAM SUMMARY INFORMATION
TUESDAY, APRIL 2

See page 5 for Conference Strand descriptions.

TUESDAY SUMMARY

Grand Ballroom	7:00 AM–8:00 AM	12:15 PM–2:00 PM	Pacific 22	4:30 PM–5:00 PM	Marriott Grand Ballroom Terrace	5:30 PM–7:00 PM
	TUESDAY BREAKFAST	<p>Juanita “Nita” Copley, Ph.D Mathematics-Generated Waves: Attributes of “Constructive Interference” Leadership Grand Ballroom General</p>		TUESDAY LUNCHEON		MEETING
		<p>Peter Balyta, Maria Everett, Linda Griffith, Daniel Ilaria, Connie Schrock Your Role in Making Waves Grand Ballroom Strand 5 General</p>		<p>Connie Schrock, Linda Griffith NCSM Annual Business Meeting and State of the Organization Report Pacific 22 Strand 0 General</p>		<p>Sponsored by: McGraw-Hill Education Marriott Grand Ballroom Terrace General</p>

Pacific 21	8:15 AM–9:15 AM	10:00 AM–11:00 AM	11:15 AM–12:15 PM	2:15 PM–3:15 PM	3:30 PM–4:15 PM
	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	
	<p>Francis Su The Importance of Play in Mathematics Education Pacific 21 Strand 6 General</p>	<p>Connie Schrock Dive Deep Into the Waves—Strengths-Based Leadership for Teachers Pacific 21 Strand 5 General</p>	<p>Lou Ann Lovin Transform Your Work with Students Who Struggle to Learn Mathematics Pacific 21 Strand 5 General</p>	<p>Steve Leinwand Great Math Leaders as Rebels with a Cause for Students Pacific 21 Strand 4 General</p>	
Pacific 22	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	KAY GILLILAND EQUITY LECTURE:	SPOTLIGHT SPEAKER	CAUCUS
	<p>Maggie McGatha, Jennifer Bay-Williams Coaching with and for Effective Questioning Pacific 22 Strand 1 General</p>	<p>Christina Lincoln-Moore Talk Number to Me: Mathematics & Mindfulness Pacific 22 Strand 2 General</p>	<p>Linda Fulmore Mathematics Leaders ‘Answering the Call’ for Educational Change Pacific 22 Strand 2 General</p>	<p>Timothy Kanold Powerful Mathematics Leadership Axioms: Teamwork and Community! Pacific 22 Strand 3 General</p>	<p>Kathleen Rieke NCSM Regional Caucus: International Pacific 22 General</p>
Pacific 14	<p>Linda Gojak Supporting Teachers in Using Purposeful Questions to Promote Meaningful Discourse Pacific 14 Strand 1 K–5 Elementary</p>	<p>Cynthia Carson, Jennifer Kruger, Genie Foster Designing Online Professional Learning (OPL) Opportunities to Capitalize on Teacher Engagement Through Collaborative Learning Pacific 14 Strand 4 General</p>	<p>Sarah Ives, Jennifer Graziano, Diana Holland, Suzie Craig Early Assessment Program (EAP) Senior Math Courses: Realizing Solutions and Student Success Through a Collective Impact Model Pacific 14 Strand 5 9–12 High School</p>	<p>Brenda Strassfeld, Sridhar Nagubandi Students with Mathematics Learning Disabilities Should Have Access to Quality Mathematics Instruction Pacific 14 Strand 2 General</p>	CAUCUS
					<p>Cheryl Cantin NCSM Regional Caucus: Canadian Region/Région Canadienne/International Pacific 14 General</p>
Pacific 15	Bill Barnes, Mona Toncheff NCSM: Administrator Kick-Off Pacific 15 Strand 0 General	Barbara Beske, Jason Zimba The Tool You’ve Been Waiting For is Here! The Brand New High School Coherence Map Pacific 15 Strand 6 General	Judith Campbell, Chi Quach, Tanya Tabic Lessons Learned: Reflections on Math Intervention K–2 Pacific 15 Strand 5 PK–2 Primary	Karen Reinhardt, Nicole Cirino, Heather Beasley, Jason Brasel Practice-Based Teacher Professional Development: Supporting Teachers to Practice and Refine Specific Mathematics Teaching Strategies in a Workshop Setting Pacific 15 Strand 1 K–5 Elementary	CAUCUS
					<p>Sharon Rendon NCSM Regional Caucus: Central Region 2 Pacific 15 General</p>
Pacific 16	Melissa Canham, Glenda Martinez, Julie Yearsley Bridging the Gap Between Professional Learning and the Classroom Pacific 16 Strand 5 K–5 Elementary	Dina Mendola, Marria Carrington When Teachers Believe, Students Achieve: Facilitation and Coaching Strategies to Improve and Ignite a Passion for Learning Pacific 16 Strand 2 General	Lori Ramsey, Sandra Coulson Strategic + Planning + Session = Success Pacific 16 Strand 3 K–5 Elementary	Shelley Carranza Online Communities of Teachers That Work Pacific 16 Strand 4 General	CAUCUS
					<p>Bernard Frost, Ed.D NCSM Regional Caucus: Southern Region 1 Pacific 16 General</p>



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Pacific 17	8:15 AM–9:15 AM	10:00 AM–11:00 AM	11:15 AM–12:15 PM	2:15 PM–3:15 PM	3:30 PM–4:15 PM
	Stephanie Fisher, Lynn Smith Making the Right Choice (Now That You Have One), K–8 Mathematics Pacific 17 Strand 3 General	Cathy Bruce, Tara Flynn Leading Collaboratively: Mathematics Professional Learning for Principals Pacific 17 Strand 3 General	Nancy Anderson, Carrie Ferrin, Doana Marcellus, Melissa Vazquez Avoiding Hidden Hazards on the Road to More Equitable Math Classes Pacific 17 Strand 2 6–8 Middle	Sarah Bush, Kristin Cook Authentic STEAM Instruction to Support and Challenge Each and Every Learner Pacific 17 Strand 2 K–5 Elementary	CAUCUS Shawn Towle NCSM Regional Caucus: Eastern Region 1 Pacific 17 General
Pacific 18	Sarah Burns, Debbie Leslie, Andy Isaacs Coaching For Equity: Research-Based Approaches to Supporting High-Quality Math Content and Instruction for All Students Pacific 18 Strand 2 General		PRESIDENTS EXCHANGE–NCTM Robert Q. Berry, III Unpacking Policy Documents to Advocate for Mathematics Teaching and Learning Pacific 18 General	Susan Resnick, Kara Marks Coaching for Access: Special Needs and Mathematics Pacific 18 Strand 2 K–5 Elementary	CAUCUS Paul D. Gray, Jr. NCSM Regional Caucus: Southern Region 2 Pacific 18 General
		Nanci Smith, Lori Everson Coaching: A Powerful Wave to Move Teachers Pacific 19 Strand 1 PK–2 Primary	Shelly Pine, Justin Maffei, Cynthia Cooper, Kathleen Morris, Deborah Crawford School Mathematics Leadership Team Creation Pacific 19 Strand 3 K–5 Elementary	Mary Davis, Denise Thornton Harness the Waves of Change with Innovation Configuration Maps (Elementary) Pacific 19 Strand 1 K–5 Elementary	CAUCUS Kathlan Latimer NCSM Regional Caucus: Western Region 2 Pacific 19 General
Pacific 23	Heidi Fessenden, Michelle Sirois The Power of Teacher-Led Professional Development in Mathematics Pacific 23 Strand 3 3–8 Upper Elementary/Middle	Rachel Lambert Countering Deficit Mythologies About the Mathematical Potential of Students with Learning Disabilities Pacific 23 Strand 2 General	Lauren Johnson, Thomasenia Adams, Edward Nolan, Juli Dixon, Gabriel Ward, Brian Mahaffey, Judy Fancher How To M.O.V.E. Your Team Pacific 23 Strand 1 General	Dina Mendola Developing Teacher Leadership for Transformative Results to Ensure Innovation Lasts Pacific 23 Strand 3 General	CAUCUS John W. Staley NCSM Past President Caucus Pacific 23 General
	Emma Trevino, Sarah Gleason, Kawthar Duncan, Jennifer Hein deMause, Lizzy Hull Barnes Shifting Our Mindsets: Supporting Students with IEPs (Individualized Education Plans) to Access Rigorous Mathematics in San Francisco Pacific 24 Strand 2 General	Susan Loveless Raise the Ceiling, Lower the Floor: Teaching Problem Solving for ALL Students Pacific 24 Strand 6 K–5 Elementary	Johannah Nikula, Peter Tierney-Fife Investigating the Use of Videoconferences, Interactive Applets, and Screencasts in Blended Professional Development for Mathematics Teachers of English Learners Pacific 24 Strand 4 3–8 Upper Elementary/Middle	Carrie Plank, Linda D’Antonio Supporting Learning for English Language Learners=Learning Gains for All Pacific 24 Strand 5 K–5 Elementary	CAUCUS Sue Vohrer NCSM Regional Caucus: Eastern Region 2 Pacific 24 General
Pacific 25	Tim Truitt, Phil Daro Developing Conceptual Understanding for High School Students Pacific 25 Strand 6 6–12 Secondary	Molly Daley, Christopher Danielson, Chris Nho Bias Toward Action: Designing Collaboration for Impact Pacific 25 Strand 4 General	Patricia Rogers Learning to Listen: Supporting Elementary Preservice Candidates in Building Capacity for Effective Use of Number Talks Pacific 25 Strand 6 General	Claire Gogolen, Samantha R. Booth, Jackie Kearney MQI Coaching and Task Cognitive Demand: Coaching for Increased Cognitive Demand by Focusing on Implementation Over Materials Pacific 25 Strand 1 General	CAUCUS Jason Gauthier NCSM Regional Caucus: Central Region 1 Pacific 25 General



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Pacific 26	8:15 AM–9:15 AM	10:00 AM–11:00 AM	11:15 AM–12:15 PM	2:15 PM–3:15 PM	3:30 PM–4:15 PM
	<p>Lisa Scott, David Erickson Impacting Student Learning Through a Proven Integrated, Interdisciplinary High School Mathematics Program Pacific 26 Strand 5 9–12 High School</p>	<p>Jere Confrey, Meetal Shah Leveraging Learning Trajectories to Drive Data Discussions in Professional Learning Communities Pacific 26 Strand 6 6–8 Middle</p>	<p>Stacey Benuzzi, Jay Camerino From Mathematics Coach to Mathematics Assistant Principal: An Innovative Position Building Collective Capacity of Site Administrators and Teachers Through Collaboration Pacific 26 Strand 3 General</p>	<p>Jennifer Wilson Leading Learners to Level Up: Establishing and Using Goals to Focus Learning Pacific 26 Strand 5 General</p>	CAUCUS
Rancho Santa Fe 1	<p>Marc Garneau What Do They Know and What Can they Do: Digging Deeper into Assessment Rancho Santa Fe 1 Strand 6 6–12 Secondary</p>	<p>Susie Katt #Mathematics Moments that Matter Rancho Santa Fe 1 Strand 3 PK–2 Primary</p>	<p>Amanda Jansen “We are all Works-in-Progress”: Using Rough Draft Thinking for Students to Revise Mathematical Thinking and for Teachers to Revise Instruction Rancho Santa Fe 1 Strand 5 General</p>	<p>Pamela Nathan, Charlene Marchese Empowering Collaboration via a Structural, Practical, and Philosophical Framework for Schools Rancho Santa Fe 1 Strand 3 6–8 Middle</p>	Denise Trakas NCSM Regional Caucus: Western Region 1 Pacific 26 General
	<p>Ryan Timmons, Michael Greenlee Engaging the Online Learner: Adding Productive Struggle to Online Professional Learning Rancho Santa Fe 2 Strand 4 General</p>	<p>Penny Smits, Ilene Kanoff Growth Mindset and Mistakes: Opportunities to Increase Student Learning Rancho Santa Fe 2 Strand 5 6–8 Middle</p>	<p>Sarah Schuhl, Mona Toncheff We Gave the Test—Now What? Rancho Santa Fe 2 Strand 3 General</p>	<p>Audrey Mendivil, Mark Alcorn Leading Mathematics: A Professional Learning Design for Administrators Supporting High-Quality Mathematics Instruction Rancho Santa Fe 2 Strand 1 General</p>	
Rancho Santa Fe 3	<p>Lisa Bush, Le Vada Gray Sense Making—The Gateway to Access, Equity, and Empowerment Rancho Santa Fe 3 Strand 2 General</p>	<p>Nicholas Kochmanski, Emily Kern, Jessica Slayton, Tyrunya Goodwin, Paul Cobb Designing Mathematics Coach Professional Development to Support Improvements in the Quality of One-on-One Coaching Rancho Santa Fe 3 Strand 1 6–8 Middle</p>	<p>Delise Andrews, Beth Kobett Coaching Toward Common Ground: Creating a Shared Vision and Growing Professionally as a Team Rancho Santa Fe 3 Strand 3 General</p>		
	<p>Shelly Jones, Lou Matthews, Yolanda Parker Making Waves in Mathematics Education Using the Culturally Relevant Cognitively Demanding Mathematics Task Rubric to Analyze Classroom Lessons Temecula 1 Strand 2 General</p>	<p>Victoria Peacock All Means All: Teaching Math to English Language Learners From All Over the World Temecula 1 Strand 2 General</p>	<p>Bruce Grip The Spy Listening Device and the Beautiful Practical Geometry of Parabolas Temecula 1 Strand 6 9–12 High School</p>	<p>Margaret Pligge, Joanne Baker, Nancy Mueller What Counts as Evidence of Student Learning? Temecula 1 Strand 6 K–5 Elementary</p>	
Temecula 2	<p>Jill Gough Leading Learners to Level Up: Deepening Understanding of Mathematical Practices Temecula 2 Strand 6 6–8 Middle</p>	<p>Tom Reardon Climate Change—Model Mathematically Data From the Climate Reality Project Leadership Training with Al Gore (An Inconvenient Truth) Temecula 2 Strand 5 6–12 Secondary</p>	<p>Rusty Anderson, Andrew Smith, Marcus Deja Building a Meaningful Professional Mathematics Community: From Authentic Learning to Change in Practice Temecula 2 Strand 3 General</p>	<p>Travis Lemon What Does it Mean to Take a Transformational Perspective with Secondary Geometry? Helping Teachers Understand this Approach Temecula 2 Strand 6 6–12 Secondary</p>	



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Grand Ballroom	7:00 AM–8:00 AM	12:15 PM–2:00 PM	Pacific 22	4:30 PM–5:00 PM	Marriott Grand Ballroom Terrace
	TUESDAY BREAKFAST	Juanita “Nita” Copley, Ph.D Mathematics-Generated Waves: Attributes of “Constructive Interference” Leadership Grand Ballroom General		TUESDAY LUNCHEON Peter Balyta, Maria Everett, Linda Griffith, Daniel Ilaria, Connie Schrock Your Role in Making Waves Grand Ballroom Strand 5 General	

Temecula 3 & 4	8:15 AM–9:15 AM	10:00 AM–11:00 AM	11:15 AM–12:15 PM	2:15 PM–3:15 PM	3:30 PM–4:15 PM	
	Linda Griffith, Kyle Atkin, Linda Antinone Teaching Strategies for Success in a Mathematics Classroom Temecula 3 & 4 Strand 6 6–12 Secondary		Shelbi Cole, Kristin Gray, Marni Greenstein Coaching for Content: The Top 3 Elementary Math Topics That Must be Taught Differently Temecula 3 & 4 Strand 6 K–5 Elementary	Nataliya Paquette, Melissa Eastwood, Sonja Kuokkanen, Donna Sorila Coaching in the Moment: A Deep-Dive into the Day-to-Day Temecula 3 & 4 Strand 1 General		
Torrey Pines 1	Leslie Johnson, Laura Potter Keeping Pace... Collaborative Planning for Effective Instruction Torrey Pines 1 Strand 3 6–12 Secondary	Jody Guarino, Kristin Gray Coach Using Purposeful Math Routines from Illustrative Mathematics K–5 Curriculum Torrey Pines 1 Strand 1 K–5 Elementary	Matt McLeod, Babette Moeller, Eden Badertscher Equity and Access for All: A Tale of Two Studies Torrey Pines 1 Strand 2 General	Mary Jo Tavormina, Kathleen Pitvorec On-Site and Online: Designing Experiences to Prepare Elementary Mathematics Specialists Using a Blended Model Torrey Pines 1 Strand 4 College		
Torrey Pines 2	Larry Sizemore, Jennifer Hilberg, Nikki Snier Deconstructing Reasoning: Leveraging Its Multifaceted Nature to Build Student Proficiency Torrey Pines 2 Strand 6 3–5 Intermediate	Hilary Kreisberg Move Over Pedagogy—It’s Time to Get Andragogical Torrey Pines 2 Strand 1 General	Billie Mathews Solving Language Barriers by Solving Mathematical Word Problems Torrey Pines 2 Strand 6 3–8 Upper Elementary/Middle	Chris Shore We Have Already Built the Wall... In and Between Our Schools Torrey Pines 2 Strand 2 General		
Torrey Pines 3	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE		
	Beth Minor The Future of Mathematics Curriculum Torrey Pines 3 General	Daniel Ilaria, Curtis Brown Promoting Productive Struggle in the Math Classroom Torrey Pines 3 General	Nigel Nisbet Paradigm Shift: Changing the Culture of Mathematics and Learning in Schools Torrey Pines 3 General	Jeff Crawford Ensuring Equity with LearnZillion’s Publication of the Illustrative Mathematics 6–8 Math Curriculum Torrey Pines 3 6–8 Middle		



TUESDAY SESSIONS BY STRAND

STRAND 0: NCSM BUSINESS

LEVEL	LOCATION	TIME
CAUCUS	PACIFIC 14	3:30-4:15
CAUCUS	PACIFIC 15	3:30-4:15
CAUCUS	PACIFIC 16	3:30-4:15
CAUCUS	PACIFIC 17	3:30-4:15
CAUCUS	PACIFIC 18	3:30-4:15
CAUCUS	PACIFIC 19	3:30-4:15
CAUCUS	PACIFIC 22	3:30-4:15
CAUCUS	PACIFIC 23	3:30-4:15
CAUCUS	PACIFIC 24	3:30-4:15
CAUCUS	PACIFIC 25	3:30-4:15
CAUCUS	PACIFIC 26	3:30-4:15

STRAND 1: VISIONARY COACHING PRACTICES

LEVEL	LOCATION	TIME
GEN	PACIFIC 22	8:15-9:15
K-5	PACIFIC 14	8:15-9:15
PK-2	PACIFIC 19	10:00-11:00
6-8	RANCHO SANTA FE 3	10:00-11:00
GEN	TORREY PINES 2	10:00-11:00
K-5	TORREY PINES 1	10:00-11:00
GEN	PACIFIC 23	11:15-12:15
K-5	PACIFIC 19	2:15-3:15
K-5	PACIFIC 15	2:15-3:15
GEN	PACIFIC 25	2:15-3:15
GEN	RANCHO SANTA FE 2	2:15-3:15
GEN	TEMECULA 3 & 4	2:15-3:15

STRAND 2: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP

LEVEL	LOCATION	TIME
GEN	PACIFIC 18	8:15-9:15
GEN	PACIFIC 24	8:15-9:15
GEN	RANCHO SANTA FE 3	8:15-9:15
GEN	TEMECULA 1	8:15-9:15
GEN	PACIFIC 22	10:00-11:00
GEN	PACIFIC 16	10:00-11:00
GEN	PACIFIC 23	10:00-11:00
GEN	TEMECULA 1	10:00-11:00
GEN	PACIFIC 22	11:15-12:15
6-8	PACIFIC 17	11:15-12:15
GEN	TORREY PINES 1	11:15-12:15
K-5	PACIFIC 18	2:15-3:15
K-5	PACIFIC 17	2:15-3:15
GEN	PACIFIC 14	2:15-3:15
GEN	TORREY PINES 2	2:15-3:15

STRAND 3: ENGAGING LEADERSHIP COMMUNITIES

LEVEL	LOCATION	TIME
GEN	PACIFIC 17	8:15-9:15
3-8	PACIFIC 23	8:15-9:15
6-12	TORREY PINES 1	8:15-9:15
GEN	PACIFIC 17	10:00-11:00
PK-2	RANCHO SANTA FE 1	10:00-11:00
K-5	PACIFIC 19	11:15-12:15
K-5	PACIFIC 16	11:15-12:15
GEN	PACIFIC 26	11:15-12:15
GEN	RANCHO SANTA FE 2	11:15-12:15
GEN	RANCHO SANTA FE 3	11:15-12:15
GEN	TEMECULA 2	11:15-12:15
GEN	PACIFIC 22	2:15-3:15
GEN	PACIFIC 23	2:15-3:15
6-8	RANCHO SANTA FE 1	2:15-3:15

STRAND 4: INNOVATIVE ENGAGEMENT

LEVEL	LOCATION	TIME
GEN	RANCHO SANTA FE 2	8:15-9:15
GEN	PACIFIC 25	10:00-11:00
GEN	PACIFIC 14	10:00-11:00
3-8	PACIFIC 24	11:15-12:15
GEN	PACIFIC 21	2:15-3:15
GEN	PACIFIC 16	2:15-3:15
COLLEGE	TORREY PINES 1	2:15-3:15

STRAND 5: EXEMPLARY EXPERIENCES FROM THE FIELD

LEVEL	LOCATION	TIME
K-5	PACIFIC 16	8:15-9:15
9-12	PACIFIC 26	8:15-9:15
GEN	PACIFIC 21	10:00-11:00
6-8	RANCHO SANTA FE 2	10:00-11:00
6-12	TEMECULA 2	10:00-11:00
GEN	PACIFIC 21	11:15-12:15
PK-2	PACIFIC 15	11:15-12:15
9-12	PACIFIC 14	11:15-12:15
GEN	RANCHO SANTA FE 1	11:15-12:15
GEN	GRAND BALLROOM	12:15-2:00
K-5	PACIFIC 24	2:15-3:15
GEN	PACIFIC 26	2:15-3:15

STRAND 6: DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING

LEVEL	LOCATION	TIME
GEN	PACIFIC 21	8:15-9:15
6-12	PACIFIC 25	8:15-9:15
6-12	RANCHO SANTA FE 1	8:15-9:15
3-5	TORREY PINES 2	8:15-9:15
6-12	TEMECULA 3 & 4	8:15-9:15
6-8	TEMECULA 2	8:15-9:15
GEN	PACIFIC 15	10:00-11:00
K-5	PACIFIC 24	10:00-11:00
6-8	PACIFIC 26	10:00-11:00
GEN	PACIFIC 25	11:15-12:15
3-8	TORREY PINES 2	11:15-12:15
K-5	TEMECULA 3 & 4	11:15-12:15
9-12	TEMECULA 1	11:15-12:15
6-12	TEMECULA 2	2:15-3:15
K-5	TEMECULA 1	2:15-3:15



TUESDAY SESSIONS

HOW TO READ THIS SPEAKER PROGRAM:

TITLE OF PRESENTATION

Time of Presentation | Room Location | Strand Number | Grade Level/Target Audience

Description of presentation.

Speaker Name, Position/Affiliation, City, State

TUESDAY LEADERSHIP EXCHANGE—EXHIBIT HALL

TIME	FACILITATOR	TOPIC
8:30 am–9:00 am	Karen Karp	Teaching Mathematics to Students Who Struggle— Grades 2–5
2:30 pm–3:00 pm	Juli Dixon	Moving K–12 Mathematics in Large Districts

TUESDAY BREAKFAST

7:00 am–8:00 am | Grand Ballroom | General

MATHEMATICS-GENERATED WAVES: ATTRIBUTES OF “CONSTRUCTIVE INTERFERENCE” LEADERSHIP

Constructive interference is a property of waves that results in high-energy waves. Based on her “interfering” leadership experiences and research of more than 35 years, Nita will present three critical attributes of effective mathematics leadership: 1) a focus on meaningful understanding based on connections, 2) the importance of contextual considerations, and 3) the necessity for productive struggle and learning. As you observe her illustrations of these attributes, compare and contrast your own “interfering” examples.



Juanita “Nita” Copley, Ph.D., University of Houston, Chandler, Arizona
President, Connie Schrock, NCSM President, Emporia, Kansas

Sponsored by



TUESDAY SESSIONS

8:15 AM–9:15 AM

MAJOR PRESENTATION

THE IMPORTANCE OF PLAY IN MATHEMATICS EDUCATION

8:15 AM–9:15 AM | Pacific 21 | Strand 6 | General



To play is a universal human desire. It's also an important component of what it means to do mathematics at any level. Through examples, we'll discuss why we play, what's distinctive about mathematical play, what benefits it has for students, its connection to college and careers, and how we can

incorporate play into our teaching.

Francis Su, Harvey Mudd College, Claremont, California

President, Sue Vohrer, NCSM E2 Regional Director, Annapolis, Maryland

SPOTLIGHT SPEAKER

COACHING WITH AND FOR EFFECTIVE QUESTIONING

8:15 AM–9:15 AM | Pacific 22 | Strand 1 | General



Mathematics coaches not only support teachers in their use of questioning, they themselves must also use effective questioning with teachers to help them examine teaching practices. We will share specific strategies and skills on effective questioning, with a focus on making the connection between teaching practices and student learning of mathematics.

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

Maggie McGatha, M² Consulting, Louisville, Kentucky

President, Denise Trakas, NCSM W1 Regional Director, Reno, Nevada

COACHING FOR EQUITY: RESEARCH-BASED APPROACHES TO SUPPORTING HIGH-QUALITY MATH CONTENT AND INSTRUCTION FOR ALL STUDENTS

8:15 AM–9:15 AM | Pacific 18 | Strand 2 | General

We will consider what research says about providing ALL children access to high-quality mathematics content and instruction and how to operationalize these findings through instructional materials and organization, classroom observation and debriefing processes, and so on. We will engage participants in discussion of how these findings and applications are consistent (or not) with common differentiation practices such as personalized learning, homogenous vs. heterogenous grouping, leveled assignments, choice menus, open-ended tasks, and design tasks.

Sarah Burns, University of Chicago, Chicago, Illinois

Debbie Leslie, University of Chicago, Chicago, Illinois

Andy Isaacs, University of Chicago, Chicago, Illinois

NCSM: ADMINISTRATOR KICK-OFF

8:15 AM–9:15 AM | Pacific 15 | General

Come join us for a networking and celebration session designed to “kick-off” the Administrator Leadership Strand. We will introduce the newest NCSM resource for site-level leaders entitled, “NCSM Essential Actions: Instructional Leadership in Mathematics Education.” The book supports site-based administrators with strengthening classroom instruction by improving the quality of instructional conversations that occur before, during, and after the lesson.

Bill Barnes, NCSM 1st Vice President, Ellicott City, Maryland

Mona Toncheff, NCSM President-Elect, Phoenix, Arizona

BRIDGING THE GAP BETWEEN PROFESSIONAL LEARNING AND THE CLASSROOM

8:15 AM–9:15 AM | Pacific 16 | Strand 5 | K–5 Elementary

Ever wonder why teachers don't implement what they learn from professional learning opportunities? Have you ever led trainings with participants saying, “Those were great ideas, I can't wait to implement them,” only for the ideas to not take hold? Following a Chinese Proverb, “I hear and I forget, I see and I remember, I do and I understand,” we will explore a professional learning model where teachers get hands-on experiences to implement in classrooms immediately.

Melissa Canham, Downey Unified School District, Downey, California

Glenda Martinez, Downey Unified School District, Downey, California

Julie Yearsley, Downey Unified School District, Downey, California

MAKING THE RIGHT CHOICE (NOW THAT YOU HAVE ONE), K–8 MATHEMATICS

8:15 AM–9:15 AM | Pacific 17 | Strand 3 | General

When EdReports.org first reported on the alignment of instructional materials to college- and career-ready standards, few materials met expectations. Now schools and districts have choices for aligned instructional materials, but how do they know what to use? In this session we will explore how to prioritize local needs and use EdReports.org to make informed decisions about instructional materials, while paying careful attention to the progressions and coherence of the content standards.

Stephanie Fisher, EdReports.org, Durham, North Carolina

Lynn Smith, EdReports.org, Content Specialist K–8 Mathematics, Versailles, Kentucky



TUESDAY SESSIONS

SHIFTING OUR MINDSETS: SUPPORTING STUDENTS WITH IEPs (INDIVIDUALIZED EDUCATION PLANS) TO ACCESS RIGOROUS MATHEMATICS IN SAN FRANCISCO

8:15 AM–9:15 AM | Pacific 24 | Strand 2 | General

How can shifting our mindsets support all students to access rigorous grade-level mathematics? We will share how we've been working with educators to reframe the conversation about what it means to support students with disabilities in mathematics learning. Examine how the elements that expand access to content can also make the learning more rigorous as we shift the question from "What is the best intervention for these students?" to "What strengths will these students bring?"

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

Sarah Gleason, San Francisco Unified School District, San Francisco, California

Kawthar Duncan, SFUSD, San Francisco, California

Jennifer Hein deMause, San Francisco Unified School District, San Francisco, California

Lizzy Hull Barnes, San Francisco Unified School District, San Francisco, California

DEVELOPING CONCEPTUAL UNDERSTANDING FOR HIGH SCHOOL STUDENTS

8:15 AM–9:15 AM | Pacific 25 | Strand 6 | 6–12 Secondary

This session will use instructional materials for comparing and contrasting conceptual understanding with procedural skill and application and developing conceptual understanding of mathematics within high school students. Coherence with mathematical content from grades 6–8 will be discussed, and the intersection of the standards for mathematical practice with conceptual understanding will be explored as well. The exploration of conceptual understanding for high school students will also touch upon analyzing materials without using depth of knowledge scales.

Tim Truitt, EdReports.org, Durham, North Carolina

Phil Daro, SERP and Pearson, Berkeley, California

IMPACTING STUDENT LEARNING THROUGH A PROVEN INTEGRATED, INTERDISCIPLINARY HIGH SCHOOL MATHEMATICS PROGRAM

8:15 AM–9:15 AM | Pacific 26 | Strand 5 | 9–12 High School

Catalyzing Change calls for a common two-year high school mathematics curriculum for all. We'll look in depth at one module from just such a program that integrates algebra, geometry, and statistics. The module will provide meaningful challenging mathematics content and share appropriate technological applications in delivering the entire curriculum.

Lisa Scott, Lisa Scott Mathematics Education Consulting, LLC, Billings, Montana

David Erickson, University of Montana, Missoula, Montana

SUPPORTING TEACHERS IN USING PURPOSEFUL QUESTIONS TO PROMOTE MEANINGFUL DISCOURSE

8:15 AM–9:15 AM | Pacific 14 | Strand 1 | K–5 Elementary

Research shows that metacognition improves student learning. Discourse in the mathematics classroom helps students to clarify thinking, make connections among concepts and processes, and develop deep understanding through talking about their thinking and listening to the ideas of others. Meaningful discourse that promotes metacognition is best accomplished through the tasks we use and the questions we ask. Let's look at how we can support teachers in posing questions that promote meaningful discourse.

Linda Gojak, Mathematics Consultant, Willowick, Ohio

THE POWER OF TEACHER-LED PROFESSIONAL DEVELOPMENT IN MATHEMATICS

8:15 AM–9:15 AM | Pacific 23 | Strand 3 | 3–8 Upper Elementary/Middle

Teacher-led professional development powerfully leverages the expertise of mathematics teachers to build a collaborative learning community. This session shares the story of a teacher-led course offered through the Boston Teachers Union to teachers of grades 2–8. Learn about our course structure and peer learning model; hear insights from participants into how and why this course impacted their classrooms; and use our reflection model to consider mathematical tasks from the student and teacher perspective.

Heidi Fessenden, Cambridge Public Schools, Cambridge, Massachusetts

Michelle Sirois, Boston Public Schools, Boston, Massachusetts

ENGAGING THE ONLINE LEARNER: ADDING PRODUCTIVE STRUGGLE TO ONLINE PROFESSIONAL LEARNING

8:15 AM–9:15 AM | Rancho Santa Fe 2 | Strand 4 | General

The connection between productive struggle and meaningful learning has been shown to be very strong for classrooms and face-to-face professional learning. What happens when the learning moves online and the community of learners meets virtually? See how we have applied research-backed methods for producing productive struggle within classrooms to our unique online professional learning sessions with teachers, school leaders, and content experts. Learn strategies that you can apply to your own virtual learning sessions.

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

Michael Greenlee, The Charles A. Dana Center at The University of Texas at Austin, Austin, Texas



TUESDAY SESSIONS

SENSE MAKING—THE GATEWAY TO ACCESS, EQUITY AND EMPOWERMENT

8:15 AM–9:15 AM | Rancho Santa Fe 3 | Strand 2 | General

Participants will engage in rich mathematical tasks that force sense-making of core mathematical ideas. Time will be spent empowering participants to personally define equity and access for each and every student. Participants will reflect on structures in their schools and classrooms that provide for or prevent full access and equity for all.

Lisa Bush, Math Solutions, Boston, Arizona

Le Vada Gray, Math Solutions, Sausalito, California

WHAT DO THEY KNOW AND WHAT CAN THEY DO: DIGGING DEEPER INTO ASSESSMENT

8:15 AM–9:15 AM | Rancho Santa Fe 1 | Strand 6 | 6–12 Secondary

What do we communicate to students when we assess them, and does it help their learning progress? Too often teachers actually inform students about what they're not doing or not understanding, especially when it comes to summative assessment. What if assessment focused on what students CAN do? We will dig deeper into assessment so that as leaders we can help teachers in terms of what they assess, how they assess, and when they assess.

Marc Garneau, District Education Centre—Ed. Services, Surrey, British Columbia, Canada

DECONSTRUCTING REASONING: LEVERAGING ITS MULTIFACETED NATURE TO BUILD STUDENT PROFICIENCY

8:15 AM–9:15 AM | Torrey Pines 2 | Strand 6 | 3–5 Intermediate

Reasoning is one of the hallmarks of mathematical proficiency. But what does it really mean for all students to become proficient with mathematical reasoning? Engage in a professional development model that explores a variety of tasks to identify the full range of reasoning experiences. Collaborate to determine focused instructional implications that provide all students with ongoing access to rich opportunities for mathematical reasoning, productive struggle, and discourse around the various types of reasoning tasks.

Larry Sizemore, Baltimore County Public Schools Office of Mathematics PK–12, Towson, Maryland

Jennifer Hilberg, Baltimore County Public Schools, Towson, Maryland

Nikki Snier, Baltimore County Public Schools, Towson, Maryland

KEEPING PACE... COLLABORATIVE PLANNING FOR EFFECTIVE INSTRUCTION

8:15 AM–9:15 AM | Torrey Pines 1 | Strand 3 | 6–12 Secondary

Are your teachers working collaboratively to plan units in order to teach your curriculum? Participants will explore proven techniques for working as a team to plan for effective instruction while staying on pace. Discover how one school system worked with building administrators, department chairs, and teacher teams to introduce the use of high leverage team actions in tandem with a timeline. Both successes and struggles will be shared.

Leslie Johnson, Baltimore County Public Schools, Towson, Maryland

Laura Potter, Baltimore County Public Schools, Towson, Maryland

TEACHING STRATEGIES FOR SUCCESS IN A MATHEMATICS CLASSROOM

8:15 AM–9:15 AM | Temecula 3 & 4 | Strand 6 | 6–12 Secondary

This session will focus on current best practices and research for effective teaching strategies. The goals of the session will include: analysis of how visual and open tasks contribute to the implementation of effective teaching practices in mathematics, identification of teaching strategies that deepen a teacher's understanding of effective teaching practices in mathematics, and an exploration of how students' responses can be used to advance the understanding of the class as a whole.

Linda Griffith, University of Central Arkansas, Conway, Arkansas

Kyle Atkin, Kern High School District, Bakersfield, California

Linda Antinone, Pascal High School, Fort Worth ISD, Fort Worth, Texas

LEADING LEARNERS TO LEVEL UP: DEEPENING UNDERSTANDING OF MATHEMATICAL PRACTICES

8:15 AM–9:15 AM | Temecula 2 | Strand 6 | 6–8 Middle

We say: Persevere! Express regularity in repeated reasoning! Be precise! Show your work! But what if students can't yet? How might we make our thinking visible to empower our young learners to become self-correcting, self-reliant, and independent? How do we coach—what strategies do we use—to help learners to embrace the Standards for Mathematical Practice?

Jill Gough, Trinity School, Atlanta, Georgia



TUESDAY SESSIONS

MAKING WAVES IN MATHEMATICS EDUCATION USING THE CULTURALLY RELEVANT COGNITIVELY DEMANDING MATHEMATICS TASK RUBRIC TO ANALYZE CLASSROOM LESSONS

8:15 AM–9:15 AM | Temecula 1 | Strand 2 | General

Participants will discuss salient features of Culturally Responsive Pedagogy. What have we learned at the building, district, and state levels as it pertains to implementing this pedagogical approach? The presenters will discuss findings from research working with teachers and leaders to analyze their current curriculum materials for “access to high-cognitive-demand-tasks that are meaningful and connected to children’s lived experiences.” The rubric will be introduced as a basis for professional learning community work.

Shelly Jones, Central Connecticut State University, New Britain, Connecticut

Lou Matthews, Urban Teachers, Baltimore, Maryland

Yolanda Parker, Tarrant County College, Fort Worth, Texas

SPONSOR SHOWCASE

THE FUTURE OF MATHEMATICS CURRICULUM

8:15 AM–9:15 AM | Torrey Pines 3 | General

We want to hear from you! The landscape of mathematical instruction is continually evolving. As the national leaders of mathematics in education, what does the future of mathematics look like for your district and the nation? Come discuss with your peers about what leading mathematics into the future looks like—the challenges, successes, myths, and realities. *Attendees will receive a gift card for participating and contributing to the 1-hour session.

Beth Minor, McGraw-Hill Education, Columbus, Ohio

10:00 AM–11:00 AM

MAJOR PRESENTATION

DIVE DEEP INTO THE WAVES—STRENGTHS-BASED LEADERSHIP FOR TEACHERS

10:00 AM–11:00 AM | Pacific 21 | Strand 5 | General



Access and equity is enhanced as teachers become strengths-based educators. When teachers use their talents to help every student apply their strengths in the process of learning, they focus beyond student deficits. Come explore strategies to create a rich environment that encourages their students to use

their strengths. Each participant in learning must believe they are capable of learning, they belong in the mathematics classroom, and they will have a use for the mathematics.

Connie Schrock, NCSM President, Emporia, Kansas

President, Mona Toncheff, NCSM President-Elect, Phoenix, Arizona

SPOTLIGHT SPEAKER

TALK NUMBER TO ME: MATHEMATICS & MINDFULNESS

10:00 AM–11:00 AM | Pacific 22 | Strand 2 | General



Through the lens of the TRU Framework, students’ positive identities as sense-makers and problem solvers all rests upon their Emotional Intelligence. Every student should be supported in developing a positive mathematical identity (Dimension 4). Social emotional intelligence is the

key component to engendering formidable mathematical learning. Let’s explore California’s new Social Emotional Learning Guiding Principles to build powerful mathematical identities.

Christina Lincoln-Moore, Los Angeles Unified School District, Los Angeles, California

President, Kathlan Latimer, NCSM W2 Regional Director, Suisun City, California

COACHING: A POWERFUL WAVE TO MOVE TEACHERS

10:00 AM–11:00 AM | Pacific 19 | Strand 1 | PK–2 Primary

Coaching is a powerful wave that can be used to move teachers from text-reliance to innovative lesson design based on mathematics standards and learners’ needs. We will discuss our two-year initiative impacting teachers to learn deep mathematics understanding and visionary instruction. Come build your coaching expertise to lead teachers and ultimately students into greater achievement and success. Dive into coaching templates, protocols, and many specific differentiated lesson strategies through hands-on activities designed to excite your teachers.

Nanci Smith, E2C2, Peoria, Arizona

Lori Everson, Caurus Academy, Anthem, Arizona

THE TOOL YOU’VE BEEN WAITING FOR IS HERE! THE BRAND NEW HIGH SCHOOL COHERENCE MAP

10:00 AM–11:00 AM | Pacific 15 | Strand 6 | General

Do you want to learn more about the high school CCSSM standards—how they connect to each other and how they connect to middle school? Participants will experience a free digital map of the high school standards built by one of the authors of CCSSM that can be used to plan lessons, develop high school courses and assessments, and see connections between standards.

Barbara Beske, Student Achievement Partners, New York, New York

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



TUESDAY SESSIONS

WHEN TEACHERS BELIEVE, STUDENTS ACHIEVE: FACILITATION AND COACHING STRATEGIES TO IMPROVE AND IGNITE A PASSION FOR LEARNING

10:00 AM–11:00 AM | Pacific 16 | Strand 2 | General

If the destination is to reach higher levels of learning for all students, then effective professional development alongside coaching must be a part of the school culture. Learn how to increase your effectiveness as a facilitator and coach to make learning stick! Explore innovative strategies to support the delivery of content, collaborative learning, and management of groups, including ways to have difficult conversations to overcome resistance and transform learning for deeper understanding and implementation.

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

Marria Carrington, US Math Recovery Council, Apple Valley, Minnesota

LEADING COLLABORATIVELY: MATHEMATICS PROFESSIONAL LEARNING FOR PRINCIPALS

10:00 AM–11:00 AM | Pacific 17 | Strand 3 | General

Look inside an action research approach to building mathematics knowledge for leading. Researchers from Trent University partnered with the Ministry of Education in Ontario, Canada, to facilitate action research with principals from 16 school boards. We will share findings from the research, and explore key lessons related to mathematics professional learning and inquiry for school administrators, including the importance of: shared leadership; reflection and problem-finding; collective efficacy, and; supporting administrator confidence.

Cathy Bruce, Trent University, Peterborough, Ontario, Canada

Tara Flynn, Trent University, Peterborough, Ontario, Canada

RAISE THE CEILING, LOWER THE FLOOR: TEACHING PROBLEM SOLVING FOR ALL STUDENTS

10:00 AM–11:00 AM | Pacific 24 | Strand 6 | K–5 Elementary

Is problem solving something your students struggle with daily? This session is designed to clarify expectations for teaching problem solving coupled with research on best practice for removing language barriers so that all students can engage in the mathematics. Strategies for providing engaging problem-solving experiences with appropriate scaffolding such as the Three-Act Math task, Three Reads, and Numberless word problems will be shared and will revolutionize the teaching of problem solving in your schools and districts.

Susan Loveless, Rutherford County Schools, Murfreesboro, Tennessee

BIAS TOWARD ACTION: DESIGNING COLLABORATION FOR IMPACT

10:00 AM–11:00 AM | Pacific 25 | Strand 4 | General

The culture within startup companies is often characterized by shared commitment to innovation, healthy risk-taking, and an asset-based approach to team building. Productive collaborative communities in education look much the same. This session will examine a case of like-minded educators overcoming barriers of time, resources, and isolation to form a community poised for action. We will identify essential elements of meaningful collaboration and describe how to cultivate startup values within new and existing educator teams.

Molly Daley, Educational Service District 112, Vancouver, Washington

Christopher Danielson, Desmos, San Francisco, California

Chris Nho, Chicago Public Schools, Chicago, Illinois

LEVERAGING LEARNING TRAJECTORIES TO DRIVE DATA DISCUSSIONS IN PROFESSIONAL LEARNING COMMUNITIES

10:00 AM–11:00 AM | Pacific 26 | Strand 6 | 6–8 Middle

How can professional learning communities (PLCs) make meaningful use of formative data? We report on how PLCs engage in grade-level discussions of data from Learning Trajectory-based formative assessments. We share how interactions overcame data-sharing nerves into data-driven norms of shared responsibility for improvement. We provide examples of data analysis focused on learning from each other (joint coaching/mentoring), from trouble-shooting curricular weakness (joint diagnosis), and on jointly deciding to make modifications based on the results (joint planning).

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

Meetal Shah, North Carolina State University, Raleigh, North Carolina

DESIGNING ONLINE PROFESSIONAL LEARNING (OPL) OPPORTUNITIES TO CAPITALIZE ON TEACHER ENGAGEMENT THROUGH COLLABORATIVE LEARNING

10:00 AM–11:00 AM | Pacific 14 | Strand 4 | General

Typical online professional learning (OPL) involves large groups of teachers engaging with content as individuals, leaving a need for OPL that is designed around collaborative experiences that create a community of learners. We will share our evolving work designing collaborative OPL experiences using a web-conferencing platform, which engages teachers in small/large group discussions, mathematical tasks, and analysis of mathematical reasoning through instructional vignettes. Session attendees will reflect on the affordances and challenges of OPL.

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

Jennifer Kruger, University of Rochester, Rochester, New York

Genie Foster, University of Rochester, Rochester, New York



TUESDAY SESSIONS

COUNTERING DEFICIT MYTHOLOGIES ABOUT THE MATHEMATICAL POTENTIAL OF STUDENTS WITH LEARNING DISABILITIES

10:00 AM–11:00 AM | Pacific 23 | Strand 2 | General

Using neurodiversity to frame disability as diversity rather than deficit, this session will explore two common myths about students with learning disabilities and/or dyslexia: 1) that students with LD cannot benefit from inquiry-based mathematics; and 2) that students with LD cannot construct mathematical strategies. Dr. Lambert will present research that debunks both myths, and explore how mathematics education professionals can disrupt deficit notions about students with disabilities.

Rachel Lambert, Gevirtz Graduate School of Education, University of California Santa Barbara, Santa Barbara, California

GROWTH MINDSET AND MISTAKES: OPPORTUNITIES TO INCREASE STUDENT LEARNING

10:00 AM–11:00 AM | Rancho Santa Fe 2 | Strand 5 | 6–8 Middle

Students who literally “learn from their mistakes” and view these mistakes as positive rather than negative experiences can develop not only a growth mindset, but also develop opportunities for deeper learning. Students must make mistakes and correct them to learn mathematics deeply, and they will become open to investigating mistakes if they view them as a step toward mastery.

Penny Smits, De Pere Middle School, De Pere, Wisconsin
Ilene Kanoff, The Newton School, South Strafford, Vermont

DESIGNING MATHEMATICS COACH PROFESSIONAL DEVELOPMENT TO SUPPORT IMPROVEMENTS IN THE QUALITY OF ONE-ON-ONE COACHING

10:00 AM–11:00 AM | Rancho Santa Fe 3 | Strand 1 | 6–8 Middle

This session reports on a collaborative effort between researchers and the mathematics leaders of a large urban district to design and facilitate a year-long professional development (PD) sequence aimed at supporting improvements in the quality of one-on-one coaching. District leaders and researchers will describe the learning goals for the PD sequence and share a set of tools that coaches can use to aid in implementing high-leverage one-on-one coaching practices.

Nicholas Kochmanski, Vanderbilt University, Nashville, Tennessee

Emily Kern, Vanderbilt University Peabody College, Nashville, Tennessee

Jessica Slayton, Metro Nashville Public Schools, Nashville, Tennessee

Tyrunya Goodwin, Metro-Nashville Public Schools, Nashville, Tennessee

Paul Cobb, Vanderbilt University, Nashville, Tennessee

#MATHEMATICS MOMENTS THAT MATTER

10:00 AM–11:00 AM | Rancho Santa Fe 1 | Strand 3 | PK–2 Primary

Often primary classrooms depict a “show and tell” time, falling short of accomplishing intended learning goals. This session will promote the purposeful decisions made before, during, and after a lesson. We will discuss how leaders can create meaningful professional learning opportunities that encourage reflection and collaboration with the goal of guiding students toward richer discourse and deeper mathematical understanding.

Susie Katt, Lincoln Public Schools, Lincoln, Nebraska

MOVE OVER PEDAGOGY—IT’S TIME TO GET ANDRAGOGICAL

10:00 AM–11:00 AM | Torrey Pines 2 | Strand 1 | General

Coaches play an important role in our educational system—their greatest role is in transforming adult behavior. Most coaches are former teachers who have studied pedagogy their entire lives, but have received little to no training on adult learning theory. If we want to transform adult behavior, we have to know about how adults learn. Come to this session where we will get andragogical and focus on US—the adults.

Hilary Kreisberg, Lesley University, Cambridge, Massachusetts

COACH USING PURPOSEFUL MATH ROUTINES FROM ILLUSTRATIVE MATHEMATICS K–5 CURRICULUM

10:00 AM–11:00 AM | Torrey Pines 1 | Strand 1 | K–5 Elementary

Do you support teachers who currently use or want to learn how to use mathematical routines to enhance student learning? Explore a developmentally and mathematically appropriate trajectory of routines that support students in making their thinking explicit. Leave with strategies to support routines in your setting.

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

Kristin Gray, Illustrative Mathematics, Lewes, Delaware

CLIMATE CHANGE—MODEL MATHEMATICALLY DATA FROM THE CLIMATE REALITY PROJECT LEADERSHIP TRAINING WITH AL GORE (AN INCONVENIENT TRUTH)

10:00 AM–11:00 AM | Temecula 2 | Strand 5 | 6–12 Secondary

Obtain the most current data about climate change, its causes and consequences. Have your students model this significant data and discover what we learned this past August from attending the 3-Day Climate Reality Project Training with Al Gore; we will share some of his PowerPoint slides. Help your students become more socially aware of these important issues with appropriate applied mathematics. Obtain all materials: data, student worksheets, teacher notes and solutions, and a detailed step-by-step blog.

Tom Reardon, Youngstown State University, Youngstown, Ohio



TUESDAY SESSIONS

ALL MEANS ALL: TEACHING MATH TO ENGLISH LANGUAGE LEARNERS FROM ALL OVER THE WORLD

10:00 AM–11:00 AM | Temecula 1 | Strand 2 | General

Teaching mathematics to English Language Learners (ELLs) is challenging, especially when students speak and understand limited amounts of English. How do we get all of our students to interact with rich mathematics problems when they don't yet understand the language surrounding the context of a problem? This session will help school leaders build professional development for high-quality mathematics instruction while addressing the challenges of language barriers.

Victoria Peacock, Great Minds/Eureka Math, Washington, District of Columbia

SPONSOR SHOWCASE

PROMOTING PRODUCTIVE STRUGGLE IN THE MATH CLASSROOM

10:00 AM–11:00 AM | Torrey Pines 3 | General

Effective teaching of mathematics consistently provides students with opportunities and supports them to engage in productive struggle. How do we intentionally design instruction to include opportunities for all learners to notice and question? This session will focus on instructional strategies for using TI technology to promote productive struggle.

Daniel Ilaria, West Chester University, West Chester, Pennsylvania

Curtis Brown, Texas Instruments Inc., Longmont, Colorado

11:15 AM–12:15 PM

MAJOR PRESENTATION

TRANSFORM YOUR WORK WITH STUDENTS WHO STRUGGLE TO LEARN MATHEMATICS

11:15 AM–12:15 PM | Pacific 21 | Strand 5 | General



The eight Mathematics Teaching Practices from NCTM's *Principles to Actions* (2014) are high-leverage practices designed to promote deep learning of mathematics. To facilitate access to this level of learning, we must support struggling learners as we employ these Mathematics Teaching Practices. To

that end, we will consider ways to integrate instructional approaches that attend to struggling learners' learning characteristics with these Mathematics Teaching Practices to ensure we are teaching for rigorous understanding for all students.

Lou Ann Lovin, James Madison University, Harrisonburg, Virginia

President, Kathleen Rieke, NCSM Historian, Zionsville, Indiana

KAY GILLILAND EQUITY LECTURE:

MATHEMATICS LEADERS 'ANSWERING THE CALL' FOR EDUCATIONAL CHANGE

11:15 AM–12:15 PM | Pacific 22 | Strand 2 | General



Mathematics leaders are in an important and unique position to set priorities, influence change, and impact conversations. Recent unfortunate social events in this nation have affected the lives of the education community, especially its students. Understanding the historical perspective of these events is key. Silence in the face of injustice conveys the impression that prejudicial behavior is condoned or not worthy of attention. Today there are 'calls' for professional learning offerings that include understanding and respecting the lived experiences and realities of students. There are implications for leaders to build stronger relationships with teachers and each other. Additionally, there is new learning to be considered for our work.

Linda Fulmore, Independent Consultant, Cave Creek, Arizona
President, Connie Schrock, NCSM President, Emporia, Kansas

PRESIDENTS EXCHANGE–NCTM

UNPACKING POLICY DOCUMENTS TO ADVOCATE FOR MATHEMATICS TEACHING AND LEARNING

11:15 AM–12:15 PM | Pacific 18 | General

There has been several policy documents focused on mathematics teaching and learning examining issues of access, equity, and empowerment. There are documents that centralizes focusing on mathematics teaching quality, policies impacting differential access to mathematics, and the role of mathematics in STEM education. This session will draw attention to ways mathematics education leaders can use policy documents to impact change in mathematics teaching and learning.

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

SCHOOL MATHEMATICS LEADERSHIP TEAM CREATION

11:15 AM–12:15 PM | Pacific 19 | Strand 3 | K–5 Elementary

Creating a mathematics leadership team in your school is essential to effect instructional change and build a high-quality mathematics program. Leaders from Virginia's Region IV mathematics consortium use Balka, Hull, and Miles' A Guide to Mathematics Leadership Sequencing Instructional Change as a structure to developing a leadership team.

Shelly Pine, Clarke County Public Schools, Berryville, Virginia

Justin Maffei, Warren County Public Schools, Front Royal, Virginia

Cynthia Cooper, Prince William County Public Schools, Manassas, Virginia

Kathleen Morris, Prince William County Public Schools, Manassas, Virginia

Deborah Crawford, Frederick County Public Schools, Winchester, Virginia



TUESDAY SESSIONS

LESSONS LEARNED: REFLECTIONS ON MATH INTERVENTION K–2

11:15 AM–12:15 PM | Pacific 15 | Strand 5 | PK–2 Primary

During these past three years we have been leading the creation of a district-wide mathematics intervention program and we are learning some critical lessons. We will share our resources and our experiences of building our mathematics intervention program. As we keep in mind the development of the whole child, we will talk about key elements of early intervention and the lessons we have learned. We invite you to come and reflect upon your practice.

Judith Campbell, Winnetka Public Schools, Winnetka, Illinois

Chi Quach, Winnetka Public Schools, Winnetka, Illinois

Tanya Tabic, Winnetka Public Schools, Winnetka, Illinois

STRATEGIC + PLANNING + SESSION = SUCCESS

11:15 AM–12:15 PM | Pacific 16 | Strand 3 | K–5 Elementary

Implementing change begins with a vision. For mathematics instruction and achievement to improve, teachers and administrators must create a shared vision, developing similar mindsets and committing to actions and behaviors that can lead to mathematics success. In this session, we will engage in a Strategic Planning Session protocol that has helped districts to align their vision for mathematics from the district to campus level as well as design and implement meaningful change in instruction and learning.

Lori Ramsey, HMH/Math Solutions, Sausalito, California

Sandra Coulson, Math Solutions, Sausalito, California

AVOIDING HIDDEN HAZARDS ON THE ROAD TO MORE EQUITABLE MATH CLASSES

11:15 AM–12:15 PM | Pacific 17 | Strand 2 | 6–8 Middle

Join us for a candid and lively discussion of our school's journey towards mathematics classes that help all students participate in class discussions, achieve mathematical proficiency, and develop a growth mindset. We will address how common practices in mathematics education—including “do now” activities, homework, and grading practices—may inadvertently lead to greater inequities and describe the strategies we have used to identify and remove these hidden hazards.

Nancy Anderson, Milton Academy, Milton, Massachusetts

Carrie Ferrin, Milton Academy, Milton, Massachusetts

Doana Marcellus, Milton Academy, Milton, Massachusetts

Melissa Vazquez, Milton Academy, Milton, Massachusetts

INVESTIGATING THE USE OF VIDEOCONFERENCES, INTERACTIVE APPLETS, AND SCREENCASTS IN BLENDED PROFESSIONAL DEVELOPMENT FOR MATHEMATICS TEACHERS OF ENGLISH LEARNERS

11:15 AM–12:15 PM | Pacific 24 | Strand 4 | 3–8 Upper Elementary/Middle

Mathematics teachers of students who are English Learners (ELs) continue to need opportunities to learn how to best support the classroom mathematical communication and learning of critical mathematics content by students who are ELs. It is important to consider new formats for this teacher professional learning. Strategic blended-learning mechanisms for supporting teacher engagement and learning will be explored and discussed, focused on a professional development program for middle-grades mathematics teachers.

Johannah Nikula, Education Development Center, Waltham, Massachusetts

Peter Tierney-Fife, Education Development Center, Gardiner, Maine

LEARNING TO LISTEN: SUPPORTING ELEMENTARY PRESERVICE CANDIDATES IN BUILDING CAPACITY FOR EFFECTIVE USE OF NUMBER TALKS

11:15 AM–12:15 PM | Pacific 25 | Strand 6 | General

The preparation and support beginning teachers receive influence their effectiveness and their students' achievement. We will share and examine number talks our preservice candidates practice at San Jose State University as they prepare to work in diverse elementary classrooms. We will discuss strengths and challenges encountered while critiquing strategies used to deeply listen for students' developing understandings and misconceptions. We will facilitate discussion of implementation that could be used in your department, school, and district.

Patricia Rogers, San Jose State University, San Jose, California

FROM MATHEMATICS COACH TO MATHEMATICS ASSISTANT PRINCIPAL: AN INNOVATIVE POSITION BUILDING COLLECTIVE CAPACITY OF SITE ADMINISTRATORS AND TEACHERS THROUGH COLLABORATION

11:15 AM–12:15 PM | Pacific 26 | Strand 3 | General

Learn how a Mathematics Assistant Principal can foster collaboration among teacher teams and site administrators utilizing High-Leverage Team Actions from Timothy Kanold and Matthew Larson. In this session, you will learn about the rationale for creating this unique position, the successes/challenges, and how a content-specific administrator is different from a coach. Strategies and resources will be shared that a site administrator or coach can adapt for use in their district.

Stacey Benuzzi, Long Beach Unified School District, Long Beach, California

Jay Camerino, Long Beach Unified School District, Long Beach, California



TUESDAY SESSIONS

EARLY ASSESSMENT PROGRAM (EAP) SENIOR MATH COURSES: REALIZING SOLUTIONS AND STUDENT SUCCESS THROUGH A COLLECTIVE IMPACT MODEL

11:15 AM–12:15 PM | Pacific 14 | Strand 5 | 9–12 High School

Many of us recognize that there is a need for more options in mathematics courses that strengthen students' mathematical foundations, preparing them for college and career. We are excited to share how our intersegmental partnership—California State University, Sacramento; local community colleges; county offices of education; high school districts—worked together to develop CCSSM-aligned curriculum and an accompanying professional learning program to help meet this need. We will also share resulting student outcomes.

Sarah Ives, California State University, Sacramento, Sacramento, California

Jennifer Graziano, Sacramento City Unified School District, Sacramento, California

Diana Holland, Sacramento City Unified School District, Sacramento, California

Suzie Craig, Sacramento City Unified School District, Sacramento, California

HOW TO M.O.V.E. YOUR TEAM

11:15 AM–12:15 PM | Pacific 23 | Strand 1 | General

Make sense of mathematics for teaching through content workshops. Organize tasks and lessons using the TQE process. Validate our work with classroom visits and small group lesson study. Encompass our success through reflection and data analysis. Turn team meetings into productive sessions and help M.O.V.E. your teachers forward.

Lauren Johnson, HLPUSD, Hacienda Heights, California

Thomasenia Adams, University of Florida, Gainesville, Florida

Edward Nolan, Towson University, Towson, Maryland

Juli Dixon, University of Central Florida, Orlando, Florida

Gabriel Ward, HLPUSD, Hacienda Heights, California

Brian Mahaffey, HLPUSD, Hacienda Heights, California

Judy Fancher, HLPUSD, Hacienda Heights, California

WE GAVE THE TEST—NOW WHAT?

11:15 AM–12:15 PM | Rancho Santa Fe 2 | Strand 3 | General

What do teachers on a collaborative team do with common assessment results? How do teachers learn about instructional practices that worked? How do students articulate what they have learned and not learned yet? Explore how to lead the work of collaborative teams as they plan to re-engage students in learning as part of a Tier 1 or Tier 2 intervention system using the evidence of student learning while including students in the process.

Sarah Schuhl, Math Coach and Author, Gresham, Oregon

Mona Toncheff, Consultant, Phoenix, Arizona

COACHING TOWARD COMMON GROUND: CREATING A SHARED VISION AND GROWING PROFESSIONALLY AS A TEAM

11:15 AM–12:15 PM | Rancho Santa Fe 3 | Strand 3 | General

A supportive community is a powerful component of teachers' professional growth. This session will explore how teams of teachers, coaches, and administrators can collaboratively develop a shared vision for mathematics teaching and learning. With that foundation, teams can support and hold one another accountable as they work toward a common goal.

Delise Andrews, Lincoln Public Schools, Lincoln, Nebraska

Beth Kobett, Stevenson University, Stevenson, Maryland

“WE ARE ALL WORKS-IN-PROGRESS” : USING ROUGH DRAFT THINKING FOR STUDENTS TO REVISE MATHEMATICAL THINKING AND FOR TEACHERS TO REVISE INSTRUCTION

11:15 AM–12:15 PM | Rancho Santa Fe 1 | Strand 5 | General

Both students and teachers can learn from sharing rough draft thinking about mathematics and revising the ideas. We will explore various routines for revising mathematical thinking, from lesson structures to protocols for peer-to-peer discussion, and discuss various goals for revising, going beyond correcting mistakes to include creating more precise or illuminating explanations. We will also, in parallel, explore and experience goals for revising our teaching practice and protocols for engaging in revision of teaching together.

Amanda Jansen, University of Delaware, Newark, Delaware

SOLVING LANGUAGE BARRIERS BY SOLVING MATHEMATICAL WORD PROBLEMS

11:15 AM–12:15 PM | Torrey Pines 2 | Strand 6 | 3–8 Upper Elementary/Middle

Participants in this session will build on the principle that the use of code switching supports learning. While moving within the roles of teacher and student, participants will engage in large and small group activities demonstrating mathematical word problem writing as well as word problem solving. Conventional and alternative deliveries of displaying work (such as student production of a podcast) will be discussed.

Billie Mathews, Promotes Learning, LLC, San Tan Valley, Arizona



TUESDAY SESSIONS

EQUITY AND ACCESS FOR ALL: A TALE OF TWO STUDIES

11:15 AM–12:15 PM | Torrey Pines 1 | Strand 2 | General

How do you build a mathematics course that is designed for providing equitable access for students of color? How about for students in special education? It turns out, the answer is the same. Come learn about Math for All and Designing for Equity by Thinking in and about Mathematics (DEbT-M)—both are professional development designed to address these questions. One is focused on racial issues, one on diverse learners; they present many similar and connected ideas.

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

Babette Moeller, Education Development Center, New York, New York

Eden Badertscher, Education Development Center, Inc., Waltham, Massachusetts

COACHING FOR CONTENT: THE TOP 3 ELEMENTARY MATH TOPICS THAT MUST BE TAUGHT DIFFERENTLY

11:15 AM–12:15 PM | Temecula 3 & 4 | Strand 6 | K–5 Elementary

Since states committed to college- and career-ready standards, we have seen instructional shifts that get to the heart of many mathematical topics. There are particular topics, however, where our approaches have not changed to match the intent of the standards. This session provides insight into common alignment issues for three important elementary mathematics topics, the intent of the standards, and ways to support teachers in developing the mathematical content knowledge necessary to shift their instruction.

Shelbi Cole, Student Achievement Partners, New York, New York

Kristin Gray, Illustrative Mathematics, Lewes, Delaware

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

BUILDING A MEANINGFUL PROFESSIONAL MATHEMATICS COMMUNITY: FROM AUTHENTIC LEARNING TO CHANGE IN PRACTICE

11:15 AM–12:15 PM | Temecula 2 | Strand 3 | General

As a regional support for mathematics educators, providing meaningful professional learning can be a challenging endeavor! In addition to the sheer number of educators, collecting evidence that the learning has a positive impact on practice is complex. In this session, we will share how one person/team can meet the Standards for Professional Learning through a regional professional mathematics community; to allow members to grow individually and collectively while gathering authentic data around teacher practice change.

Rusty Anderson, Kent ISD, Grand Rapids, Michigan

Andrew Smith, Kent ISD, Grand Rapids, Michigan

Marcus Deja, Kent ISD, Grand Rapids, Michigan

THE SPY LISTENING DEVICE AND THE BEAUTIFUL PRACTICAL GEOMETRY OF PARABOLAS

11:15 AM–12:15 PM | Temecula 1 | Strand 6 | 9–12 High School

Begin with meaning to better understand mathematics. The geometry of solar parabolic cookers, satellite dishes, and spy listening devices is rarely explored by students in upper grade mathematics classes. Context often helps students (and their teachers) understand better the mathematics of reflection, congruent triangles, the distance formula, and modeling while the geometry helps students understand the context. Play and understand through activities including paper folding, building solar cookers, and Geogebra exploration.

Bruce Grip, Claremont Graduate University, Claremont, California

SPONSOR SHOWCASE

PARADIGM SHIFT: CHANGING THE CULTURE OF MATHEMATICS AND LEARNING IN SCHOOLS

11:15 AM–12:15 PM | Torrey Pines 3 | General

Society has a math problem, and it's not one that can be solved by traditional methods. To improve outcomes at a significant scale in our education system, we must become adept at changing the culture of learning. In this presentation, MIND Research Institute's Vice President of Content Creation, Nigel Nisbet, will demonstrate how neuroscience, motivational research, and innovative technology can transform mathematics and learning for students, teachers, and parents.

Nigel Nisbet, MIND Research Institute, Irvine, California



TUESDAY SESSIONS

12:15 PM–2:00 PM

TUESDAY LUNCHEON

YOUR ROLE IN MAKING WAVES

12:15 PM–2:00 PM | Grand Ballroom | Strand 5 | General

We, as leaders in Mathematics Education, all play an important role in making waves of innovation in education. Come hear from a cross-section of roles in mathematics education from pre-service instructor to mathematics specialist to grant director. They will discuss how they have made an impact in their area of responsibility and strategies that have been successful in inspiring positive waves of change. Bring your questions to ask the panel!



Peter Balyta, Texas Instruments, Dallas, Texas

Maria Everett, Baltimore County Public Schools, Towson, Maryland

Linda Griffith, University of Central Arkansas, Conway, Arkansas

Daniel Ilaria, West Chester University, West Chester, Pennsylvania

President, Connie Schrock, NCSM President, Emporia, Kansas

Sponsored by



14th 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, 2019, for the 2020 Award.

Iris Carl Recipients



Bradley Thornburgh
Math Consultant and
Instructional Coach
Gratiot-Isabella RESD
Ithaca, Michigan



Chandra Perkins
Mathematics Instructional Coach
Whitehaven Empowerment
Zone/Shelby County Schools
Memphis, Tennessee



Kara Watson
K–12 District Director of
Mathematics, Science, and STEAM
Berlin Public Schools
Berlin, Connecticut



TUESDAY SESSIONS

2:15 PM–3:15 PM

MAJOR PRESENTATION

GREAT MATH LEADERS AS REBELS WITH A CAUSE FOR STUDENTS

2:15 PM–3:15 PM | Pacific 21 | Strand 4 | General



This fast-paced, example-laden presentation will explore the role of rebels and apply these characteristics to our roles as mathematics leaders who arm themselves with the skills, arguments, and data to ensure policies and practices that support the adults and keep the focus on what is best for our students.

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

President, Jason Gauthier, NCSM C1 Regional Director, Dorr, Michigan

SPOTLIGHT SPEAKER

POWERFUL MATHEMATICS LEADERSHIP AXIOMS: TEAMWORK AND COMMUNITY!

2:15 PM–3:15 PM | Pacific 22 | Strand 3 | General



The era of teacher and leader isolation and the subsequent inequities caused by private decision-making is over. And yet the path leading to a reflective learning community culture is filled with potholes, speed bumps, stop signs, and more! In this engaging and spirited session Timothy Kanold reveals a series

of “Leadership Axioms” to live by, and brings new insight into leveraging the greater social justice “good” served by engaging in and leading highly effective collaborative teams.

Timothy Kanold, Loyola University, Chicago, Illinois

President, Jackie Palmquist, NCSM Professional Learning Director, Aurora, Illinois

COACHING FOR ACCESS: SPECIAL NEEDS AND MATHEMATICS

2:15 PM–3:15 PM | Pacific 18 | Strand 2 | K–5 Elementary

Students with special needs deserve high-quality instruction that promotes mathematical thinking. In this interactive session, we will talk about our experiences in coaching teachers to bring mathematical thinking and rigor back to high needs settings through the use of grade level anchor tasks, guided practice, and differentiated independent practice through the use of workstations. Participants will receive tools to bring effective coaching to teachers who work with our most marginalized students.

Susan Resnick, Susan Resnick Consulting, LLC, Centennial, Colorado

Kara Marks, The Gillen Brewer School, New York, New York

HARNESS THE WAVES OF CHANGE WITH INNOVATION CONFIGURATION MAPS (ELEMENTARY)

2:15 PM–3:15 PM | Pacific 19 | Strand 1 | K–5 Elementary

Since 2014, NCTM’s “Principles to Actions” has provided teachers with research-based teaching practices that are essential when implementing a standards-based curriculum. The Dana Center has taken these 8 Teaching Practices and created Innovation Configuration Maps (Hall & Hord; 2015) that provide clear, specific, and shared descriptions of what these practices actually look like when coaches are supporting teachers’ classrooms.

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

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

PRACTICE-BASED TEACHER PROFESSIONAL DEVELOPMENT: SUPPORTING TEACHERS TO PRACTICE AND REFINE SPECIFIC MATHEMATICS TEACHING STRATEGIES IN A WORKSHOP SETTING

2:15 PM–3:15 PM | Pacific 15 | Strand 1 | K–5 Elementary

There is a wide gap between discovering a new teaching strategy in a workshop and putting it into practice in the classroom. Coaching helps, but often the focus on a particular teaching practice is lost in the complexity of classroom interactions. Come learn specific strategies for supporting teachers in workshops to try out critical mathematics teaching practices and receive feedback from peers so they are better prepared to implement when they return to their classrooms.

Karen Reinhardt, TeachingWorks, University of Michigan, Ann Arbor, Michigan

Nicole Cirino, TeachingWorks, University of Michigan, Ann Arbor, Michigan

Heather Beasley, TeachingWorks, University of Michigan, Ann Arbor, Michigan

Jason Brasel, TeachingWorks, University of Michigan, Ann Arbor, Michigan

ONLINE COMMUNITIES OF TEACHERS THAT WORK

2:15 PM–3:15 PM | Pacific 16 | Strand 4 | General

Desmos decided to supplement our in-person teacher professional development efforts with an online community for mathematics educators. In this session, we will share the decisions we made to help us build teaching capacity, sustain teacher engagement, and avoid common mistakes in building online communities of practice.

Shelley Carranza, Desmos, San Francisco, California



TUESDAY SESSIONS

AUTHENTIC STEAM INSTRUCTION TO SUPPORT AND CHALLENGE EACH AND EVERY LEARNER

2:15 PM–3:15 PM | Pacific 17 | Strand 2 | K–5 Elementary

Not all STEAM inquiries are created equal! This session explores and advocates for reform mathematics teaching to be realized through integrated STEAM instruction. We'll discuss how to intentionally focus on mathematics to position it as an essential component to solving authentic problems in our world (rather than trivially or without attention to grade-level standards). Learn how to engage teachers and students in meaningful mathematics (and science) through STEAM instruction focused on three E's: Equity, Empathy, and Experience.

Sarah Bush, University of Central Florida, Orlando, Florida

Kristin Cook, Bellarmine University, Louisville, Kentucky

SUPPORTING LEARNING FOR ENGLISH LANGUAGE LEARNERS=LEARNING GAINS FOR ALL

2:15 PM–3:15 PM | Pacific 24 | Strand 5 | K–5 Elementary

In this session, we will share best practice strategies and structures implemented through a collaboration of a mathematics specialist, mathematics coach, classroom teacher, and special education teacher, to help English language learners make strong mathematical connections and achieve at high levels. Classroom videos, student work, and classroom artifacts will be used to illustrate strategies implemented to help all students achieve. Participants will leave with strategies and structures that can be implemented in their own schools.

Carrie Plank, University of Alabama in Huntsville/Alabama Math Science Technology Initiative (AMSTI), Huntsville, Alabama

Linda D'Antonio, Oak Park Elementary School, Decatur, Alabama

MQI COACHING AND TASK COGNITIVE DEMAND: COACHING FOR INCREASED COGNITIVE DEMAND BY FOCUSING ON IMPLEMENTATION OVER MATERIALS

2:15 PM–3:15 PM | Pacific 25 | Strand 1 | General

In our research, we see that the extent to which the students, as opposed to the teacher, are doing the mathematical “heavy lifting” in a lesson depends far more on the teachers’ instructional decisions than on the task or curriculum being used. This session explores the “enactment” of various types of tasks, and how coaches can support teachers’ to improve the cognitive demand for all students, regardless of the curriculum or task being implemented.

Claire Gogolen, Harvard University, Cambridge, Massachusetts

Samantha R. Booth, Harvard University, Cambridge, Massachusetts

Jackie Kearney, Harvard University, Cambridge, Massachusetts

LEADING LEARNERS TO LEVEL UP: ESTABLISHING AND USING GOALS TO FOCUS LEARNING

2:15 PM–3:15 PM | Pacific 26 | Strand 5 | General

Effective mathematics teaching begins with establishing goals to focus learning. We want students to persevere and to show their work and [insert any mathematical content goal]. But what if they can't yet? When success pathways are visible, learners are empowered to reach for the next level in their learning. How might teachers use leveled learning progressions and worked examples to empower learners to become self-correcting, self-reliant, and independent?

Jennifer Wilson, Illustrative Mathematics, Black Mountain, North Carolina

STUDENTS WITH MATHEMATICS LEARNING DISABILITIES SHOULD HAVE ACCESS TO QUALITY MATHEMATICS INSTRUCTION

2:15 PM–3:15 PM | Pacific 14 | Strand 2 | General

The purpose of this presentation is to introduce various mathematics learning disabilities (MDLs) including dyscalculia (and its subtypes), and other aspects of learning that affect a learning disabled student's ability to learn mathematics such as anxiety and visual-spatial deficits. Throughout the presentation, there will be several activities that will emulate the anxiety, frustration, and difficulty that students with MLDs encounter while they are learning mathematics.

Brenda Strassfeld, Touro College, New York, New York

Sridhar Nagubandi, Chairman, High School Mathematics Department, Churchill School and Center, New York, New York

DEVELOPING TEACHER LEADERSHIP FOR TRANSFORMATIVE RESULTS TO ENSURE INNOVATION LASTS

2:15 PM–3:15 PM | Pacific 23 | Strand 3 | General

Teacher leadership is critical for leveraging the capacity within schools to drive professional development, channel and fill leadership capacity, and build collective efficacy. Come learn how to use research-based approaches to design and support teacher leadership aligned with other leadership efforts for transformative results. Experience guided practice in using tools to plan for, assess, and communicate about teacher-led work to fuel continuous improvement and show return on investment with professional development.

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



TUESDAY SESSIONS

LEADING MATHEMATICS: A PROFESSIONAL LEARNING DESIGN FOR ADMINISTRATORS SUPPORTING HIGH-QUALITY MATHEMATICS INSTRUCTION

2:15 PM–3:15 PM | Rancho Santa Fe 2 | Strand 1 | General

How are you supporting administrators interested in transforming their students' mathematics experiences and ensuring access and equity? Learn how to use Principles to Actions to deepen administrators' understanding of high-quality mathematics instruction, grow their observation skills, and support their efforts to accelerate teaching and learning. The San Diego County Office of Education team will share the design, tools and take-aways after leading more than seven cohorts through this professional learning.

Audrey Mendivil, San Diego County Office of Education, San Diego, California

Mark Alcorn, San Diego County Office of Education, San Diego, California

EMPOWERING COLLABORATION VIA A STRUCTURAL, PRACTICAL, AND PHILOSOPHICAL FRAMEWORK FOR SCHOOLS

2:15 PM–3:15 PM | Rancho Santa Fe 1 | Strand 3 | 6–8 Middle

Presenters will share strategies to develop teachers' content and pedagogical knowledge, focusing on enhancing collaboration within the department. This session will share a replicable professional development framework that enhances growth of mathematics teachers by increasing levels of meaningful collaboration. Presenters will answer the question, "What experiences and environments do teachers need in order to grow in the teaching and learning of mathematics?" Participants will leave with a replicable structure for implementation in any school district.

Pamela Nathan, Freehold Township Schools, Freehold, New Jersey

Charlene Marchese, Freehold Township Schools, Freehold, New Jersey

WE HAVE ALREADY BUILT THE WALL...IN AND BETWEEN OUR SCHOOLS

2:15 PM–3:15 PM | Torrey Pines 2 | Strand 2 | General

My school's story of self-discovery reveals that many of the barriers to equity and access that contribute to the achievement gap are built by the well-intended hands of both the decision makers within our schools and the families that we serve. Learn the evidence that you can collect to discover your school's own story and see some potential solutions to closing the opportunity gap.

Chris Shore, Temecula Valley Unified School District, Temecula, California

ON-SITE AND ONLINE: DESIGNING EXPERIENCES TO PREPARE ELEMENTARY MATHEMATICS SPECIALISTS USING A BLENDED MODEL

2:15 PM–3:15 PM | Torrey Pines 1 | Strand 4 | College

To reach a diverse group of teachers statewide, blended models hold promise. We will provide a snapshot of a university program, delivered as a synchronous blended model, which has been designed to prepare teachers as elementary mathematics specialists. We will share design decisions, examples from the online sessions, challenges to and successes of implementing these courses, as well as lessons learned, and invite participants to share their own experiences using blended models to engage teachers.

Mary Jo Tavormina, University of Illinois at Chicago, Chicago, Illinois

Kathleen Pitvorec, University of Illinois at Chicago, Chicago, Illinois

COACHING IN THE MOMENT: A DEEP-DIVE INTO THE DAY-TO-DAY

2:15 PM–3:15 PM | Temecula 3 & 4 | Strand 1 | General

Coaching in the Moment (CITM) enables coaches to move beyond observation and debrief to side-by-side coaching. We will provide an overview of this differentiated approach of immediate, actionable feedback, and share experiences and results. Now in our third year of this practice, we will take a deep-dive into the day-to-day application of CITM. Participants will analyze new video clips and engage in group conversations about how CITM improves instruction and student learning.

Nataliya Paquette, Lexington Public Schools, Lexington, Massachusetts

Melissa Eastwood, Lexington Public Schools, Lexington, Massachusetts

Sonja Kuokkanen, Lexington Public Schools, Lexington, Massachusetts

Donna Sorila, Lexington Public Schools, Lexington, Massachusetts

WHAT DOES IT MEAN TO TAKE A TRANSFORMATIONAL PERSPECTIVE WITH SECONDARY GEOMETRY? HELPING TEACHERS UNDERSTAND THIS APPROACH

2:15 PM–3:15 PM | Temecula 2 | Strand 6 | 6–12 Secondary

Taking a transformational approach to geometry is much different than teaching transformations. What does it mean to take a transformational perspective? How can we help teachers develop mathematical knowledge for teaching geometry when transformations are to be used as the main approach? We will look at tasks that embrace CCSS geometry standards and promote thinking with transformations. Rich connections between transformations, symmetry, constructions, congruence, and proof will be shared.

Travis Lemon, Mathematics Vision Project, Lehi, Utah



TUESDAY SESSIONS

WHAT COUNTS AS EVIDENCE OF STUDENT LEARNING?

2:15 PM–3:15 PM | Temecula 1 | Strand 6 | K–5 Elementary

An essential component of formative assessment lies in collecting and using evidence of student learning to inform instructional decision making. Focusing on collecting and using evidence of student mathematical thinking deepens teachers' mathematical content knowledge. We will share resources we have used across many districts which helped teachers purposefully plan and reflect on the most important tenets of student mathematical thinking that supports their own learning and the learning of their students.

Margaret Pligge, University of Illinois at Chicago, Chicago, Illinois

Joanne Baker, University of Illinois at Chicago, Chicago, Illinois

Nancy Mueller, River Forest School District, River Forest, Illinois

SPONSOR SHOWCASE

ENSURING EQUITY WITH LEARNZILLION'S PUBLICATION OF THE ILLUSTRATIVE MATHEMATICS 6–8 MATH CURRICULUM

2:15 PM–3:15 PM | Torrey Pines 3 | 6–8 Middle

In this session you will experience how the Illustrative Mathematics curriculum engages all students in the exploration and comprehension of mathematical concepts. We will investigate how mathematical language and content routines provide equitable access for all learners throughout the problem-based curriculum. Together, we will experience how LearnZillion's digital platform provides efficient structure and tools for teachers to cultivate rich classroom conversations provided by the architecture of the Illustrative Mathematics curriculum.

Jeff Crawford, Illustrative Mathematics & LearnZillion, Washington, District of Columbia



TUESDAY SESSIONS

CAUCUSES, TUESDAY 3:30 PM–4:15 PM

The caucus provides opportunities for you to connect, network, and celebrate regional success with fellow leaders. Your NCSM Regional Director and team leaders will share information on NCSM initiatives, important issues, and future events. Join us and provide input into the direction and work of our organization. There will be door prizes! We look forward to seeing you.



NCSM REGIONAL CAUCUS: CANADIAN REGION/ RÉGION CANADIENNE

Pacific 14 | Strand 0 | General

Cheryl Cantin, NCSM Canadian Regional Director, Magog, Quebec, Canada



NCSM REGIONAL CAUCUS: INTERNATIONAL

Pacific 22 | Strand 0 | General

Kathleen Rieke, NCSM Historian, Zionsville, Indiana



NCSM REGIONAL CAUCUS: EASTERN REGION 1

Pacific 17 | Strand 0 | General

Shawn Towle, NCSM E1 Regional Director, Falmouth, Maine



NCSM REGIONAL CAUCUS: WESTERN REGION 1

Pacific 26 | Strand 0 | General

Denise Trakas, NCSM W1 Regional Director, Reno, Nevada



NCSM REGIONAL CAUCUS: EASTERN REGION 2

Pacific 24 | Strand 0 | General

Sue Vohrer, NCSM E2 Regional Director, Annapolis, Maryland



NCSM REGIONAL CAUCUS: WESTERN REGION 2

Pacific 19 | Strand 0 | General

Kathlan Latimer, NCSM W2 Regional Director, Suisun City, California



NCSM REGIONAL CAUCUS: SOUTHERN REGION 1

Pacific 16 | Strand 0 | General

Bernard Frost, Ed.D., NCSM S1 Regional Director, Chesnee, South Carolina



NCSM REGIONAL CAUCUS: CENTRAL REGION 1

Pacific 25 | Strand 0 | General

Jason Gauthier, NCSM C1 Regional Director, Dorr, Michigan



NCSM REGIONAL CAUCUS: SOUTHERN REGION 2

Pacific 18 | Strand 0 | General

Paul D. Gray, Jr., NCSM S2 Regional Director, Dallas, Texas



NCSM REGIONAL CAUCUS: CENTRAL REGION 2

Pacific 15 | Strand 0 | General

Sharon Rendon, NCSM C2 Regional Director, Summerset, South Dakota



NCSM PAST PRESIDENT CAUCUS

Pacific 23 | Strand 0 | General

John W. Staley, NCSM Past President, Towson, Maryland



TUESDAY SESSIONS

4:30 PM–5:00 PM

NCSM ANNUAL BUSINESS MEETING AND STATE OF THE ORGANIZATION REPORT

4:30 PM–5:00 PM | Pacific 22 | General

NCSM President Connie Schrock will present the State of the Organization, including our Annual Membership and Financial Reports. Connie will describe the progress on the 2018–2019 initiatives, position papers, and other strategic priorities for the coming year. New NCSM Affiliates will receive their certificates. All members are welcome and encouraged to attend to learn about opportunities involved in NCSM.

Connie Schrock, NCSM President, Emporia, Kansas

Linda Griffith, NCSM Treasurer, Quitman, Arkansas

NOTES

5:30 PM–7:00 PM

RECEPTION



LEADERSHIP IN MATHEMATICS EDUCATION

5:30 PM–7:00 PM | Marriott Grand Ballroom Terrace | General

Join us on the Grand Ballroom Terrace of the Marriott Marquis San Diego Marina Hotel, Lobby Level of the North Tower, as we learn about the newest solutions that address the diverse needs of your students and teachers while enjoying drinks and appetizers with the McGraw-Hill Education authors and curriculum development teams. *This is a ticketed event.*

Sponsored by





San Diego Zoo



PROGRAM SUMMARY INFORMATION
WEDNESDAY, APRIL 3

See page 5 for Conference Strand descriptions.

WEDNESDAY SUMMARY

Grand Ballroom	7:00 AM–8:00 AM	12:00 PM–1:30 PM
	<p>WEDNESDAY BREAKFAST</p> <p>Sponsored by: Agile Mind Uri Treisman Intensification vs. Support: Equity-Minded Strategies for Promoting High Achievement in Mathematics Grand Ballroom General</p>	<p>WEDNESDAY LUNCHEON</p> <p>Partially Sponsored by: ST Math Nigel Nisbet The Neuroscience of Deeper Learning Grand Ballroom Strand 2 General</p>

Pacific 21	8:15 AM–9:15 AM	9:30 AM–10:30 AM	10:45 AM–11:45 AM	1:45 PM–2:45 PM	3:00 PM–4:00 PM
	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION	MAJOR PRESENTATION
	<p>Annie Fetter Sense-Making: Is it a Focus in your Classrooms and Your Schools? Pacific 21 Strand 5 K–5 Elementary</p>	<p>Sunil Singh Creating an Elementary Curriculum with Play and Rigor to Broaden Mathematical Understanding Pacific 21 Strand 6 K–5 Elementary</p>	<p>Laurie Boswell The Language of Learning: Using Feedback and Classroom Discussion to Improve Student Learning Pacific 21 Strand 5 General</p>	<p>Michael Young Equity in the Mathematics Classroom: Who do we Leave Out? Pacific 21 Strand 2 General</p>	<p>Robert Kaplinsky Math Modeling can Make you Filthy Rich Pacific 21 Strand 6 General</p>
Pacific 22	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER	SPOTLIGHT SPEAKER
	<p>Douglas Sovde, Connie Schrock, Uri Treisman, Diana Ceja, Matt Larson, Brea Ratliff Transforming Secondary Mathematics Education: Relevant Mathematics at the Right Time for Each Student (A Keynote Panel Discussion) Pacific 22 Strand 2 General</p>	<p>Francis (Skip) Fennell, Beth Kobett, Jon Wray Math Coaches: Focusing on the Importance of Anticipation and Reflection Within Formative Assessment and Co-Planning/Teaching Pacific 22 Strand 1 3–8 Upper Elementary/Middle</p>	<p>Tracy Zager How will we Know What They're Thinking? Sparking Teachers' Curiosity About Students' Mathematical Ideas Pacific 22 Strand 5 K–5 Elementary</p>	<p>Jo Boaler Limitless: Learn, Lead, and Live without Barriers Pacific 22 Strand 4 General</p>	<p>John SanGiovanni Tools and Resources for Leading a Cohesive Mathematics Program Pacific 22 Strand 5 General</p>
Pacific 14	<p>John Berray, Erica Heinzman Develop Five Essential Values in New Mathematics Teachers Pacific 14 Strand 1 9–12 High School</p>	<p>Valerie Mills Formative Assessment is <i>Not</i> Just For Children: Bring the Power of Formative Assessment to Professional Learning for Teachers Pacific 14 Strand 4 General</p>	<p>Carrie Fortunato Defining Number Concept and Number Sense Pacific 14 Strand 5 PK–2 Primary</p>	<p>Angela Knotts, Katie Salguero Video in the Middle: Using Video Case Studies as a Tool for Coaching Teachers in Linear Functions Pacific 14 Strand 1 3–8 Upper Elementary/Middle</p>	
	PRESIDENTS EXCHANGES—AMTE	<p>Samuel Otten, Michelle Cirillo, Michael Steele The Language Spectrum in Mathematics Classrooms: Supporting Instruction That Empowers Students in Multiple Contexts Pacific 15 Strand 6 6–12 Secondary</p>	<p>Kimberly Morrow-Leong, Sara Delano Moore, Linda Gojak A New Angle on Problem Solving Pacific 15 Strand 6 K–5 Elementary</p>	<p>Cassandra Turner, Beth Curran No More “Menacing Multiplication” and “Laborious Long Division”—Understanding Procedures Through Number Sense in Grades 3–5 Pacific 15 Strand 6 3–5 Intermediate</p>	<p>Jamila Riser, Michael Reitemeyer, Kathleen Olenderski Shifting the Mathematical Authority: Supporting all Students in Building Their Mathematical Understanding Pacific 15 Strand 2 6–12 Secondary</p>
Pacific 15	<p>Michael Steele Who is Mathematics Teacher Educator? Lessons from AMTE’s Standards for Preparing Teachers of Mathematics Pacific 15 General</p>				
	<p>Jill Board, Cheryl Cameron Math Coaching Routines to Guide and Sustain Teachers’ Learning In and From Practice While Attending to Equity and Access Pacific 16 Strand 1 General</p>	<p>Alison Whittington, Amanda Zimolzak, Jeanne DiDomenico Collaborative Coaching: Working Together to Support Meaningful Collaboration and Reflective Teaching Pacific 16 Strand 3 General</p>	<p>Jenny Novak, Holly Cheung Coaching Up Coaches: Protocols for Improving Coaching Practice Pacific 16 Strand 1 General</p>	<p>Alisa Brown, Hilda Borko, Emma Trevino, Mary Maher What Hat are you Wearing? Learning Together Through Video Based Discussions Pacific 16 Strand 3 6–8 Middle</p>	<p>Beth Hulbert, Caroline Ebby Using OGAP Learning Progressions to Promote Equity and Access to Important Mathematics for All Students Pacific 16 Strand 2 3–5 Intermediate</p>
Pacific 16					



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	WEDNESDAY BREAKFAST Sponsored by: Agile Mind Uri Treisman Intensification vs. Support: Equity-Minded Strategies for Promoting High Achievement in Mathematics Grand Ballroom General	WEDNESDAY LUNCHEON Partially Sponsored by: ST Math Nigel Nisbet The Neuroscience of Deeper Learning Grand Ballroom Strand 2 General

	8:15 AM–9:15 AM	9:30 AM–10:30 AM	10:45 AM–11:45 AM	1:45 PM–2:45 PM	3:00 PM–4:00 PM
Pacific 17	Bruce Grip Understanding and Supporting Teachers Who are Not Like You Pacific 17 Strand 1 General	Dianne Wilson, Ellen Byron, Francesca Reinhard, Nick Freathy, Doug Mitzel Improving Instruction—Professional Learning That Works Pacific 17 Strand 4 6–12 Secondary	Whitney Evans Modeling Mathematics and Mathematical Modeling: The Salt and Pepper of True Mathematics Pacific 17 Strand 6 6–12 Secondary	Linda Fulmore From Silence to Engagement—Leading Conversations about Equity and Social Justice Pacific 17 Strand 2 General	Christy Pettis, Aran Glancy Number Talks and Preservice Teachers: How Planning and Enacting Number Talks Had a Ripple Effect in Our Mathematics Methods Coursework Pacific 17 Strand 6 General
Pacific 18	Nancy Horowitz, Lynne Godfrey, Julie Ward Engaging a Community of Coaches In One Urban School District to Lead the Intersectionality of Equity and Ambitious Instruction Pacific 18 Strand 3 General	Mike Flynn Turning Adversaries Into Allies: Building Community-Wide Support For Your Initiatives in Mathematics Education Pacific 18 Strand 3 General	Gregory Tang, Greg Tang, Jr. Rigor: What Is It and Why All Kids Need It! Pacific 18 Strand 6 3–8 Upper Elementary/Middle	Kristin Gray, Allison Hintz, Erin Gannon, Antony Smith Using Learning Labs to Support Teachers in Mathematizing Children's Literature Pacific 18 Strand 1 PK–2 Primary	
Pacific 19	Susan Jo Russell Who Can Do "Abstract" Mathematics? Mathematical Argument in an Urban Elementary School Pacific 19 Strand 6 K–5 Elementary	Shelbi Cole, Ted Coe Rethinking Cognitive Complexity: Are Your Materials Reaching the Depth of the Math Standards? Pacific 19 Strand 5 General		Kristopher Childs, Vernita Glenn-White Mathematics That Matters—Leading Change Through Socially Impactful Tasks Designed to Impact Instruction, Communities, and Achievement Pacific 19 Strand 2 General	Lynsey Gibbons, Nancy Horowitz Learning in Practice: A Coach Routine to Support Teachers As They Teach Pacific 19 Strand 4 General
Pacific 23	Natalie Crist, John W. Staley Making Connections: Developing Student Understanding Through Mathematical Literacy Pacific 23 Strand 5 K–5 Elementary	David Foster Apprentice and Expert Tasks Pacific 23 Strand 5 College	Amy Hoelscher, B. Michelle Rinehart Extending Math Talks: Intentional Talk Structures in Secondary Mathematics Pacific 23 Strand 6 6–12 Secondary	Joshua Males, Anne Schmidt, Julie Kreizel Middle School Mathematics Intervention: One District's Journey to Improve Support for All Students Pacific 23 Strand 2 6–8 Middle	Jane Felling Math Games Show Student's Gifts and Gaps—Using Math Game Journals for Assessment Pacific 23 Strand 5 K–5 Elementary
Pacific 24	Peg Hartwig Developing Cross-Curricular Communication and Alignment to Improve Engagement, Understanding, and Performance Pacific 24 Strand 3 6–12 Secondary	Andrea Word, Jeanne Simpson Language Design: Making It All About the Math Pacific 24 Strand 2 General	Jason Zimba Three Words I Have Never Heard in a Math Classroom Pacific 24 Strand 6 General	Victoria Bill, Laurie Speranzo How Deep Is Deep Enough When Coaching? Pacific 24 Strand 1 General	Jane Wilburn, Dana Franz, Lynda Brennan Using the Teacher Action Q-Sort to Prompt Targeted Professional Learning Agendas Pacific 24 Strand 1 3–8 Upper Elementary/Middle
Pacific 25	Cynthia Callard, Cynthia Carson, Ryan Gillespie An Online Professional Learning Model Designed to Support Teachers in Facilitating Mathematical Discussions Pacific 25 Strand 4 General	Bobbie Greenlee, Michael Greenlee Using Critical Areas of Focus In Mathematics to Strengthen Instruction Towards Deeper Mathematical Understanding Pacific 25 Strand 6 K–5 Elementary	Courtney Ortega, Mary Reed The Truth About Professional Learning Communities: How the Teaching For Robust Understanding (TRU) Framework Put the Focus Back on Students Pacific 25 Strand 1 9–12 High School	Bill Barnes Factors Fueling Formative Assessment: Homework and Grading Pacific 25 Strand 5 6–12 Secondary	Andrea Barraugh Leading Vertical Lesson Study: Building Coherent High Quality Mathematics Instruction Across the Grades Pacific 25 Strand 1 General



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Pacific 26	<p>Alyson Lischka, Cynthia Anhalt Eliciting and Examining Mathematical Knowledge for Teaching: A Framework to Support Teacher Growth Pacific 26 Strand 6 6-12 Secondary</p>	<p>Tim Hudson Who's Asking the Questions in Math Class? Strategies for Cultivating and Assessing Students' Curiosity Pacific 26 Strand 5 General</p>	<p>Rebeka Matthews Sousa, Lou Matthews Beyond Titles, About Actions: Building Organic Teacher Leadership of Mathematics Pacific 26 Strand 3 General</p>	<p>Catherine Fosnot, Phil Daro Taking the Standards of Mathematical Practice Seriously Pacific 26 Strand 5 General</p>	<p>Erica Heinzman, Alexandra Martinez Planning the Rigor Narrative With the Resources You Have Pacific 26 Strand 1 6-12 Secondary</p>
Rancho Santa Fe 1	<p>Mary Abele-Austin, Karen Reinhardt Multiplicative Reasoning in Action: An Interactive Professional Development Session Modeling How to Support Teachers to Link Area Models With Algorithms Rancho Santa Fe 1 Strand 1 3-8 Upper Elementary/Middle</p>	<p>Denise Trakas, Jackie Palmquist Opportunities for NCSM Professional Learning Leadership Events Rancho Santa Fe 1 Strand 5 General</p>	<p>Faith Muirhead Transformative Coaching: Coaching to Ensure Teacher Change Rancho Santa Fe 1 Strand 1 General</p>	<p>Lou Matthews, Shelly Jones, Rebeka Matthews Sousa Lift Every Voice! Centering Culturally Responsive Teaching and Practice at the Forefront of Mathematics Leadership Rancho Santa Fe 1 Strand 2 General</p>	
Rancho Santa Fe 2	<p>Celia Jimenez, Ann-Marie Evans, Alexandra Bayuk Using Revolutionary Curriculum and Technological Tools to Improve Communication Pathways, Deepen Learning, and Get True Parent Buy-In Rancho Santa Fe 2 Strand 5 6-8 Middle</p>	<p>Lizzy Hull Barnes, Elizabeth DeCarli, Vriana Kempster, Ho Nguyen Detracking Policy in SFUSD: Our Ongoing Commitment to Equity, the Lessons We Have Learned, and the Questions we Still Have Rancho Santa Fe 2 Strand 2 6-12 Secondary</p>	<p>Elizabeth Petit Cunningham, Christine Farnham Seven Potential Instructional Responses to Formative Assessment: Coaching Instructional Decisions with OGAP Learning Progressions Rancho Santa Fe 2 Strand 1 3-5 Intermediate</p>	<p>Samantha Wuttig, Michelle Daml Providing Professional Development and Developing Leaders in Geographically Challenging Locations Supported by Technology Rancho Santa Fe 2 Strand 4 General</p>	
Rancho Santa Fe 3	<p>Pam Morris, Marta Eskin Creating a School Culture of Reflection Through the Implementation of Learning Walks Rancho Santa Fe 3 Strand 1 K-5 Elementary</p>	<p>Cory Haley Coaching the Coach: Techniques and Tools that Supports Teacher and Student Efficacy Rancho Santa Fe 3 Strand 1 General</p>	<p>Kathy Richardson, Sue Dolphin Why Do These Kids Not Want Tutoring to Be Over? Turning Unsuccessful Students Into Eager Mathematicians Rancho Santa Fe 3 Strand 5 K-5 Elementary</p>	<p>David Webb Using Dynamic Mathematics Simulations to Disrupt and Promote Classroom Discourse Rancho Santa Fe 3 Strand 6 6-12 Secondary</p>	
Temecula 1	<p>Bill Barnes How to Successfully Write Conference Proposals for NCSM Temecula 1 Strand 0 General</p>	<p>Funda Gonulates, Daniel McGee, Dee Crescitelli Reading Too Much Into Assessments Temecula 1 Strand 6 K-5 Elementary</p>	<p>Anne Gallagher, Tamara Smith, Mary Ellen Huggins Change Takes a Village: Building Leadership Capacity in Your District Temecula 1 Strand 3 General</p>		



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	8:15 AM–9:15 AM	9:30 AM–10:30 AM	10:45 AM–11:45 AM	1:45 PM–2:45 PM	3:00 PM–4:00 PM
Temecula 2	<p>Kimberly Rimbey Three Massive Mistakes Elementary Education Leaders Make That Contribute to Disappointing Mathematics Scores Temecula 2 Strand 3 General</p>				
Temecula 3 & 4		<p>Heather Dyer Increasing Access and Equity by Rethinking the First Two Weeks of School Temecula 3 & 4 Strand 2 K-5 Elementary</p>	<p>Brandi Simpson, Brooke Lucio Observational Feedback That Sticks: Google and Extensions That Create Actionable Feedback Temecula 3 & 4 Strand 1 General</p>		
Torrey Pines 1	<p>Debi DePaul Leveraging Powerful Models to Promote Deep Learning Torrey Pines 1 Strand 6 K-5 Elementary</p>	<p>Kim Hughes, Jacob Sisson Integrating Learning Progressions to Enhance the Mathematics Teaching and Learning Practices Torrey Pines 1 Strand 1 General</p>	<p>Mike Long, Judy Werner Investigating Content Professional Development for New Elementary Teachers Torrey Pines 1 Strand 6 K-5 Elementary</p>	<p>Lucy Watson, Angela Barlow, James Willingham, Natasha Gerstenschlager, Kristin Hartland Teachers Ascribing to Different Mindsets and the Role of Mistakes Torrey Pines 1 Strand 5 General</p>	
Torrey Pines 2	<p>Kyndall Brown, Pamela Seda Putting Equity at the Forefront of the Lesson Planning Process Torrey Pines 2 Strand 2 6-12 Secondary</p>	<p>Tara Hewan, Michelle Armentrout Bridging the Equity Gap Between Numeracy and Literacy to Improve Teachers' Mathematical Mindsets Torrey Pines 2 Strand 5 K-5 Elementary</p>	<p>Karen Fuson Deepening and Connecting Geometry, Geometric Measurement, and Operations and Algebraic Thinking (OA) Within and Across the Grades Torrey Pines 2 Strand 6 K-5 Elementary</p>	<p>Michael Greenlee, Joseph McNaughton Teaching Elementary Students to Speak the Language of Mathematics Through Mathematical Discourse Torrey Pines 2 Strand 6 K-5 Elementary</p>	
	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE	SPONSOR SHOWCASE
Torrey Pines 3	<p>Michelle Montgomery, Akash Gopisetty, Benjamin Galluzzo Math Modeling: Getting Started, Getting Solutions, Computing, and Communicating Torrey Pines 3 General</p>	<p>Deb McGinley More Choice, More Voice Torrey Pines 3 K-5 Elementary</p>	<p>Melinda Schwartz, Lynne Bursch Leaders Supporting Math Workshop Model—What Works? Torrey Pines 3 General</p>	<p>Shelley Krieger, Mark Goldstein Math Intervention: Strategies to Help Students Catch Up Torrey Pines 3 General</p>	<p>Iain Ferguson EMF Math: An Online, Self-Paced, Challenging Curriculum for Middle School (6-8) Torrey Pines 3 6-8 Middle</p>



WEDNESDAY SESSIONS BY STRAND

STRAND 0: NCSM BUSINESS

LEVEL	LOCATION	TIME
GEN	TEMECULA 1	8:15-9:15

STRAND 1: VISIONARY COACHING PRACTICES

LEVEL	LOCATION	TIME
GEN	PACIFIC 16	8:15-9:15
GEN	PACIFIC 17	8:15-9:15
9-12	PACIFIC 14	8:15-9:15
K-5	RANCHO SANTA FE 3	8:15-9:15
3-8	RANCHO SANTA FE 1	8:15-9:15
3-8	PACIFIC 22	9:30-10:30
GEN	RANCHO SANTA FE 3	9:30-10:30
GEN	TORREY PINES 1	9:30-10:30
GEN	PACIFIC 16	10:45-11:45
9-12	PACIFIC 25	10:45-11:45
3-5	RANCHO SANTA FE 2	10:45-11:45
GEN	RANCHO SANTA FE 1	10:45-11:45
GEN	TEMECULA 3 & 4	10:45-11:45
3-8	PACIFIC 14	1:45-2:45
PK-2	PACIFIC 18	1:45-2:45
GEN	PACIFIC 24	1:45-2:45
3-8	PACIFIC 24	3:00-4:00
GEN	PACIFIC 25	3:00-4:00
6-12	PACIFIC 26	3:00-4:00

STRAND 2: EMPOWERING EQUITY AND SOCIAL JUSTICE LEADERSHIP

LEVEL	LOCATION	TIME
GEN	PACIFIC 22	8:15-9:15
6-12	TORREY PINES 2	8:15-9:15
GEN	PACIFIC 24	9:30-10:30
6-12	RANCHO SANTA FE 2	9:30-10:30
K-5	TEMECULA 3 & 4	9:30-10:30
GEN	GRAND BALLROOM	12:00-1:30
GEN	PACIFIC 21	1:45-2:45
GEN	PACIFIC 17	1:45-2:45
GEN	PACIFIC 19	1:45-2:45
6-8	PACIFIC 23	1:45-2:45
GEN	RANCHO SANTA FE 1	1:45-2:45
6-12	PACIFIC 15	3:00-4:00
3-5	PACIFIC 16	3:00-4:00

STRAND 3: ENGAGING LEADERSHIP COMMUNITIES

LEVEL	LOCATION	TIME
GEN	PACIFIC 15	8:15-9:15
GEN	PACIFIC 18	8:15-9:15
6-12	PACIFIC 24	8:15-9:15
GEN	TEMECULA 2	8:15-9:15
GEN	PACIFIC 18	9:30-10:30
GEN	PACIFIC 16	9:30-10:30
GEN	PACIFIC 26	10:45-11:45
GEN	TEMECULA 1	10:45-11:45
6-8	PACIFIC 16	1:45-2:45

STRAND 4: INNOVATIVE ENGAGEMENT

LEVEL	LOCATION	TIME
GEN	PACIFIC 25	8:15-9:15
6-12	PACIFIC 17	9:30-10:30
GEN	PACIFIC 14	9:30-10:30
GEN	PACIFIC 22	1:45-2:45
GEN	RANCHO SANTA FE 2	1:45-2:45
GEN	PACIFIC 19	3:00-4:00

STRAND 5: EXEMPLARY EXPERIENCES FROM THE FIELD

LEVEL	LOCATION	TIME
K-5	PACIFIC 21	8:15-9:15
K-5	PACIFIC 23	8:15-9:15
6-8	RANCHO SANTA FE 2	8:15-9:15
GEN	PACIFIC 19	9:30-10:30
GEN	PACIFIC 26	9:30-10:30
COLLEGE	PACIFIC 23	9:30-10:30
GEN	RANCHO SANTA FE 1	9:30-10:30
K-5	TORREY PINES 2	9:30-10:30
GEN	PACIFIC 21	10:45-11:45
K-5	PACIFIC 22	10:45-11:45
PK-2	PACIFIC 14	10:45-11:45
K-5	RANCHO SANTA FE 3	10:45-11:45
6-12	PACIFIC 25	1:45-2:45
GEN	PACIFIC 26	1:45-2:45
GEN	TORREY PINES 1	1:45-2:45
GEN	PACIFIC 22	3:00-4:00
K-5	PACIFIC 23	3:00-4:00

STRAND 6: DEVELOPING MATHEMATICAL KNOWLEDGE FOR TEACHING

LEVEL	LOCATION	TIME
K-5	PACIFIC 19	8:15-9:15
6-12	PACIFIC 26	8:15-9:15
K-5	TORREY PINES 1	8:15-9:15
K-5	PACIFIC 21	9:30-10:30
6-12	PACIFIC 15	9:30-10:30
K-5	PACIFIC 25	9:30-10:30
K-5	TEMECULA 1	9:30-10:30
6-12	PACIFIC 17	10:45-11:45
3-8	PACIFIC 18	10:45-11:45
K-5	PACIFIC 15	10:45-11:45
GEN	PACIFIC 24	10:45-11:45
6-12	PACIFIC 23	10:45-11:45
K-5	TORREY PINES 2	10:45-11:45
K-5	TORREY PINES 1	10:45-11:45
3-5	PACIFIC 15	1:45-2:45
6-12	RANCHO SANTA FE 3	1:45-2:45
K-5	TORREY PINES 2	1:45-2:45
GEN	PACIFIC 21	3:00-4:00
GEN	PACIFIC 17	3:00-4:00



WEDNESDAY SESSIONS

HOW TO READ THIS SPEAKER PROGRAM:

TITLE OF PRESENTATION

Time of Presentation | Room Location | Strand Number | Grade Level/Target Audience

Description of presentation.

Speaker Name, Position/Affiliation, City, State

MONDAY LEADERSHIP EXCHANGE—GRAND BALLROOM PRE-FUNCTION AREA

TIME	FACILITATOR	TOPIC
8:30 am–9:00 am	LouAnn Lovin	Transforming Our Work with Students Who Struggle: Sharing Challenges and Successes in Attending to Explicitness in Our Mathematics Instruction
2:30 pm–3:00 pm	Annie Fetter	Encouraging the Spread of Sense-Making Strategies

WEDNESDAY BREAKFAST

INTENSIFICATION VS. SUPPORT: EQUITY-MINDED STRATEGIES FOR PROMOTING HIGH ACHIEVEMENT IN MATHEMATICS

7:00 AM–8:00 AM | Grand Ballroom | General

Hear from Professor Uri Treisman of the Charles A. Dana Center at the University of Texas at Austin on the history and benefits of student acceleration systems and strategies, including why intensification is so effective. You will also hear from David Savage, National Director of Professional Services at Agile Mind about how one such approach is showing considerable empirical evidence of success.

Uri Treisman, Founder and Executive Director, The Charles A. Dana Center at the University of Texas at Austin, Austin, Texas



Uri is University Distinguished Professor of Mathematics and of Public Affairs at The University of Texas at Austin, where he serves as founding director of the University's Charles A. Dana Center (www.utdanacenter.org).

For his work on nurturing minority student high achievement in college mathematics, Uri received the MacArthur Fellowship—the so-called genius award. In 2006 the Harvard Foundation of Harvard University named him Scientist of the Year for his contributions to mathematics.

In 2015 he received the Kay Gilliland Equity Lecture Award from NCTM. And, in 2016 he received NCSM's Ross Taylor/Glenn Gilbert National Leadership Award.

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WEDNESDAY SESSIONS

8:15 AM–9:15 AM

MAJOR PRESENTATION

SENSE-MAKING: IS IT A FOCUS IN YOUR CLASSROOMS AND YOUR SCHOOLS?

8:15 AM–9:15 AM | Pacific 21 | Strand 5 | K–5 Elementary



Are your students making sense of the mathematics they explore? Do they feel that mathematics is an inherently sensible endeavor? We'll look at ways in which students don't make sense of mathematics, consider why, and discuss strategies used by one K–5 mathematics coach for making it a larger part of the expectations in his district.

Annie Fetter, Math Educator, Rutledge, Pennsylvania

President, Sharon Rendon, NCSM C2 Regional Director, Summerset, South Dakota

SPOTLIGHT SPEAKER

TRANSFORMING SECONDARY MATHEMATICS EDUCATION: RELEVANT MATHEMATICS AT THE RIGHT TIME FOR EACH STUDENT (A KEYNOTE PANEL DISCUSSION)

8:15 AM–9:15 AM | Pacific 22 | Strand 2 | General



Increasingly, post-secondary institutions are recognizing the limited usefulness of legacy Algebra 2 courses and the singular pathway to Calculus they are designed to serve. Join the presidents of National Council of Supervisors of Mathematics, the National Council of Teachers of Mathematics, and the Conference Board

of the Mathematical Sciences for a panel discussion on the future of Algebra 2 and its follow-on courses, building on the successes of college- and career- ready standards.

Douglas Sovde, Charles A. Dana Center, Austin, Texas

Connie Schrock, NCSM President, Emporia, Kansas

Uri Treisman, Charles A. Dana Center, The University of Texas, Austin, Texas

Diana Ceja, President, TODOS, Riverside, California

Matt Larson, Past President, NCTM, Lincoln, Nebraska

Brea Ratliff, President, Benjamin Banneker Association, Little Rock, Arkansas

President, Nanci Smith, NCSM Affiliate Group Chair, Peoria, Arizona

ENGAGING A COMMUNITY OF COACHES IN ONE URBAN SCHOOL DISTRICT TO LEAD THE INTERSECTIONALITY OF EQUITY AND AMBITIOUS INSTRUCTION

8:15 AM–9:15 AM | Pacific 18 | Strand 3 | General

This session will focus on our work with a team of school-based and district coaches creating equitable mathematics communities that engage all students in making sense of challenging mathematics. We will share coaching protocols and the use of Instructional Activities in cycles of enactment and investigation to develop and expand coaches' and teachers' mathematical understandings, belief in students as mathematical thinkers, and use of ambitious teaching practices to empower all students to participate meaningfully in mathematics.

Nancy Horowitz, Consultant Cambridge Public Schools, Boston, Massachusetts

Lynne Godfrey, Consultant Cambridge Public Schools, Medford, Massachusetts

Julie Ward, Cambridge Public Schools, Cambridge, Massachusetts

WHO CAN DO “ABSTRACT” MATHEMATICS? MATHEMATICAL ARGUMENT IN AN URBAN ELEMENTARY SCHOOL

8:15 AM–9:15 AM | Pacific 19 | Strand 6 | K–5 Elementary

Who can think mathematically? An overly simplified view of a progression from “concrete” to “abstract” can restrict access to cognitively demanding tasks for students seen as “not yet ready” for work on regularity and structure. This talk, illustrated with classroom examples, focuses on how one school committed to a focus on mathematical argument.

Susan Jo Russell, TERC, Cambridge, Massachusetts

PRESIDENTS EXCHANGE–AMTE

WHO IS A MATHEMATICS TEACHER EDUCATOR? LESSONS FROM AMTE'S STANDARDS FOR PREPARING TEACHERS OF MATHEMATICS

8:15 AM–9:15 AM | Pacific 15 | Strand 3 | General

The image of a well-prepared beginning teacher portrayed in the AMTE Standards has implications for a wide range of stakeholders, including mathematicians, teacher educators, district personnel, and mentor teachers. How can teacher educators, districts, and teacher leaders work more effectively to support beginning teachers throughout their candidacy? I describe some ways in which we can position teachers, coaches, and district leaders as equal partners in the preparation of future teachers of mathematics.

Michael Steele, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin



WEDNESDAY SESSIONS

MATH COACHING ROUTINES TO GUIDE AND SUSTAIN TEACHERS' LEARNING IN AND FROM PRACTICE WHILE ATTENDING TO EQUITY AND ACCESS

8:15 AM–9:15 AM | Pacific 16 | Strand 1 | General

This session introduces coaching routines designed to foster the “study” of mathematics teaching as a habit-of-practice thus equipping teachers to improve instruction and achievement in the absence of coaches. Participants will imagine themselves in one of several coaching contexts (i.e., coaching a teacher, coaching a coach coaching a teacher, or coaching an administrator coaching a teacher), view teaching videos, rehearse coaching routines, and discuss how particular routines support teachers' attention to access and equity.

Jill Board, Teachers Development Group, West Linn, Oregon

Cheryl Cameron, Teachers Development Group, West Linn, Oregon

UNDERSTANDING AND SUPPORTING TEACHERS WHO ARE NOT LIKE YOU

8:15 AM–9:15 AM | Pacific 17 | Strand 1 | General

People are different. How do you build a supportive coaching relationship with someone who has different values, needs, and beliefs about how to teach mathematics? Get a glimpse of teaching and the classroom through another person's eyes by utilizing the theory of temperaments. Let's laugh, share, listen, and reflect as we deepen our understanding of different personality styles and build more positive coaching relationships.

Bruce Grip, Claremont Graduate University, Claremont, California

DEVELOPING CROSS-CURRICULAR COMMUNICATION AND ALIGNMENT TO IMPROVE ENGAGEMENT, UNDERSTANDING, AND PERFORMANCE

8:15 AM–9:15 AM | Pacific 24 | Strand 3 | 6–12 Secondary

Improve conceptual understanding and modeling behaviors by developing cross-curricular mathematics—science communication and alignment from grade 6 through Algebra 2. Identify common ironies among related mathematics and science learning trajectories and discuss effective options for improving these alignments. Explore ways to implement and assess student-driven STEM projects where scientific explorations are supported with related mathematical applications. These projects drive students to attain higher levels of synthesis among mathematics, science, and technology.

Peg Hartwig, Discovery Education, Silver Spring, Maryland

AN ONLINE PROFESSIONAL LEARNING MODEL DESIGNED TO SUPPORT TEACHERS IN FACILITATING MATHEMATICAL DISCUSSIONS

8:15 AM–9:15 AM | Pacific 25 | Strand 4 | General

In this session, we will describe the design and implementation of a fully online professional learning model. This model integrates three types of learning experiences for teachers: online teaching labs, online courses based on 5 Practices for Orchestrating Mathematical Discussions (Smith & Stein, 2011), and online video coaching. Participants will reflect on the affordances of each part of the model and discuss the impact of the whole model on teacher learning in an online space.

Cynthia Callard, University of Rochester, Rochester, New York

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

Ryan Gillespie, University of Idaho, Coeur d'Alene, Idaho

ELICITING AND EXAMINING MATHEMATICAL KNOWLEDGE FOR TEACHING: A FRAMEWORK TO SUPPORT TEACHER GROWTH

8:15 AM–9:15 AM | Pacific 26 | Strand 6 | 6–12 Secondary

How can we support teachers in examining their personal mathematical knowledge for teaching (MKT) to identify both strengths and opportunities for growth? This session features activities appropriate for high school mathematics that use simulated student thinking to elicit MKT in authentic yet structured ways. Participants will engage in a process that facilitates self-reflection on their personal MKT using a research-based framework that provides specific ways to think about how to improve in this area.

Alyson Lischka, Middle Tennessee State University, Murfreesboro, Tennessee

Cynthia Anhalt, University of Arizona, Tucson, Arizona

DEVELOP FIVE ESSENTIAL VALUES IN NEW MATHEMATICS TEACHERS

8:15 AM–9:15 AM | Pacific 14 | Strand 1 | 9–12 High School

Taking attendance, drafting lesson plans, grading, responding to parents, wading through the confounding curriculum—new mathematics teachers can often feel overwhelmed by the hundreds of decisions they make daily! In this session, come experience practical strategies on how coaches and supervisors can support new teachers' immediate concerns, while simultaneously fostering five essential values that will nurture and sustain teacher longevity.

John Berray, Grossmont Union High School District, El Cajon, California

Erica Heinzman, UCSD - EDS, La Jolla, California



WEDNESDAY SESSIONS

MAKING CONNECTIONS: DEVELOPING STUDENT UNDERSTANDING THROUGH MATHEMATICAL LITERACY

8:15 AM–9:15 AM | Pacific 23 | Strand 5 | K–5 Elementary

What is mathematical literacy and how can teachers build all students' depth of understanding through mathematical literacy? In this session, participants will engage in collaborative discussion to define mathematical literacy and to examine student work samples for evidence of disciplinary literacy. Participants will analyze mathematical tasks that promote communication and critical thinking and offer relevant experiences for elementary learners. Strategies and tools to further students' mathematical understanding through literacy will be shared.

Natalie Crist, Baltimore County Public Schools, Towson, Maryland

John W. Staley, Baltimore County Public Schools, Towson, Maryland

USING REVOLUTIONARY CURRICULUM AND TECHNOLOGICAL TOOLS TO IMPROVE COMMUNICATION PATHWAYS, DEEPEN LEARNING, AND GET TRUE PARENT BUY-IN

8:15 AM–9:15 AM | Rancho Santa Fe 2 | Strand 5 | 6–8 Middle

Can you imagine truly positive district-wide meetings with middle school parents about mathematics education? Learn how a large, diverse district's use of innovative materials and technology became the catalyst for enhanced engagement among grades 6–8 students and enthusiastic support from parents. We will share our methods, including a demonstration with audience participation. Purposeful interactions within our program have led to deeper mathematical learning, broader stakeholder support, and a sense of community that shatters traditional barriers.

Celia Jimenez, Broward County Public Schools, Fort Lauderdale, Florida

Ann-Marie Evans, Broward County Public Schools, Fort Lauderdale, Florida

Alexandra Bayuk, Broward County Public Schools, Fort Lauderdale, Florida

CREATING A SCHOOL CULTURE OF REFLECTION THROUGH THE IMPLEMENTATION OF LEARNING WALKS

8:15 AM–9:15 AM | Rancho Santa Fe 3 | Strand 1 | K–5 Elementary

Learning walks can be a crucial component in creating a successful reflective school culture. This session will guide you through the process of beginning a learning walk process in an elementary school, including pitfalls to watch for and tips for success. Learning walks empower your teachers to reflect on their practice and establish a sense of agency among educators.

Pam Morris, Houston Independent School District, Houston, Texas

Marta Eskin, Houston Independent School District, Houston, Texas

MULTIPLICATIVE REASONING IN ACTION: AN INTERACTIVE PROFESSIONAL DEVELOPMENT SESSION MODELING HOW TO SUPPORT TEACHERS TO LINK AREA MODELS WITH ALGORITHMS

8:15 AM–9:15 AM | Rancho Santa Fe 1 | Strand 1

3–8 Upper Elementary/Middle

Increase teacher content knowledge and provide instructional strategies at the same time! Come work with colleagues to solve a multi-digit multiplication problem using the open area model, partial products, and the traditional algorithm; then create a poster to illustrate how the three strategies are connected. Consider how to use this activity to support the teachers you coach to see these relationships and facilitate this activity with their students to build flexible, fluent, multiplicative reasoners.

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

Karen Reinhardt, TeachingWorks, University of Michigan, Ann Arbor, Michigan

PUTTING EQUITY AT THE FOREFRONT OF THE LESSON PLANNING PROCESS

8:15 AM–9:15 AM | Torrey Pines 2 | Strand 2 | 6–12 Secondary

For many teachers, equity is a nice idea, but they often don't know where to begin. In this interactive session, leaders will learn how to use an equity framework to help teachers incorporate equitable teaching practices into their mathematics lessons. Electronic resources will be made available for all participants.

Kyndall Brown, Member of the TODOS Board, California Mathematics Project, University of California, Los Angeles, California

Pamela Seda, Southwest Dekalb High School, Decatur, Georgia

LEVERAGING POWERFUL MODELS TO PROMOTE DEEP LEARNING

8:15 AM–9:15 AM | Torrey Pines 1 | Strand 6 | K–5 Elementary

Learn how to best leverage the use of, and connection among, visual models to promote deep learning. Come explore the perceptual features of various models and consider their strengths and weaknesses. We'll discuss how well a model fits (or doesn't fit) the intended mathematical idea and consider how models support (or interfere with) student understanding.

Debi DePaul, ORIGO Education, St. Charles, Missouri



WEDNESDAY SESSIONS

THREE MASSIVE MISTAKES ELEMENTARY EDUCATION LEADERS MAKE THAT CONTRIBUTE TO DISAPPOINTING MATHEMATICS SCORES

8:15 AM–9:15 AM | Temecula 2 | Strand 3 | General

Join us to discover three massive mistakes you may be inadvertently making that sabotage the very mathematics achievement you work so hard to promote. You will leave this interactive session with practical collaboration tools and turnaround strategies you and your colleagues can use to address each of these mistakes and improve the mathematics teaching and learning in your school or district. Take home these targeted approaches to turn mistakes into strategies for success.

Kimberly Rimbey, KP Mathematics/Buckeye Elementary School District, Glendale, Arizona

HOW TO SUCCESSFULLY WRITE CONFERENCE PROPOSALS FOR NCSM

8:15 AM–9:15 AM | Temecula 1 | Strand 0 | General

Have you submitted a proposal and not been accepted? Do you feel like you don't understand the system? We have heard you! Join us as we review the proposal submission process and guidelines and give advice on topics. Our goal is to provide learning and leadership opportunities for all. NCSM Program Chairs and Conference Coordinators will help you practice writing and reviewing proposals during the session.

Bill Barnes, NCSM 1st Vice President, Ellicott City, Maryland

SPONSOR SHOWCASE

MATH MODELING: GETTING STARTED, GETTING SOLUTIONS, COMPUTING, AND COMMUNICATING

8:15 AM–9:15 AM | Torrey Pines 3 | General

Society for Industrial and Applied Mathematics' (SIAM) organizes an annual math modeling contest for high school students: MathWorks Math Modeling Challenge. Free registration and participation; open to high schools in the US. \$100,000 awarded annually. Learn about the Challenge, the open ended and data driven problems posed, and how to participate meaningfully. Run through a recent Challenge problem, using basic approaches up through using technical computing. Speakers are from SIAM, MathWorks, and a Challenge problem writer/judge. Participants will receive comp copies of Math Modeling handbooks.

Michelle Montgomery, Society for Industrial and Applied Mathematics/MathWorks Math Modeling Challenge, Philadelphia, Pennsylvania

Akash Gopisetty, MathWorks, Natick, Massachusetts

Benjamin Galluzzo, Clarkson University, Potsdam, New York

9:30 AM–10:30 AM

MAJOR PRESENTATION

CREATING AN ELEMENTARY CURRICULUM WITH PLAY AND RIGOR TO BROADEN MATHEMATICAL UNDERSTANDING

9:30 AM–10:30 AM | Pacific 21 | Strand 6 | K–5 Elementary



In order to implement sound pedagogical practices in the critical early years of mathematics education, teachers need to increase their content knowledge through a combination of self-directed initiatives and robust professional development opportunities. In this session, teachers will explore all current resources—

manipulatives, books, online resources, and technology—to support and sustain blended learning classrooms that challenge emerging student curiosities in safe and equitable spaces.

Sunil Singh, Scolab/Math Consultant, Montreal, Quebec, Canada

President, Cheryl Cantin, NCSM Canadian Regional Director, Magog, Quebec, Canada

SPOTLIGHT SPEAKER

MATH COACHES: FOCUSING ON THE IMPORTANCE OF ANTICIPATION AND REFLECTION WITHIN FORMATIVE ASSESSMENT AND CO-PLANNING/TEACHING

9:30 AM–10:30 AM | Pacific 22 | Strand 1 | 3–8 Upper Elementary/Middle



This presentation will engage all participants, particularly mathematics coaches/specialists in recognizing and emphasizing the importance of anticipation and reflection as critical classroom constructs. The session will involve case-based and video examples involving planning and formative

assessment to provide indicators of how coaches/specialists can consider and truly foster the use of both anticipation and reflection, in their co-planning and co-teaching with teacher colleagues.

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

Beth Kobett, Stevenson University, Stevenson, Maryland

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

President, Jason Gauthier, NCSM C1 Regional Director, Dorr, Michigan



WEDNESDAY SESSIONS

IMPROVING INSTRUCTION—PROFESSIONAL LEARNING THAT WORKS

9:30 AM–10:30 AM | Pacific 17 | Strand 4 | 6–12 Secondary

Improving instruction is hard work. In this session, learn how one district has refined its approach to professional learning. Participants will explore the features of their site's/district's professional learning to see where they can capitalize on their strengths to create a cohesive approach to professional learning that improves instruction.

Dianne Wilson, Elk Grove Unified School District, Elk Grove, California

Ellen Byron, Elk Grove Unified School District, Elk Grove, California

Francesca Reinhard, Elk Grove Unified School District, Elk Grove, California

Nick Freathy, Elk Grove Unified School District, Elk Grove, California

Doug Mitzel, Elk Grove Unified School District, Elk Grove, California

TURNING ADVERSARIES INTO ALLIES: BUILDING COMMUNITY-WIDE SUPPORT FOR YOUR INITIATIVES IN MATHEMATICS EDUCATION

9:30 AM–10:30 AM | Pacific 18 | Strand 3 | General

Any initiative in mathematics education, whether classroom-based or state-wide, requires support from all stakeholders (students, parents, administrators, school board, etc.) involved. However, building and sustaining that support can be challenging, especially if there are pockets of skeptics actively working against your goals. This session will address these challenges and provide educators and administrators with strategies and resources to help them build momentum in their communities to support meaningful and powerful mathematics education for all students.

Mike Flynn, Mount Holyoke College, South Hadley, Massachusetts

RETHINKING COGNITIVE COMPLEXITY: ARE YOUR MATERIALS REACHING THE DEPTH OF THE MATH STANDARDS?

9:30 AM–10:30 AM | Pacific 19 | Strand 5 | General

Is balancing conceptual understanding, procedural skill and fluency, and application enough to ensure a successful, coherent mathematics experience for students? In this session, come explore newly developed guidance on cognitive complexity grounded in the three aspects of rigor that can help you determine whether your mathematics materials are truly meeting the depth of the standards.

Shelbi Cole, Student Achievement Partners, New York, New York

Ted Coe, Achieve, Washington, District of Columbia

THE LANGUAGE SPECTRUM IN MATHEMATICS CLASSROOMS: SUPPORTING INSTRUCTION THAT EMPOWERS STUDENTS IN MULTIPLE CONTEXTS

9:30 AM–10:30 AM | Pacific 15 | Strand 6 | 6–12 Secondary

Mathematical language is used differently in different contexts (e.g., small-group work, whole-class presentations, written explanations), but many students are not aware of the subtle shifts in language expectations. It is imperative to make these shifts explicit if we wish to increase access to mathematical success. This session presents the research-based idea of the Language Spectrum and shares strategies for supporting teachers in navigating the Language Spectrum in their own classrooms.

Samuel Otten, University of Missouri, Columbia, Missouri

Michelle Cirillo, University of Delaware, Newark, Delaware

Michael Steele, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin

COLLABORATIVE COACHING: WORKING TOGETHER TO SUPPORT MEANINGFUL COLLABORATION AND REFLECTIVE TEACHING

9:30 AM–10:30 AM | Pacific 16 | Strand 3 | General

Collaborative coaching is a protocol that combines collaborative planning, teaching, observing, and debriefing with a focus on collecting and analyzing evidence of student learning. In this session, participants will be introduced to the collaborative coaching model and various tools and strategies to engage teachers, teacher leaders, and administrators in collaborative, evidence-based professional learning.

Alison Whittington, UChicago STEM Education, Chicago, Illinois

Amanda Zimolzak, UChicago STEM Education, Chicago, Illinois

Jeanne DiDomenico, UChicago STEM Education, Chicago, Illinois

LANGUAGE DESIGN: MAKING IT ALL ABOUT THE MATH

9:30 AM–10:30 AM | Pacific 24 | Strand 2 | General

Using the DIAL Design Model (Designing Instructional and Academic Language), we will analyze the language used in mathematics classrooms. We will then present techniques to optimize teacher talk and help students access the content. Using these design techniques, complex mathematical concepts become more accessible to all learners, but especially to linguistically diverse students.

Andrea Word, The University of Alabama in Huntsville, Huntsville, Alabama

Jeanne Simpson, Alabama Math, Science, and Technology Initiative—UAHuntsville, Huntsville, Alabama



WEDNESDAY SESSIONS

USING CRITICAL AREAS OF FOCUS IN MATHEMATICS TO STRENGTHEN INSTRUCTION TOWARDS DEEPER MATHEMATICAL UNDERSTANDING

9:30 AM–10:30 AM | Pacific 25 | Strand 6 | K–5 Elementary

The CCSSM provide critical areas of focus for each grade, however, schools deemphasize standards that seem beyond these critical areas, thereby abandoning parts of the curriculum that are essential for conceptual learning. In this session, participants will explore the importance of the critical areas of focus for each grade and how they drive instruction of all standards in order to meet the full intent under the major work for the grade.

Bobbie Greenlee, Polk County School District, Bartow, Florida

Michael Greenlee, The Charles A. Dana Center at The University of Texas at Austin, Austin, Texas

WHO'S ASKING THE QUESTIONS IN MATH CLASS? STRATEGIES FOR CULTIVATING AND ASSESSING STUDENTS' CURIOSITY

9:30 AM–10:30 AM | Pacific 26 | Strand 5 | General

Even though we want students to be curious about mathematics and wonder how it helps them make sense of our world, most students and adults think mathematics class is merely a place where they're given answers to questions they've never asked. Learn strategies that inspire students to ask their own questions and empower them to self-assess aspects of their own curiosity. Participants will learn ways to assess curiosity in mathematics classes at any grade level.

Tim Hudson, Chief Learning Officer, DreamBox Learning, Bellevue, Washington

FORMATIVE ASSESSMENT IS *NOT* JUST FOR CHILDREN: BRING THE POWER OF FORMATIVE ASSESSMENT TO PROFESSIONAL LEARNING FOR TEACHERS

9:30 AM–10:30 AM | Pacific 14 | Strand 4 | General

Leaders will explore opportunities to explicitly embed the formative assessment process in mathematics professional learning activities for teachers to support the transfer of new pedagogies into practice. Participants will explore what it looks like to set clear targets for teachers, how to leverage opportunities to gather data on teachers' current understanding of new ideas during and outside of professional learning, and how to apply strategies for using that data to provide feedback to advance teacher practice.

Valerie Mills, Independent Mathematics Education Consultant, Ypsilanti, Michigan

APPRENTICE AND EXPERT TASKS

9:30 AM–10:30 AM | Pacific 23 | Strand 5 | College

Mathematical performance tasks are essential curricula for powerful classrooms. Teachers are challenged with insuring that ALL students have access into high cognitive mathematics. This session will introduce these strategies and share apprentice and expert tasks.

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

DETRACKING POLICY IN SFUSD: OUR ONGOING COMMITMENT TO EQUITY, THE LESSONS WE HAVE LEARNED, AND THE QUESTIONS WE STILL HAVE

9:30 AM–10:30 AM | Rancho Santa Fe 2 | Strand 2 | 6–12 Secondary

The SFUSD Class of 2019 is our first cohort of students to experience de-tracked heterogeneous 8th, 9th, and 10th grade Common Core mathematics. Now that they are graduating, what new insights do we have about the impacts of our policy? We continue to analyze data, work with stakeholders, and make adjustments to sustain our commitment to all learners. Come hear how we have responded to both public scrutiny and curiosity about our successes and challenges.

Lizzy Hull Barnes, San Francisco Unified School District, San Francisco, California

Elizabeth DeCarli, San Francisco Unified School District, San Francisco, California

Vriana Kempster, San Francisco Unified School District, San Francisco, California

Ho Nguyen, San Francisco Unified School District, San Francisco, California

COACHING THE COACH: TECHNIQUES AND TOOLS THAT SUPPORTS TEACHER AND STUDENT EFFICACY

9:30 AM–10:30 AM | Rancho Santa Fe 3 | Strand 1 | General

In this session, the participants will learn how to build and maintain meaningful coaching relationships with the individuals they coach. The participants will review, discuss, and practice using many hands-on research-based techniques that promote mathematical shifts in teachers and students. The participants will also learn how to offer targeted feedback to teachers, empowering them to improve their knowledge and skill. This session is designed to assist coaches with improving mathematics instruction and learning within schools.

Cory Haley, Prince George County Public Schools, Upper Marlboro, Maryland

OPPORTUNITIES FOR NCSM PROFESSIONAL LEARNING LEADERSHIP EVENTS

9:30 AM–10:30 AM | Rancho Santa Fe 1 | Strand 5 | General

Your NCSM Professional Learning co-directors will facilitate an active session that informs how NCSM embodies our mission statement to equip mathematics leaders to go back to their districts and empower their teachers to provide high-quality mathematics teaching and learning every day for each and every learner. We will share the professional learning opportunities available for mathematics leaders to access at a seminar, a leadership academy, a planned local event, or an individualized on-demand module.

Denise Trakas, NCSM W1 Regional Director, Reno, Nevada

Jackie Palmquist, NCSM Professional Learning Director, Aurora, Illinois



WEDNESDAY SESSIONS

BRIDGING THE EQUITY GAP BETWEEN NUMERACY AND LITERACY TO IMPROVE TEACHERS' MATHEMATICAL MINDSETS

9:30 AM–10:30 AM | Torrey Pines 2 | Strand 5 | K–5 Elementary

As instructional facilitators, how do we help teachers understand connections between mathematical practices in elementary mathematics instruction and best practices in reading? Join us for an interactive session as we share the journey of how one diverse elementary school used foundational reading practices to transform student thinking in mathematics to create a rich learning community for mathematicians.

Tara Hewan, Loudoun County Public Schools, Ashburn, Virginia

Michelle Armentrout, Loudoun County Public Schools, Ashburn, Virginia

INTEGRATING LEARNING PROGRESSIONS TO ENHANCE THE MATHEMATICS TEACHING AND LEARNING PRACTICES

9:30 AM–10:30 AM | Torrey Pines 1 | Strand 1 | General

How do we sustain a vision for the mathematics classroom beyond the professional development session? By combining NCTM's Principles to Actions Teaching and Learning Practices with the CCSSM progressions, teachers are given the opportunity to differentiate their own professional learning. This model showcases professional development sessions, ongoing book studies, and classroom embedded days including ongoing coaching. Learn how to bring this multi-year model alive in your district to support your teachers.

Kim Hughes, Arch Ford Education Service Cooperative, Plumerville, Arkansas

Jacob Sisson, UCA STEM Institute, Conway, Arkansas

INCREASING ACCESS AND EQUITY BY RETHINKING THE FIRST TWO WEEKS OF SCHOOL

9:30 AM–10:30 AM | Temecula 3 & 4 | Strand 2 | K–5 Elementary

Come learn how one district revamped the first two weeks of school at the elementary level to improve access and equity for students. Our model promotes productive struggle, rich tasks, and use of evidence from day one to eliminate grouping bias. We will share the purpose, process, and product of our work. Tasks used in grades 1–5 will be shared.

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

READING TOO MUCH INTO ASSESSMENTS

9:30 AM–10:30 AM | Temecula 1 | Strand 6 | K–5 Elementary

Participants will review students' performance data on fractions gathered from assessment databases and engage in conversations around three practices recommended by NCTM (2014): elicit and use evidence of student thinking; pose purposeful questions; and build procedural fluency from conceptual understanding. Participants will examine evidence of students' conceptual understanding and procedural fluency, and formulate assessing and advancing questions relevant to students. At the end, we will share data showing long-term benefits of conceptually focused learning.

Funda Gonulates, Kentucky Center For Mathematics, Highland Heights, Kentucky

Daniel McGee, Kentucky Center For Mathematics, Highland Heights, Kentucky

Dee Crescitelli, Kentucky Center For Mathematics, Highland Heights, Kentucky

SPONSOR SHOWCASE

MORE CHOICE, MORE VOICE

9:30 AM–10:30 AM | Torrey Pines 3 | K–5 Elementary

Helping students find their voice is a fundamental habit that needs to be promoted and established in the classroom. This workshop will leverage the research on how giving students choice in the classroom empowers them to find their voice and become active, engaged members of the classroom community. Walk away with resources to make this happen in your room. (K–5) #MathItUp

Deb McGinley, National Math Specialist, Pearson, Chandler, Arizona



WEDNESDAY SESSIONS

10:45 AM–11:45 AM

MAJOR PRESENTATION

THE LANGUAGE OF LEARNING: USING FEEDBACK AND CLASSROOM DISCUSSION TO IMPROVE STUDENT LEARNING

10:45 AM–11:45 AM | Pacific 21 | Strand 5 | General



John Hattie's Visible Learning research has now ranked over 250 influences that are related to learning outcomes from highly impactful, positive effects to negative effects. His meta-analyses have concluded that strategies emphasizing feedback and classroom discussion have a strong, positive effect on student learning

and achievement outcomes. This session will focus on the research related to these strategies, offer ideas and activities for classroom planning, and discuss the implications for curriculum planning. The language of both teachers and students will be highlighted.

Laurie Boswell, Big Ideas Learning, Author, Franconia, New Hampshire

President, Steve Viktora, NCSM Nominations Chair, Wilmette, Illinois

SPOTLIGHT SPEAKER

HOW WILL WE KNOW WHAT THEY'RE THINKING? SPARKING TEACHERS' CURIOSITY ABOUT STUDENTS' MATHEMATICAL IDEAS

10:45 AM–11:45 AM | Pacific 22 | Strand 5 | K-5 Elementary



Curiosity about students' mathematical thinking is the heart of effective, joyful mathematics teaching. There are four channels via which we can gather information about student thinking: looking at student work, observing students while they work, conferring with students about their thinking, and

asking students to reflect on their learning. Together, we'll explore how teaching teachers to open these channels sparks a productive chain reaction. Getting hooked on students' mathematical thinking is the most essential step!

Tracy Zager, Rollinsford Grade School, Rollinsford, New Hampshire

President, Shawn Towle, NCSM E1 Regional Director, Falmouth, Maine

MODELING MATHEMATICS AND MATHEMATICAL MODELING: THE SALT AND PEPPER OF TRUE MATHEMATICS

10:45 AM–11:45 AM | Pacific 17 | Strand 6 | 6-12 Secondary

What is the difference between modeling mathematics and mathematical modeling? Is one more sophisticated than the other? Come engage in both and explore how each is used in developing student understanding of mathematics. We will expand our thinking about these two different uses of the word "modeling" and examine implications related to curriculum and professional development.

Whitney Evans, Plano ISD, Plano, Texas

RIGOR: WHAT IS IT AND WHY ALL KIDS NEED IT!

10:45 AM–11:45 AM | Pacific 18 | Strand 6 | 3-8 Upper Elementary/Middle

Are rigorous problems the key to *ALL* students becoming better problem-solvers? Familiar problems encourage procedural thinking. Rigorous problems encourage reasoning and creativity. Join us as we explore what makes a problem rigorous and worth solving, and what skills and models students need at each grade level to solve them.

Gregory Tang, GregTangMath.com, Kansas City, Missouri

Greg Tang Jr., TangMath.com, San Diego, California

A NEW ANGLE ON PROBLEM SOLVING

10:45 AM–11:45 AM | Pacific 15 | Strand 6 | K-5 Elementary

Successful approaches to routine word problems require making sense of the actions and relationships within a problem situation, and translating these understandings into meaningful mathematics. The process is called "mathematizing," and it also includes selecting the appropriate operation. In this session, learn about Operation Sense and explore strategies for building stronger Operation Sense in students and teachers. Routine word problems serve as a platform for building the skills needed to engage in robust mathematical modeling.

Kimberly Morrow-Leong, George Mason University, Fairfax, Virginia

Sara Delano Moore, ORIGO Education, Kent, Ohio

Linda Gojak, Mathematics Consultant, Willowick, Ohio

COACHING UP COACHES: PROTOCOLS FOR IMPROVING COACHING PRACTICE

10:45 AM–11:45 AM | Pacific 16 | Strand 1 | General

The current era of education reform demands that we develop high-quality, effective leaders (It's TIME, 2014). In this engaging session, participants will investigate innovative ways to engage coaches in goal-setting, professional development, and reflection of practice using consultancies and reflective peer-to-peer protocols to improve their practice as leaders. Participants will gain access to professional development resources designed to improve mathematics instruction and leadership.

Jenny Novak, Delaware Department of Education, Dover, Delaware

Holly Cheung, Howard County Public School System, Ellicott City, Maryland



WEDNESDAY SESSIONS

THREE WORDS I HAVE NEVER HEARD IN A MATH CLASSROOM

10:45 AM–11:45 AM | Pacific 24 | Strand 6 | General

Certain phrases have power to unlock mathematics, yet they seem rare in classrooms. Which of them have you observed your teachers using? Which ones would you like to see more of? We'll consider several of these powerful phrases and examine how they open up aspects of mathematics that too often go without saying.

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

THE TRUTH ABOUT PROFESSIONAL LEARNING COMMUNITIES: HOW THE TEACHING FOR ROBUST UNDERSTANDING (TRU) FRAMEWORK PUT THE FOCUS BACK ON STUDENTS

10:45 AM–11:45 AM | Pacific 25 | Strand 1 | 9–12 High School

In Oakland, site mathematics teams use the Teaching for Robust Understanding (TRU) framework to plan and reflect upon individual lessons and overall teaching practice. This has transformed business-centered department meetings into student-centered professional learning communities (PLCs), focused on examining what students say and do. Experience the TRU tools by watching classroom video, using questions from the Observation and Conversation Guides to do a deep dive into one TRU dimension, and role playing a PLC conversation.

Courtney Ortega, Oakland Unified School District, Oakland, California

Mary Reed, Oakland Unified School District, Oakland, California

BEYOND TITLES, ABOUT ACTIONS: BUILDING ORGANIC TEACHER LEADERSHIP OF MATHEMATICS

10:45 AM–11:45 AM | Pacific 26 | Strand 3 | General

How does building an effective mathematics teacher leadership model impact teaching and learning? Have an in-depth look at how tensions in mathematics leadership were overcome and how mathematics leadership was redefined. Learn about how a district implemented a framework to build leadership capacity in schools that has transformed teaching of mathematics and changed how school communities view mathematics and leadership of mathematics.

Rebeka Matthews Sousa, Inspire Math, Paget, Bermuda

Lou Matthews, Urban Teachers, Baltimore, Maryland

DEFINING NUMBER CONCEPT AND NUMBER SENSE

10:45 AM–11:45 AM | Pacific 14 | Strand 5 | PK–2 Primary

One district's journey to create a common definition of number concept and number sense leading to eNumeracy. The eNumeracy system can be used as universal screeners, benchmarks, progress monitoring tools, and even diagnostics. This FREE system was locally normed to support a multi-tiered system in K–3 elementary mathematics.

Carrie Fortunato, Burlington Public Schools, Burlington, Massachusetts

EXTENDING MATH TALKS: INTENTIONAL TALK STRUCTURES IN SECONDARY MATHEMATICS

10:45 AM–11:45 AM | Pacific 23 | Strand 6 | 6–12 Secondary

Math Talks have adapted the effective Number Talks routine to meet the needs of secondary classrooms by providing opportunities for students to communicate and justify mathematical ideas, reasoning, and arguments. However, these talks often overuse open-strategy sharing approaches. How can other purposeful discussion structures be overlaid on Math Talks to elicit different kinds of student thinking and discourse? Consider a coach's role in fostering a wealth of mathematical habits of mind through additional discourse structures.

Amy Hoelscher, Greenwood Independent School District, Midland, Texas

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

SEVEN POTENTIAL INSTRUCTIONAL RESPONSES TO FORMATIVE ASSESSMENT: COACHING INSTRUCTIONAL DECISIONS WITH OGAP LEARNING PROGRESSIONS

10:45 AM–11:45 AM | Rancho Santa Fe 2 | Strand 1 | 3–5 Intermediate

The teachers you work with have focused on using Formative Assessment to better understand student knowledge. Now those teachers are asking you about what they should do next based on the evidence. In this session, we will use the OGAP Multiplicative Framework and a set of student work from a fourth grade classroom to consider seven potential instructional responses to evidence in the student work and discuss how can you help teachers make instructional choices.

Elizabeth Petit Cunningham, University of Michigan-Flint, Flint, Michigan

Christine Farnham, Barre City Elementary and Middle School, Barre, Vermont

WHY DO THESE KIDS NOT WANT TUTORING TO BE OVER? TURNING UNSUCCESSFUL STUDENTS INTO EAGER MATHEMATICIANS

10:45 AM–11:45 AM | Rancho Santa Fe 3 | Strand 5 | K–5 Elementary

We will share a replicable, after school tutoring program where assessments provide the information needed to give students precisely the meaningful mathematical experiences they need to make significant growth. These students are able to make choices, engage with Number Talks, and work with tasks that are challenging but possible, building confidence and a positive shift in their attitudes towards mathematics.

Kathy Richardson, Math Perspectives Teacher Development Center, Bellingham, Washington

Sue Dolphin, Math Perspectives, Bellingham, Washington



WEDNESDAY SESSIONS

TRANSFORMATIVE COACHING: COACHING TO ENSURE TEACHER CHANGE

10:45 AM–11:45 AM | Rancho Santa Fe 1 | Strand 1 | General

Have you ever avoided a conversation with a teacher because you were worried they would be upset? Have you noticed disparities in access to equitable opportunities to learn for all students, but chose not to address it because you didn't know how? Using transformative learning theory, this session will support teacher educators and coaches to develop the courage and skills necessary to take on the difficult conversations to ensure meaningful change in classroom practice.

Faith Muirhead, University of Delaware, Newark, Delaware

DEEPENING AND CONNECTING GEOMETRY, GEOMETRIC MEASUREMENT, AND OPERATIONS AND ALGEBRAIC THINKING (OA) WITHIN AND ACROSS THE GRADES

10:45 AM–11:45 AM | Torrey Pines 2 | Strand 6 | K–5 Elementary

This presentation and participant discussion of connections within and across the CCSS domains of Geometry, Geometric Measurement, and Operations and Algebraic Thinking focuses on how leaders can help students and teachers build conceptual webs of understandings from grades PK–6. Together we will articulate and relate learning paths in these domains, describe common student errors, and discuss how to overcome such errors. I will share and participants will discuss research-based approaches in these domains.

Karen Fuson, Northwestern University, Fallbrook, California

INVESTIGATING CONTENT PROFESSIONAL DEVELOPMENT FOR NEW ELEMENTARY TEACHERS

10:45 AM–11:45 AM | Torrey Pines 1 | Strand 6 | K–5 Elementary

You have hired new teachers, now where does the content professional development (PD) begin? In this session, we investigate data related to pre-service teachers' content knowledge, after instruction in content and/or methods courses, as a means of informing where PD should begin. The content foci of the PD as well as strategies for engaging the new teachers in PD, including use of released items from CCSSM-type assessments, will be explored.

Mike Long, Howard Community College, Columbia, Maryland

Judy Werner, Slippery Rock University, Slippery Rock, Pennsylvania

OBSERVATIONAL FEEDBACK THAT STICKS: GOOGLE AND EXTENSIONS THAT CREATE ACTIONABLE FEEDBACK

10:45 AM–11:45 AM | Temecula 3 & 4 | Strand 1 | General

Based on the work of Chip and Dan Heath, authors of *Teaching That Sticks*, this session will demonstrate how observational feedback can “find the core” to develop a productive coaching relationship. We will share our protocols and system for providing feedback that integrates AutoCrat and the Google Suite. Participants will walk away with the skills to design and customize feedback tools to meet their needs at any level. Laptops are encouraged for full interaction.

Brandi Simpson, Education Service Center, Region 20, San Antonio, Texas

Brooke Lucio, Education Service Center, Region 20, San Antonio, Texas

CHANGE TAKES A VILLAGE: BUILDING LEADERSHIP CAPACITY IN YOUR DISTRICT

10:45 AM–11:45 AM | Temecula 1 | Strand 3 | General

Washington State has focused on building leadership capacity for mathematics educators through their statewide Fellows program. Participants will learn about aspects and structures of the Fellows program that support collaborative learning, collaboration with administrators supported by action plans, and common professional development supporting best practices in mathematics instruction. Walk away with ideas and resources to design your own Fellows program.

Anne Gallagher, Olympia School District, Olympia, Washington

Tamara Smith, Olympic Educational Service District 114, Bremerton, Washington

Mary Ellen Huggins, Northwest ESD, Anacortes, Washington

SPONSOR SHOWCASE

LEADERS SUPPORTING MATH WORKSHOP MODEL—WHAT WORKS?

10:45 AM–11:45 AM | Torrey Pines 3 | General

How do leaders best support math workshop's vision of whole class and small group instruction? Learn how Fairfax County Public Schools supports their teachers' implementation of a math workshop model with a wide range of resources and tools.

Melinda Schwartz, ORIGO Education, Earth City, Missouri

Lynne Bursch, Fairfax County Public Schools, Falls Church, Virginia



WEDNESDAY SESSIONS

12:00 PM–1:30 PM

WEDNESDAY LUNCHEON

THE NEUROSCIENCE OF DEEPER LEARNING

12:00 PM–1:30 PM | Grand Ballroom | Strand 2 | General



Advances in brain research have moved educators closer than ever before to teaching math the way the brain actually learns. Journey with MIND Research Institute's Vice President of Content Creation, Nigel Nisbet, to uncover a neuroscience-based, unifying theory that promotes deeper engagement, deeper thought and deeper learning. He'll share insights on how our brains learn and how to create active classroom environments that foster student success in the 21st century.

Nigel Nisbet, MIND Research Institute, Irvine, California
President, Connie Schrock, NCSM President, Emporia, Kansas

Partially Sponsored by



1:45 PM–2:45 PM

MAJOR PRESENTATION

EQUITY IN THE MATHEMATICS CLASSROOM: WHO DO WE LEAVE OUT?

1:45 PM–2:45 PM | Pacific 21 | Strand 2 | General



As educators, we commonly and unintentionally ask many of our students to leave their identity at the door as they enter our mathematics classroom. In doing this, we are leaving those students out which contributes to the opportunity gap, as well as underrepresentation in

STEM enrollment, graduation rates, and workforce. This presentation will identify and discuss a common inequities in the mathematics classroom and approaches to mitigating and eliminating the effects of such inequities.

Michael Young, Iowa State University, Ames, Iowa
President, Sara Frisbie, NCSM Secretary, Topeka, Kansas

SPOTLIGHT SPEAKER

LIMITLESS: LEARN, LEAD, AND LIVE WITHOUT BARRIERS

1:45 PM–2:45 PM | Pacific 22 | Strand 4 | General



In this session we will consider what it takes to unlock the limitless potential of people, students, teachers, and leaders through an approach to mathematics that embraces multiplicity, mindset and belonging. The session empowers leaders to help others, with new resources, ideas, and cutting edge research. We will also

share stories of people who have gone through incredible change, considering, with the audience, what it means for people to develop a new relationship with mathematics.

Jo Boaler, Stanford University, Stanford, California

President, Sandie Gilliam, NCSM Associate Newsletter Editor, Colorado Springs, Colorado

USING LEARNING LABS TO SUPPORT TEACHERS IN MATHEMATIZING CHILDREN'S LITERATURE

1:45 PM–2:45 PM | Pacific 18 | Strand 1 | PK–2 Primary

Shared reading experiences provide powerful contexts for supporting young readers, writers, and mathematicians.

Children's literature allows students to explore authentic curiosities, engage in conversations, and see stories through a mathematical lens—a process we call mathematizing. We will explore how to leverage Learning Labs, a professional learning community model, to support teachers in using literature to engage students in discussions that foster mathematical wonder and joy and encourage students to notice mathematics in their own world.

Kristin Gray, Illustrative Mathematics, Lewes, Delaware

Allison Hintz, Associate Professor, Bothell, Washington

Erin Gannon, Richard A. Shields Elementary School, Lewes, Delaware

Antony Smith, Associate Professor and Associate Dean, Bothell, Washington

MATHEMATICS THAT MATTERS—LEADING CHANGE THROUGH SOCIALLY IMPACTFUL TASKS DESIGNED TO IMPACT INSTRUCTION, COMMUNITIES, AND ACHIEVEMENT

1:45 PM–2:45 PM | Pacific 19 | Strand 2 | General

Consider the number of times in a mathematics classroom you have heard the phrase “you need to learn this because...you will use it one day.” Now pause and reflect in today's society and/or the future society in which students are being prepared for, realistically will they use and apply the information being provided? In this session the traditional mathematics narrative will be challenged and a new socially impactful mathematics narrative will be posited.

Kristopher Childs, K Childs Solutions, Winter Garden, Florida

Vernita Glenn-White, Stetson University, DeLand, Florida



WEDNESDAY SESSIONS

NO MORE “MENACING MULTIPLICATION” AND “LABORIOUS LONG DIVISION”—UNDERSTANDING PROCEDURES THROUGH NUMBER SENSE IN GRADES 3-5

1:45 PM–2:45 PM | Pacific 15 | Strand 6 | 3–5 Intermediate

As a mathematics leader, how many times have you heard teachers ask, “My students are struggling, can’t I just teach them a procedure?” Teachers recognize the need for students to develop both procedural fluency and conceptual understanding but are often unsure of how to do so. Explore strategies focused on numeracy, sense-making, and fostering a conceptual understanding that help even the most struggling student understand the abstract algorithms for multiplication and division.

Cassandra Turner, Math Champions Professional Development, Fort Collins, Colorado

Beth Curran, Math Champions Professional Development, Fort Collins, Colorado

WHAT HAT ARE YOU WEARING? LEARNING TOGETHER THROUGH VIDEO BASED DISCUSSIONS

1:45 PM–2:45 PM | Pacific 16 | Strand 3 | 6–8 Middle

The Problem-Solving Cycle (PSC), a collaboration between Stanford University and San Francisco Unified School District, is a professional learning structure where teacher leaders use video-based discussions (VBD) to model reflection and analysis of teaching and learning in mathematics. Teacher leaders engage their site-based learning communities in cycles of inquiry around doing a mathematical task and discussing video clips of their classes working on the same mathematical task. Participants will experience and reflect on these PSC activities.

Alisa Brown, SFUSD, San Francisco, California

Hilda Borko, Stanford, Stanford, California

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

FROM SILENCE TO ENGAGEMENT—LEADING CONVERSATIONS ABOUT EQUITY AND SOCIAL JUSTICE

1:45 PM–2:45 PM | Pacific 17 | Strand 2 | General

Public conversations about social justice events have increased in frequency and intensity. Mathematics leaders often are hesitant or don’t feel equipped to engage others in this important learning. Yet, silence in the face of injustice conveys the impression that prejudicial behaviors in the community and nation are condoned or not worthy of attention. Having these conversations can lead to stronger mathematics programs and more authentic classroom instruction within a social justice context.

Linda Fulmore, Independent Consultant, Cave Creek, Arizona

HOW DEEP IS DEEP ENOUGH WHEN COACHING?

1:45 PM–2:45 PM | Pacific 24 | Strand 1 | General

Coach-teacher planning discussions in which the mathematics goals are clearly and specifically discussed make evident what pedagogy is needed to support student learning and what will be heard from students if they understand the mathematics learning goal. A planning discussion will be shared via a video case. Coaching moves which help to make it possible for a coach and teacher to engage in effective discussions and research findings from a study will be shared.

Victoria Bill, Institute for Learning, University of Pittsburgh, Pittsburgh, Pennsylvania

Laurie Speranzo, Institute for Learning, University of Pittsburgh, Pittsburgh, Pennsylvania

FACTORS FUELING FORMATIVE ASSESSMENT: HOMEWORK AND GRADING

1:45 PM–2:45 PM | Pacific 25 | Strand 5 | 6–12 Secondary

In this session, teacher leaders will examine factors essential to eliciting evidence of student learning. Leaders will consider how homework and grading routines can be leveraged to fuel classroom formative assessment. Participants will reflect on current practice, share successes, identify opportunities for growth, and design next steps using practical, research-affirmed tools and instructional protocols. Leave the session energized with resources to improve your mathematics program immediately.

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

TAKING THE STANDARDS OF MATHEMATICAL PRACTICE SERIOUSLY

1:45 PM–2:45 PM | Pacific 26 | Strand 5 | General

What does it really mean to look for structure and regularity, read and write viable mathematical arguments, and use mathematical models as tools for thinking? More importantly, what does it take to foster these practices consistently and coherently in the elementary years to ensure progressive development of them from novice to expert? Using video, this session provides detailed analyses to illuminate and foster discussion on the important characteristics and development of each.

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

Phil Daro, SERP and Pearson, Berkeley, California



WEDNESDAY SESSIONS

VIDEO IN THE MIDDLE: USING VIDEO CASE STUDIES AS A TOOL FOR COACHING TEACHERS IN LINEAR FUNCTIONS

1:45 PM–2:45 PM | Pacific 14 | Strand 1 | 3–8 Upper Elementary/Middle
How can coaches best support teachers around topics related to linear functions? We share how placing a video case study at the center of a professional development (PD) experience can help teachers both grow their mathematical content knowledge and learn effective pedagogical strategies for teaching slope and other algebra ideas. Come learn how you can select and use video clips to create mathematically rich, engaging, and collaborative mathematics PD experiences that support teachers with teaching linear functions.

Angela Knotts, WestEd, Redwood City, California
Katie Salguero, WestEd, Redwood City, California

MIDDLE SCHOOL MATHEMATICS INTERVENTION: ONE DISTRICT'S JOURNEY TO IMPROVE SUPPORT FOR ALL STUDENTS

1:45 PM–2:45 PM | Pacific 23 | Strand 2 | 6–8 Middle
We will share our efforts in creating more equitable structures across 12 middle schools to support students in mathematics. What interventions allow all students to have access to their grade level content and develop a positive mathematics identity? How is time within the school day used? Our mathematics department collaborated with the special education department, the English language department, and building administrators to better support students. Join us for an interactive discussion.

Joshua Males, Lincoln Public Schools, Lincoln, Nebraska
Anne Schmidt, Lincoln Public Schools, Lincoln, Nebraska
Julie Kreizel, Lincoln Public Schools, Lincoln, Nebraska

PROVIDING PROFESSIONAL DEVELOPMENT AND DEVELOPING LEADERS IN GEOGRAPHICALLY CHALLENGING LOCATIONS SUPPORTED BY TECHNOLOGY

1:45 PM–2:45 PM | Rancho Santa Fe 2 | Strand 4 | General
Learn about our journey in providing professional development and support for teachers and leaders in geographically remote places in Alaska. Alaska Council of Teachers of Mathematics and Alaska Science Teachers Association will share ways we are working to reach teachers and leaders using technology and face-to-face opportunities to help develop connections, provide quality professional development, and foster leadership.

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

USING DYNAMIC MATHEMATICS SIMULATIONS TO DISRUPT AND PROMOTE CLASSROOM DISCOURSE

1:45 PM–2:45 PM | Rancho Santa Fe 3 | Strand 6 | 6–12 Secondary
The availability of online mathematics tools has increased dramatically over the past decade. Yet, how can these instructional resources be used to effectively guide and support teacher practice and student learning? Using several examples of free and publicly available online mathematics simulations, we will discuss instructional design principles that mathematics leaders should consider to promote student-centered mathematics classrooms as teachers use technology. Bring your laptop or tablet so you can explore these resources, too!

David Webb, University of Colorado Boulder, Boulder, Colorado

LIFT EVERY VOICE! CENTERING CULTURALLY RESPONSIVE TEACHING AND PRACTICE AT THE FOREFRONT OF MATHEMATICS LEADERSHIP

1:45 PM–2:45 PM | Rancho Santa Fe 1 | Strand 2 | General
Leaders of school mathematics are faced with re-envisioning school mathematics for students who have been historically marginalized by stagnant, disconnected teaching practices, curriculum, and leadership. The power of culturally responsive practice lies in radically challenging what mathematics is, how mathematics is taught and led, and who can be successful doing it. In this session, participants explore core leadership practices that make it possible to center student and community culture in school and district success.

Lou Matthews, Urban Teachers, Baltimore, Maryland
Shelly Jones, CCSU, New Britain, Connecticut
Rebeka Matthews Sousa, Inspire Math, Paget, Bermuda

TEACHING ELEMENTARY STUDENTS TO SPEAK THE LANGUAGE OF MATHEMATICS THROUGH MATHEMATICAL DISCOURSE

1:45 PM–2:45 PM | Torrey Pines 2 | Strand 6 | K–5 Elementary
Teaching students to speak the language of mathematics can be daunting. In this session we will discuss instructional supports for students to articulate their own ideas and consider the perspective of their peers while constructing important mathematical understandings. We will introduce a new tool that will help teachers anticipate and monitor student responses to mathematical tasks while providing a framework for selecting and sequencing in order to make deep mathematical connections.

Michael Greenlee, The Charles A. Dana Center at The University of Texas at Austin, Austin, Texas
Joseph McNaughton, Polk County Schools, Bartow, Florida



WEDNESDAY SESSIONS

TEACHERS ASCRIBING TO DIFFERENT MINDSETS AND THE ROLE OF MISTAKES

1:45 PM–2:45 PM | Torrey Pines 1 | Strand 5 | General

In this session we will examine the role teachers' mindsets have on their use of mistakes in their classrooms. Data were collected during the fourth year of a sustained professional develop experience and included interviews, writing prompts, observational protocols, and an implicit theory instrument. Implications for mathematics education leaders will be discussed.

Lucy Watson, Middle Tennessee State University, Murfreesboro, Tennessee

Angela Barlow, University of Central Arkansas, Conway, Arkansas

James Willingham, James Madison University, Harrisonburg, Virginia

Natasha Gerstenschlager, Western Kentucky University, Bowling Green, Kentucky

Kristin Hartland, Middle Tennessee State University, Murfreesboro, Tennessee

SPONSOR SHOWCASE

MATH INTERVENTION: STRATEGIES TO HELP STUDENTS CATCH UP

1:45 PM–2:45 PM | Torrey Pines 3 | General

Struggling learners deserve programs that help them catch up. However, typical support classes focus on below grade level skills—an insidious form of tracking that does little to help students do better in their core mathematics class. We will explore how principles from intervention research can be applied to build effective programs and deliver them in the classroom. Stories from the field of challenges and successes will be included.

Shelley Kriegler, Center for Mathematics and Teaching, Porter Ranch, California

Mark Goldstein, Center for Mathematics and Teaching, Porter Ranch, California

3:00 PM–4:00 PM

MAJOR PRESENTATION

MATH MODELING CAN MAKE YOU FILTHY RICH

3:00 PM–4:00 PM | Pacific 21 | Strand 6 | General



Mathematical modeling is the closest we can come to giving our students HUGE potential to make them filthy rich. So much of what we teach is instantly irrelevant because of devices we carry in our pockets. I'll share an intuitive structure that will help you develop a common language with your

teachers to separate fake mathematical modeling from what will really help students become complex problem solvers.

Robert Kaplinsky, Downey Unified School District, Downey, California

President, Bernard Frost, NCSM S1 Regional Director, Chesnee, South Carolina

SPOTLIGHT SPEAKER

TOOLS AND RESOURCES FOR LEADING A COHESIVE MATHEMATICS PROGRAM

3:00 PM–4:00 PM | Pacific 22 | Strand 5 | General



How would you describe the mathematics program you lead? What components define it? What is the glue that holds it together? How does it provide access to opportunity? This session supports leaders. It examines how effective teaching practices can be leveraged to design essential program

structures. It tells the story of a district's approach to building an exemplary mathematics program. Programmatic tools and resources will be shared.

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

President, Ruth Harbin Miles, NCSM Conference Coordinator, Madison, Virginia

LEARNING IN PRACTICE: A COACH ROUTINE TO SUPPORT TEACHERS AS THEY TEACH

3:00 PM–4:00 PM | Pacific 19 | Strand 4 | General

Supporting teachers to learn in, and from, their own practice is critical to supporting their development of instruction that provides students with rich opportunities to engage with and learn about mathematics. In this session, we examine a coaching routine called the Teacher Time Out that helps open up opportunities for teachers and coaches to discuss teaching while they are teaching students. We examine video and discuss how this routine can support teachers' learning.

Lynsey Gibbons, Boston University, Boston, Massachusetts

Nancy Horowitz, Consultant Cambridge Public Schools, Boston, Massachusetts



WEDNESDAY SESSIONS

SHIFTING THE MATHEMATICAL AUTHORITY: SUPPORTING ALL STUDENTS IN BUILDING THEIR MATHEMATICAL UNDERSTANDING

3:00 PM–4:00 PM | Pacific 15 | Strand 2 | 6–12 Secondary

This video-based session led by a secondary teacher leader, district coach, and director of a statewide mathematics leadership community is designed to help coaches, teachers, and administrators examine and discuss how the interplay between tasks, classroom structures, and conscious teacher moves can successfully shift the authority and support all students in building their mathematical understanding. We will provide opportunities to analyze video, unpack illustrations, examine research, and consider implications for our job-embedded work as coaches/leaders.

Jamila Riser, Delaware Mathematics Coalition, Dover, Delaware

Michael Reitemeyer, Appoquinimink School District, Odessa, Delaware

Kathleen Olenderski, Appoquinimink School District, Odessa, Delaware

USING OGAP LEARNING PROGRESSIONS TO PROMOTE EQUITY AND ACCESS TO IMPORTANT MATHEMATICS FOR ALL STUDENTS

3:00 PM–4:00 PM | Pacific 16 | Strand 2 | 3–5 Intermediate

Learning Progressions can be a powerful tool for both teachers and students in accessing the mathematics of a lesson. In this session participants will interact with the OGAP Multiplication and Division Learning Progressions to analyze a class set of student work, consider the implications for instruction, and plan for a response to the evidence that provides access to the mathematics at varying levels for all the students.

Beth Hulbert, OGAPMathLLC, Moretown, Vermont

Caroline Ebby, CPRE, University of Pennsylvania, Philadelphia, Pennsylvania

NUMBER TALKS AND PRESERVICE TEACHERS: HOW PLANNING AND ENACTING NUMBER TALKS HAD A RIPPLE EFFECT IN OUR MATHEMATICS METHODS COURSEWORK

3:00 PM–4:00 PM | Pacific 17 | Strand 6 | General

Planning and enacting number talks prepares preservice teachers (PSTs) to do more than just number talks in their classrooms. Learn how we used spiraled number talk assignments with our elementary preservice teachers to: 1) develop the PSTs' mathematical knowledge for teaching; 2) support PSTs in learning to conduct whole class discussions grounded in student thinking; and 3) enhance PSTs' abilities to accurately represent student thinking using pictures, diagrams, symbols, and words.

Christy Pettis, University of Wisconsin River Falls, River Falls, Minnesota

Aran Glancy, Purdue University, West Lafayette, Indiana

USING THE TEACHER ACTION Q-SORT TO PROMPT TARGETED PROFESSIONAL LEARNING AGENDAS

3:00 PM–4:00 PM | Pacific 24 | Strand 1 | 3–8 Upper Elementary/Middle

This session will share how to use a Q-sort to help mathematics coaches identify where to focus their professional learning sessions with classroom teachers to improve classroom practice. A Q-sort is a process where teachers actively sort and rank a set of instructional practices according to those they do most often and least often in their classrooms. Discussions following the Q-sort provide insight into teachers' rationales behind why some practices are implemented more than others.

Jane Wilburne, Penn State Harrisburg, Middletown, Pennsylvania

Dana Franz, Mississippi State University, Mississippi State, Mississippi

Lynda Brennan, Ramapo Central School District, Suffern, New York

LEADING VERTICAL LESSON STUDY: BUILDING COHERENT HIGH QUALITY MATHEMATICS INSTRUCTION ACROSS THE GRADES

3:00 PM–4:00 PM | Pacific 25 | Strand 1 | General

Done well, vertical Lesson Study empowers teachers and supports the development of coherent, high-quality systems of mathematics teaching and learning across the grades. In this session, you will learn to lead vertical Lesson Study by going step-by-step through the process. Your experience will include doing mathematics together, watching videos of one team's vertical Lesson Study journey, examining the research, and having strategic discussions. Resources to support implementation of the process will be provided.

Andrea Barraugh, Math Transformations, San Diego, California

PLANNING THE RIGOR NARRATIVE WITH THE RESOURCES YOU HAVE

3:00 PM–4:00 PM | Pacific 26 | Strand 1 | 6–12 Secondary

Textbooks, online resources, videos, manipulatives, edtech—we are drowning in resources for our teachers to use! Simultaneously, too many students view mathematics as dull and worthless. Come learn how to resolve these dilemmas. We created a tool supervisors and coaches can use to support teachers with strengthening the rigor narrative of an unit. Experience how this tool can make planning efficient and help teachers strategically use resources to invigorate mathematics.

Erica Heinzman, UCSD - EDS, La Jolla, California

Alexandra Martinez, Sweetwater Union High School District, Chula Vista, California



Making Waves

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NCSM is a mathematics education leadership organization that equips and empowers a diverse education community to engage in leadership that supports, sustains, and inspires high-quality mathematics teaching and learning every day for each and every learner.

NCSM VISION

NCSM is the premiere mathematics education leadership organization. Our bold leadership in the mathematics education community develops vision, ensures support, and guarantees that all students engage in equitable, high-quality mathematical experiences that lead to powerful, flexible uses of mathematical understanding to affect their lives and to improve the world. High quality leadership is vital to this vision. NCSM is committed to:

Developing and Informing Vision

- Provide leadership to influence issues and policies affecting mathematics education in ways consistent with the mission and vision of NCSM;
- Equip leaders to be critical consumers of educational information, research, and policy to become change agents in their communities;
- Support leaders to develop an actionable vision of mathematics instruction consistent with a view of mathematics as a sense-making endeavor.

Ensuring Support to All Stakeholders

- Develop networking and communication opportunities that connect the mathematics education community, as well as the broader education community;
- Equip leaders with the tools to create and sustain systems that fully align with the vision of mathematics and mathematics instruction promoted by NCSM;
- Equip leaders with the understanding, knowledge, and skills to continue their own personal growth, support emerging leaders, and further develop excellence in mathematics teaching.

Guaranteeing All Students Engage in Equitable, High-Quality Mathematical Experiences

- Provide advocacy and support regarding issues and policies affecting mathematics education in ways consistent with the mission and vision of NCSM;
- Provide resources for implementation of research-informed instruction to ensure students engage in relevant and meaningful learning experiences that promote mathematics as a sense-making endeavor;
- Advocate for each and every student to have access to rigorous mathematics that develops their understanding, skills, and knowledge, along with the confidence to leverage their learning, in order to improve their world.

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We honor the legacy of former Presidents and value their contribution, support, and leadership.

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NCSM MEMBER SERVICES

To join NCSM, renew your NCSM membership, and to register for the NCSM Annual Conference, Regional Events and Leadership Academy, contact:

NCSM Office
PO Box 3406
Englewood, CO 80155
Phone: (303) 317-6595 / Fax: (303) 200-7099
Email: office@mathedleadership.org

REQUEST FOR NOMINATIONS

The following positions are open for the 2020 Board:

- Second Vice President
- Regional Director, Central 1 (Illinois, Indiana, Kentucky, Michigan, Ohio)
- Regional Director, Eastern 2 (Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, West Virginia)
- Regional Director, Southern 2 (Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas)

Visit www.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, 2019.



2018–2019 NCSM PROJECT COMMITTEES

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Denise Brady, Corunna, MI
Sara Frisbie, Topeka, KS
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Sharon Rendon, Summerset, SD
Donna Karsten, Halifax, NS, Canada

LEADERSHIP ACADEMY – SPEAKERS

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Jackie Palmquist, Co-Director, Aurora, IL
Connie Schrock, Emporia, KS

FALL SEMINAR – SPEAKERS

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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, www.mathedleadership.org.

The deadline for applications for the 2020 Iris Carl Grant is December 1, 2019.

ROSS TAYLOR/GLENN GILBERT NATIONAL LEADERSHIP AWARD

Nominations are open for the 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 2020 Award is November 1, 2019.

KAY GILLILAND EQUITY LECTURE SERIES AWARD

Nominations are open for the 2020 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 2020 Award is October 1, 2019.

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 at Conference Registration Area or may be ordered from NCSM Office, PO Box 3406, Englewood, CO 80155, (303) 317-6595, office@mathedleadership.org. More information about the Student Recognition Awards is available at www.mathedleadership.org.



ROSS TAYLOR/GLENN GILBERT NATIONAL LEADERSHIP AWARD



Previous Ross Taylor/Glenn Gilbert Awardees

2018	Diane Briars	1999	F. Joe Crosswhite
2017	Tim Kanold	1998	Robert B. Davis
2016	Philip Uri Treisman	1997	Frankin Demana and Bert Waits
2015	Steve Leinwand	1996	Marilyn Burns
2014	Phil Daro	1995	James D. Gates
2013	Kay Gilliland	1994	Zalman P. Usiskin
2012	Carol Edwards	1993	Dale Seymour
2011	Carole Greenes	1992	Iris M. Carl
2010	Mark Driscoll	1991	Dorothy S. Strong
2009	Solomon Garfunkel	1990	Stanley J. Bezuska
2008	James M. Rubillo	1989	David R. Johnson
2007	Glenda T. Lappan	1988	Tom Rowan
2006	L. Carey Bolster	1987	Al Shulte
2005	Charleen Mitchell DeRidder	1986	Shirley Frye
2004	Irvin E. Vance	1985	Ross Taylor
2003	Mary Laycock	1984	Alexander Tobin
2002	Miriam A. Leiva	1983	John Del Grand
2001	Margaret (Peg) Kenney		
2000	Francis (Skip) Fennell		

HISTORY OF THE AWARD

In 1982, the Glenn Gilbert Award was first established to honor its namesake and to provide a vehicle to annually recognize a person who exhibited the same kind of unique and dedicated contributions 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.

The Ross Taylor/Glenn Gilbert nomination and criteria can be found at mathedleadership.org. Nominations are opened through November 1, 2019.



Glenn Gilbert

NCSM is an organization whose membership is made up of leaders in the field of mathematics education. One of those members who gave especially of his time and energy was Glenn Gilbert. He was a mathematics teacher and leader from Boulder, Colorado. Glenn was a mathematics teacher and mathematics supervisor for many years. He was a long time member of NCSM and served as NCSM Treasurer and Board Member from 1976 until his untimely death in 1981. In 1982, NCSM President at the time, Shirley Frye, wrote, “One of the special benefits of a professional organization is the association with unique individuals who set a standard of quality. Glenn Gilbert was such a person! He exemplified the respected mathematics educator who loves his/her work and students. Glenn’s positive attitude supported his beliefs that students can succeed and that teaching is a reward. His leadership will be recognized and remembered in NCSM.”



Ross Taylor

Bennett “Ross” Taylor was a part of the heart and soul of NCSM for the past 4 decades, a “Leader of Leaders” in mathematics education, and a driving force behind the birth of NCSM. Ross led the first planning and organizational meeting of NCSM in Minneapolis in 1969 and served as the second President of the organization from 1971–1973. When mathematics education was faced with a national “basic skills” movement, he led the 1976 development of an NCSM Position Paper, New Basic Skills, which redefined basic skills to include problem solving and the use of calculators.

Ross’s legacy lies in the hearts, minds, and actions of all who benefited from his leadership, his work, his actions, his passion, his purpose, his voice, and from his courage. The NCSM Board, with the support of the NCSM Past Presidents, honored Bennett “Ross” Taylor’s immense contributions to NCSM by renaming its most prestigious award, the Ross Taylor/Glenn Gilbert National Leadership Award. Announced on the last day of the 2009 NCSM Annual Conference, the newly named award was presented beginning with the 42nd NCSM Annual Conference.



NCSM AFFILIATES

- Central 1: Illinois Council of Teachers of Mathematics (ICTM)
Michigan Council of Teachers of Mathematics (MCTM)
Michigan Mathematics Consultants and Coordinators (M2C2)
- Central 2: Missouri Council of Supervisors of Mathematics (MoCSM)
North Dakota Council of Teachers of Mathematics (NDCTM)
- Eastern 1: Associated Teachers of Mathematics in Connecticut (ATOMIC)
Association of Mathematics Teachers of New York State (AMTNYS)
Association of Teachers of Mathematics in Maine (ATOMIM)
Association of Teachers of Mathematics in New England (ATMNE)
Boston Area Mathematics Specialists (BAMS)
Nassau County Association of Mathematics Supervisors (NCAMS)
New Hampshire Teachers of Mathematics (NHTM)
New York State Association of Mathematics Supervisors (NYSAMS)
Rhode Island Mathematics Teachers Association (RIMTA)
- 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)
- 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)
Mississippi Mathematics Specialists Network (MMSN)
Texas Association of Supervisors of Mathematics (TASM)
Texas Council of Teachers of Mathematics (TCTM)
- Western 1: Arizona Mathematics Leaders (AML)
Colorado Mathematics Leaders (CML)
Nevada Mathematics Education Leadership Council (N-MELC)
- Western 2: California Mathematics Council (CMC)
Oregon Council of Teachers of Mathematics (OCTM)
Teachers of Teachers of Mathematics (Oregon – TOTOM)
- Canada: Ontario Mathematics Coordinators Association (OMCA)
British Columbia Association of Mathematics Teachers (BCAMT)
- 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 1 from 7:00 am–7:30 am.
- See NCSM acknowledge our affiliates at the Tuesday, April 2 Luncheon.
- Attend the Business Meeting on Tuesday, April 2 at 4:30 pm–5:00 pm.

This list reflects affiliates as of January 31, 2019. If your mathematics organization is interested in organizing an affiliate in your area, contact the 2019–2021 NCSM Affiliate Coordinator, Nanci Smith, nsmith@mathedleadership.org. You can also find helpful information and application forms in the *Affiliates* section of the NCSM Website at www.mathedleadership.org.



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.

Carolyn Briles, Editor

IMPORTANT FUTURE NCSM DATES

FUTURE NCSM ANNUAL CONFERENCES

52nd NCSM Annual Conference

March 30–April 1, 2020, Chicago, IL

Fall 2020 Leadership Event

October 19–21, 2020, St. Louis, MO

53rd NCSM Annual Conference

September 20–22, 2021, Atlanta, GA

ANNUAL NCSM SUMMER LEADERSHIP ACADEMY

July 22–24, 2019, Madison, WI

FUTURE NCSM FALL LEADERSHIP SEMINARS

October 1, 2019, Nashville, TN

November 18, 2019, Des Moines, IA

Visit www.mathedleadership.org for more details.



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 as an electronic four times a year—fall, winter, spring, and summer. Each issue is emailed to all NCSM members and 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 2019 *NCSM Newsletter*—July 5, 2019

Winter 2019–2020 *NCSM Newsletter*—September 5, 2019

Spring 2020 *NCSM Newsletter*—December 5, 2019

Summer 2020 *NCSM Newsletter*—March 5, 2020

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 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. You may want to refer to this section to support your leadership work.

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.



Links to these conversations from the Get Connected tab on our website mathedleadership.org/networks/index.

NCSM POSITION PAPERS

The NCSM Board proudly offers our membership the *Improving Student Achievement Position Paper* series that can be found at www.mathedleadership.org/resources/position. 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:

- *Computer Science and K-12 Mathematics* (no. 18, Spring 2018)
- *Building STEM Education on a Sound Mathematical Foundation* (a joint position paper from NCSM and NCTM) (no. 17, Spring 2018)
- *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 AMTE and 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 AMTE, ASSM, NCSM, and 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*.



2018–2019 NCSM SPONSORS/EXHIBITORS

NCSM gratefully acknowledges the generous support and contributions made by the following companies to the 51st Annual Conference and/or various activities throughout the year. All members and conference attendees are encouraged to express their appreciation to each company through the contacts indicated below.

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Erie, PA 16510
Website: bigideasmath.com

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Website: buzzmath.com

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Dover, NJ 07801
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2110 Artesia Blvd. B351
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Website: cpm.org

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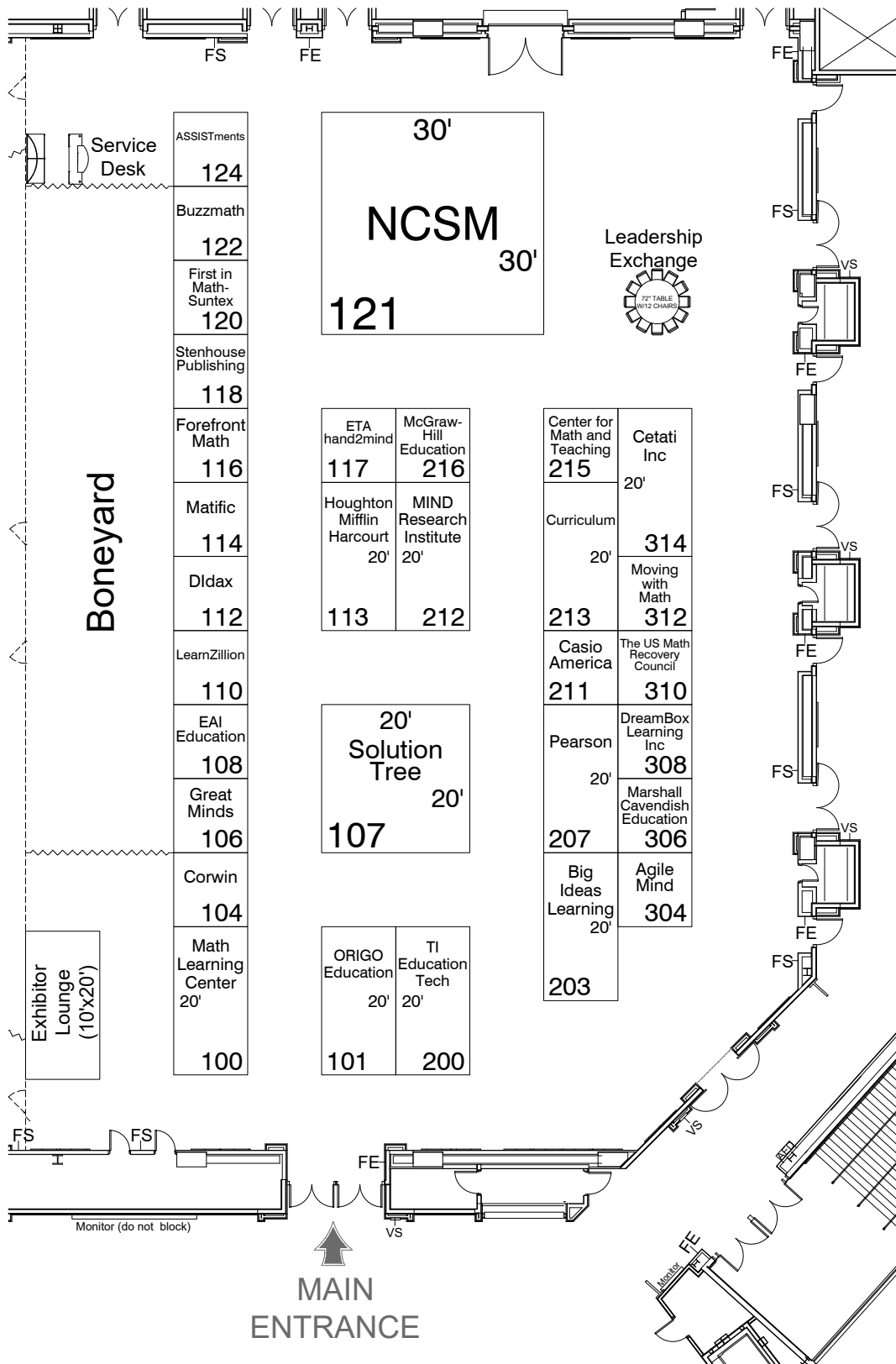
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National Council of Supervisors of Mathematics - APRIL 1-3, 2019

MARRIOTT MARQUIS SAN DIEGO MARINA - GRAND BALLROOM - SAN DIEGO, CA



SPONSOR SHOWCASE SESSIONS

All Sponsor Showcase sessions will be held in Torrey Pines 3, North Tower, Second Floor.

Tentative Showcase Schedule

MONDAY

- 9:15 am–10:15 am **Big Ideas Learning**, Using Learning Intentions and Success Criteria to Improve Teacher Clarity – Laurie Boswell
- 11:00 am–12:00 pm **Matific**, Challenges and Opportunities in 21st Century Mathematics Education – Lawrence Korchnak
- 1:30 pm–2:30 pm **ORIGO Education**, The Science of Implementation – Melinda Schwartz
- 2:45 pm–3:45 pm **Math Learning Center**, Bridges Intervention – Delivering Clear and Systematic Instruction – Pia Hansen
- 4:00 pm–5:00 pm **Curriculum Associates**, Helping Teachers Develop Manageable Instructional Practices to Elicit and Use the Mathematical Thinking of All Students to Inform Instruction – Grace Kelemanik and Amy Lucenta

TUESDAY

- 8:15 am–9:15 am **McGraw-Hill Education**, The Future of Mathematics Curriculum – Beth Minor
- 10:00 am–11:00 am **Texas Instruments**, Promoting Productive Struggle in the Math Classroom – Dan Ilaria and Curtis Brown
- 11:15 am–12:15 pm **ST Math, created by MIND Research Institute**, Paradigm Shift: Changing the Culture of Mathematics and Learning in Schools – Nigel Nisbet
- 2:15 pm–3:15 pm **LearnZillion**, Ensuring Equity with LearnZillion’s publication of the Illustrative Mathematics 6–8 Math Curriculum – Jeff Crawford

WEDNESDAY

- 8:15 am–9:15 am **Society for Industrial and Applied Mathematics - SIAM; MathWorks Math Modeling Challenge**, Math Modeling: Getting Started, Getting Solutions, Computing, and Communicating – Michelle Montgomery, Akash Gopisetty, and Ben Galluzzo
- 9:30 am–10:30 am **Pearson Learning Services**, More Choice, More Voice – Deb McGinley
- 10:45 am–11:45 pm **ORIGO Education**, Leaders Supporting Math Workshop Model – What Works? – Melinda Schwartz and Lynne Bursch
- 1:45 pm–2:45 pm **Center For Mathematics and Teaching**, Math Intervention: Strategies to Help Students Catch Up – Shelley Kriegler and Mark Goldstein
- 3:00 pm–4:00 pm **Institute for Mathematics and Computer Science**, EMF Math: An Online, Self-Paced, Challenging Curriculum for Middle School (6–8) – Iain Ferguson



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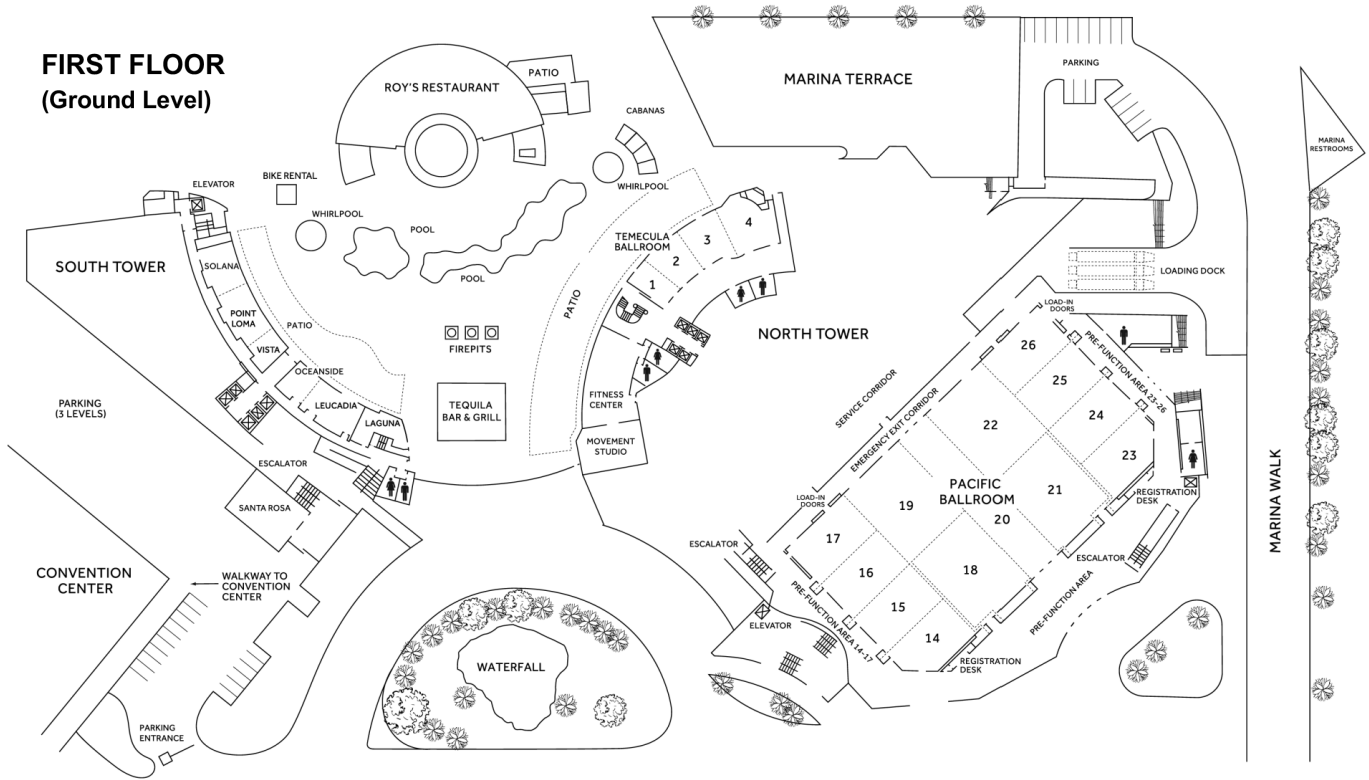
2019 CONFERENCE PLANNER

Date & Time	Event	Location
Monday, April 1		
6:45 am–5:00 pm	On-Site Registration	Pre-Function Area—Grand Ballroom
7:00 am–7:30 am	First-Timers Session – Special Gifts	Pacific 14
7:45 am–9:15 am	Opening Session & Keynote – Dr. Luis Cruz	Grand Ballroom 1–7
9:00 am–5:00 pm	Sponsor/Exhibitor Display Area	Grand Ballroom 8–13
9:00 am–5:00 pm	NCSM Bookstore, Membership Booth, & Coaches Center	Grand Ballroom 8–13
9:15 am–10:15 am	Major, Spotlight, Regular, and Sponsor Showcase Sessions	
10:15 am–11:00 am	Special Focus on Sponsor/Exhibitors	Grand Ballroom 8–13
11:00 am–12:00 pm		
11:15 am–11:45 am	Leadership Exchange	Grand Ballroom 8–13
12:15 pm–1:15 pm	Luncheon (<i>Ticket Required</i>)	Grand Ballroom 1–7
12:30 pm–1:30 pm		
1:45 pm–2:15 pm	Leadership Exchange	Grand Ballroom 8–13
1:30 pm–2:30 pm		
3:00 pm–3:30 pm	Leadership Exchange	Grand Ballroom 8–13
2:45 pm–3:45 pm		
4:00 pm–5:00 pm	NCSM Regional Directors and Regional Team Leaders Meeting	Pacific 23
5:30 pm–7:30 pm	Reception – Sponsored by Big Ideas Learning (<i>Ticket Required</i>)	Marriott Grand Ballroom Terrace
Tuesday, April 2		
6:45 am–5:00 pm	On-Site Registration	Pre-Function Area—Grand Ballroom
7:00 am–8:00 am	Breakfast – Sponsored by Pearson Learning Services (<i>Ticket Required</i>)	Grand Ballroom 1–7
8:15 am–9:15 am		
8:30 am–9:00 am	Leadership Exchange	Grand Ballroom 8–13
8:30 am–4:00 pm	Sponsor/Exhibitor Display Area	Grand Ballroom 8–13
8:30 am–4:00 pm	NCSM Bookstore, Membership Booth, & Coaches Center	Grand Ballroom 8–13
9:15 am –10:00 am	Special Focus on Sponsor/Exhibitors	Grand Ballroom 8–13
10:00 am –11:00 am		
11:15 am –12:15 pm		
12:15 pm–2:00 pm	Luncheon – Sponsored by Texas Instruments (<i>Ticket Required</i>)	Grand Ballroom 1–7
2:15 pm–3:15 pm		
2:30 pm–3:00 pm	Leadership Exchange	Grand Ballroom 8–13
3:30 pm–4:15 pm	Caucuses	Pacific Ballrooms
4:30 pm–5:00 pm	NCSM Business Meeting & State of the Organization Report	Pacific 22
5:30 pm–7:00 pm	Reception – Sponsored by McGraw-Hill Education (<i>Ticket Required</i>)	Marriott Grand Ballroom Terrace
Wednesday, April 3		
7:00 am–8:00 am	Breakfast – Sponsored by Agile Mind (<i>Ticket Required</i>)	Grand Ballroom 1–7
7:30 am–10:30 am	On-Site Registration	Pre-Function Area—Grand Ballroom
8:15 am–9:15 am		
8:30 am–9:00 am	Leadership Exchange	Pre-Function Area—Grand Ballroom
9:30 am–10:30 am		
10:45 am–11:45 am		
12:00 pm–1:30 pm	Luncheon – Partially Sponsored by ST Math, created by MIND Research Institute (<i>Ticket Required</i>)	Grand Ballroom 1–7
1:45 pm–2:45 pm		
2:30 pm–3:00 pm	Leadership Exchange	Pre-Function Area—Grand Ballroom
3:00 pm–4:00 pm		



MARRIOTT MARQUIS SAN DIEGO MARINA FLOOR PLANS

FIRST FLOOR (Ground Level)



SECOND FLOOR (Lobby Level)

