

The logo for the Association of Mathematics Teacher Educators (AMTE) is located in the top left corner. It consists of the letters 'A', 'M', 'T', and 'E' in a blue, sans-serif font, each contained within a separate white rectangular box. These boxes are arranged in a slightly overlapping, descending sequence from left to right. The entire logo is set against a background of a space-themed image featuring a green and white space helmet, a blue sky with clouds, and a view of Earth from space.

A M T E

Association of Mathematics Teacher Educators

TWENTY-SECOND ANNUAL AMTE CONFERENCE

2018

FEBRUARY 8 - 10, 2018

THE WESTIN GALLERIA, HOUSTON, TEXAS

5060 WEST ALABAMA, HOUSTON, TX, 77056

A NOTE ON THE COVER ART

The cover art for the 2018 Annual Conference Program was created by AMTE graphic designer Tony Nguyen by blending textured rainbow-colored images with an iconic photograph taken by NASA Astronaut Piers J. Sellers during an 11-minute excursion outside the Space Shuttle Discovery and the International Space Station in July 2006.

The visual metaphors in the cover art illustrate the prominent role of mathematics in human discovery (represented by the astronaut) while highlighting (through rainbow hues) AMTE's priorities over the past year – continued focus on equity and social justice, dissemination of *Standards for Preparing Teachers of Mathematics*, and a reorganization of our work into five deeply connected divisions.

Across cultures and throughout history, understanding the movement of the sun, moon, and stars has been a primary driver of mathematical discovery. Over the past half-century, the age of human space exploration has revealed new ways to rapidly advance discovery through global cooperation.

Perhaps the astronaut's impulse to take a selfie while traveling thousands of miles an hour, protected from certain death by only a few layers of fabric and modern scientific understanding, can tell us something about the very human drive to share the knowledge we gain from experience.

With human discovery comes great opportunities to teach and learn...

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WELCOME

We would like to welcome you to the Twenty-Second Annual Conference of the Association of Mathematics Teacher Educators (AMTE). Mathematics teacher education is constantly changing and evolving, and AMTE in general and our annual conference in particular provide a reflection of the growth and development of our field. Our two first-day plenary sessions, one expanding equity in mathematics education to include LGBTQ+ people and the other a working-group session around the 2017 AMTE Standards, are two examples of how AMTE's values are reflected in our 2018 meeting. And perhaps most significantly, AMTE's annual conference reflects its fundamental commitment to providing opportunities for members to meet, learn from each other, and enjoy the wonderful and supportive community that we have built over many years.

INVITED SPEAKERS

The opening general session, "Expanding Equity in Mathematics Education to Include LGBTQ+ People," is Thursday morning at 8:00 AM in Galleria II and III. The speakers include:

Laurie Rubel, Brooklyn College, The City Univ. of New York;
Stephen T. Russell, University of Texas, Austin; and
Randolph Philipp, San Diego State University.

The second plenary session, "Meeting the Standards for Preparing Teachers of Mathematics: What Will It Take?," is Thursday afternoon at 1:00 PM in Galleria II and III, and will provide opportunities for participants to discuss candidate standards with writing team members. The panel includes:

Kathryn Chval, University of Missouri
Julia Aguirre, University of Washington Tacoma
James Lewis, University of Nebraska Lincoln
Travis Olson, University of Nevada Las Vegas
Nicole Rigelman, Portland State University
Marilyn Elaine Strutchens, Auburn University

Margaret (Peg) Smith gives the 2018 Judith Jacobs Lecture, with a talk titled *"A Mathematics Teacher Educator's Journey: Responding to an Evolving Field"* on Friday afternoon, at 5:00 PM in Galleria I.

Signe Kastberg, recipient of the Award for Excellence in Teaching in Mathematics Teacher Education, gives a talk titled *"Factors that Impact MTEs' Written Feedback Practice: Improving Practice through Inquiry"* with her collaborative self-study colleagues on Friday morning, at 9:15 AM (Session 76, Galleria III).

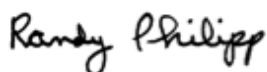
Jennifer Tobias, recipient of the 2017 Early Career Award, will present a talk titled *"Fraction Learning Trajectories in Pre-Service Teacher Education Content Courses"* on Thursday afternoon, at 2:45 PM (Session 30, Plaza II).

PROGRAM INFORMATION

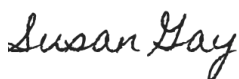
There are 166 sessions and 445 speakers on this year's program (compared to 496 speakers in 2017). There were 444 proposals submitted for review, down slightly from 452 in 2017. The program committee accepted 221 proposals (49.8%) for the program, including: 137 individual presentations, discussion and extended sessions, and symposia; 35 brief reports organized into 15 thematic sessions; and 34 posters for the poster session. The third annual AMTE Poster Session is Friday afternoon from 1:00 to 2:00 PM in the Monarch room. The program also includes 10 invited presentations, 2 award-winner sessions, and 2 sessions presented by AMTE sponsors.

LEAD THE WAY

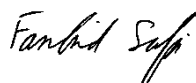
AMTE has become a complex organization, and our commitments include engaging with other organizations, providing an active webinar series, administering the STaR program for early-career faculty, producing books, monographs, standards documents, two journals, and a quarterly newsletter, and recognizing and honoring those who make special contributions to our field. And as much as AMTE now takes on, we are still, at 1,000 members, a relatively small organization; but we are highly influential, directly touching the lives each year of hundreds of thousands of prospective and practicing teachers, and indirectly touching the lives of tens of millions of K-12 students. Our annual conference is an important component of what makes AMTE what it is, and the conference flourishes because of your support and active involvement. Thank you for attending and contributing your expertise, interest, and commitment to learning and growing, and for your continued involvement as a member of AMTE.



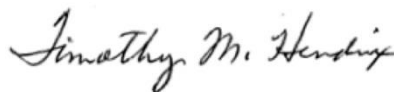
Randolph Philipp, AMTE President



Susan Gay, AMTE Conference Director



Farshid Safi, 2018 AMTE Conference Program Chair



Tim Hendrix, AMTE Executive Director

CONFERENCE SCHEDULE

WEDNESDAY, FEBRUARY 7, 2018

4:30 PM – 7:30 PM AMTE Registration Desk Open Galleria Foyer

THURSDAY, FEBRUARY 8, 2018

6:45 AM – 7:45 AM Breakfast Woodway I

7:00 AM – 5:30 PM AMTE Registration Desk Open Galleria Foyer

9:30 AM – 5:15 PM Exhibits Open Galleria Foyer

8:00 AM – 9:45 AM Opening Session on Equity Galleria II and III

10:00 AM – 10:45 AM Concurrent Sessions

11:00 AM – 11:45 AM Concurrent Sessions

11:45 AM – 1:00 PM Lunch Woodway I

1:00 PM – 2:30 PM Opening Session on Standards Galleria II and III

2:45 PM – 3:45 PM Concurrent Sessions

3:45 PM – 4:15 PM Break

4:15 PM – 5:00 PM Concurrent Sessions

4:15 PM – 6:00 PM Extended Concurrent Sessions

6:00 PM – 7:15 PM Reception for All Conference Attendees Woodway I

FRIDAY, FEBRUARY 9, 2018

6:45 AM – 7:45 AM Breakfast Woodway II

6:45 AM – 7:45 AM Advocacy and Emerging Issues Breakfast Woodway I

7:30 AM – 5:00 PM AMTE Registration Desk Open Galleria Foyer

8:45 AM – 5:00 PM Exhibits Open Galleria Foyer

8:00 AM – 9:00 AM Concurrent Sessions

9:15 AM – 10:15 AM Concurrent Sessions

10:30 AM – 11:45 AM Concurrent Sessions

11:45 AM – 1:00 PM Lunch Woodway I

1:00 PM – 2:00 PM Poster Session Monarch Room (24th floor)

2:15 PM – 3:00 PM Concurrent Sessions

3:00 PM – 3:30 PM Break

3:30 PM – 4:30 PM Concurrent Sessions

5:00 PM – 6:15 PM Judith E. Jacobs Lecture Galleria I

6:30 PM – 7:30 PM Reception for Graduate Students & Early Career Faculty Galleria III

SATURDAY, FEBRUARY 10, 2018

6:45 AM – 7:45 AM Breakfast and Affiliate Meetings Woodway I

7:30 AM – 10:30 AM AMTE Registration Desk Open Galleria Foyer

8:00 AM – 8:45 AM Concurrent Sessions

9:00 AM – 9:45 AM Concurrent Sessions

10:00 AM – 10:45 AM Concurrent Sessions

11:00 AM – 11:45 AM Concurrent Sessions

11:45 AM – 1:30 PM Lunch and Business Meeting Woodway I

CONFERENCE INFORMATION

CONFERENCE REGISTRATION DESK

Please stop by the AMTE Registration Desk, located in the Westin Galleria Hotel on the Third Floor near the Galleria Ballroom, to obtain your conference materials, including the conference program and your nametag. If you ordered a shirt or books, you may also pick those up here.

AMTE REGISTRATION DESK HOURS

WEDNESDAY	4:30 PM - 7:30 PM
THURSDAY	7:00 AM - 5:30 PM
FRIDAY	7:30 AM - 5:00 PM
SATURDAY	7:30 AM - 10:30 AM

FINDING THE CONFERENCE AREA

Conference session rooms are located on the Third Floor and the Twenty-Fourth Floor in the Westin Galleria Hotel. Meals will be held in Woodway I on the Fourth Floor.

For your convenience, a map of the hotel conference area is printed on the back of the program book. For other questions about hotel facilities, please contact the volunteers at the AMTE Registration Desk or the hotel staff.

WIRELESS INTERNET ACCESS

Complimentary wireless internet access in the conference/meeting area of the hotel for conference attendees is provided by AMTE for usage from Wednesday, February 7 through Saturday, February 10.

- Using your laptop or mobile device, look for network **WestinMeetingRooms** and use password: **amte2018**

Please note that only 600 devices can have access at a time, so please only use one device on the hotel network at a time.

Conference attendees who are staying at the Westin Galleria Hotel and who booked their guestrooms through the AMTE room block will receive complimentary internet access in individual guestrooms for the duration of the conference. Basic wifi internet is normally \$9.99 per day and this charge will be removed when checking out of the hotel. Charges will be incurred when using internet at faster speed other than the basic service. Directions on how to access wireless and wired internet service can be found in each guestroom.

CANCELLATIONS AND PROGRAM CHANGES

For updated lists of cancellations and other program changes, visit amte.net/conferences/conf2018/updates.

HOTEL PARKING INFORMATION

The Westin Galleria Hotel is connected to the Galleria Shopping Center. The entrance to the Brown Parking Garage is located next to the hotel's porte-cochère, covered entrance. The Brown Garage has designated parking for overnight hotel guests. Another option for day-only parking close to the hotel entrance is the Orange Parking Garage. Parking is complimentary in either of these garages or other Galleria Shopping Center color-named parking garages. A map of the parking options is available at parkingatthegalleria.net. Valet parking at the hotel is also available for \$25 per car per day or \$39 overnight (plus taxes); prices subject to change.

OPTIONS FOR DINNER

The Galleria, a shopping mall connected to the conference hotel, has a wide variety of options for dinner at a range of prices.

CONFERENCE PHOTOGRAPHS

Photographs are being taken during the conference for use on the AMTE website, newsletters, and brochures. These photographs will not be sold or distributed in any way beyond the promotion of AMTE and its conference. If you do not wish your likeness to be used in these ways, please contact AMTE Executive Director, Tim Hendrix, at the conference or via email at hendrixt@meredith.edu. Thanks to Margaret Mohr-Schroeder (University of Kentucky) and Tony Nguyen (AMTE) for serving as conference photographers.

PERSONAL PROPERTY

Please note that the hotel is not responsible for the safekeeping of equipment such as laptop computers or personal LCD projectors, supplies, written materials, or any other items that are unattended or left in meeting rooms or personal vehicles by conference attendees.

LOST AND FOUND

Please drop off any unclaimed found items at the AMTE Registration Desk. AMTE and the hotel are not responsible for items being left in the session rooms and in the conference area.

EXHIBITS

THURSDAY 9:30 AM - 5:15 PM

FRIDAY 8:45 AM - 5:00 PM

Make sure to visit the exhibits! Exhibitors include CPM, HP, IAP, Math Learning Center, National Geographic Learning, NCSM, NCTM, Pearson, and TODOS. See the Exhibitors Section on pages 20 and 21 for more information.

COMMITTEE MEETINGS

AMTE Committees will meet during the conference according to the schedule provided to committee leaders.

AFFILIATE MEETINGS

AMTE Affiliates will meet during breakfast on Saturday in Woodway I. This is a great time to meet each other face-to-face and discuss a game plan for the upcoming year. See pages 9 and 10 in your conference program for table locations for each affiliate.

CONFERENCE APP & SOCIAL MEDIA

USE THE FREE AMTE CONFERENCE APP TO:

- View the Conference Program
- Organize your schedule
- Find more information about speakers and attendees
- Share documents, participate in audience surveys, polls, and Q & A sessions
- Engage attendees and colleagues around the world through Social Media



The official app is available through the major app stores. Search "AMTE 2018", or go to:

AMTE2018.QUICKMOBILE.MOBI

Username = **(your registration email address before the @ symbol)**

Password = **amte18**



Web Application



Apple App Store



Google Play App Store

LIKE AMTE ON FACEBOOK



facebook.com/AMTE.net

FOLLOW AMTE ON TWITTER



[@AMTEnews](https://twitter.com/AMTEnews)

*Use **#AMTE2018** to join public discussion around the conference.*

DEDICATED SPACE FOR COLLABORATION



MONARCH ROOM (24TH FLOOR)

Catch-up and collaborate with colleagues while enjoying a panoramic view of Houston's skyline



THURSDAY, FEBRUARY 8TH

7:00 AM – 1:00 PM

Available/Open to AMTE Conference Participants

4:15 PM – 6:00 PM

Publications Session: *Transforming an Idea Into an AMTE Publication: Getting Feedback*

6:00 PM – 7:30 PM

Available/Open to AMTE Conference Participants

FRIDAY, FEBRUARY 9TH

7:00 AM – 9:00 AM

Available/Open to AMTE Conference Participants

10:00 AM – 11:00 AM

Presenters Put Up Posters
Posters Available for Viewing

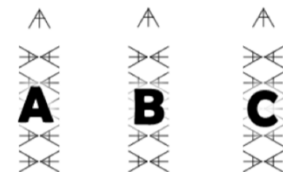
11:00 AM – 1:00 PM

1:00 PM – 2:00 PM

Poster Presentations
Posters Available for Viewing
Presenters Remove Posters

2:00 PM – 4:00 PM

4:00 PM – 5:00 PM



6:00 PM – 7:30 PM

Available/Open to AMTE Conference Participants

SATURDAY, FEBRUARY 10TH

7:00 AM – 11:00 AM

Available/Open to AMTE Conference Participants



2018 ANNUAL CONFERENCE COMMITTEES

Conference Director: Susan Gay, University of Kansas, sgay@ku.edu

Assistant Conference Director: Carol Lucas, University of Central Oklahoma, clucas@uco.edu

CONFERENCE LEADERSHIP TEAM

Susan Gay (Conference Director), University of Kansas; sgay@ku.edu

Carol Lucas (Asst. Conference Director), University of Central Oklahoma, clucas@uco.edu

Farshid Safi (Chair, 2018), University of Central Florida, farshid.safi@ucf.edu

Holt Wilson (Chair, 2017), University of North Carolina at Greensboro, phwilson@uncg.edu

Dana Cox (Chair, 2019), Miami University, dana.cox@MiamiOH.edu

ANNUAL CONFERENCE PROGRAM COMMITTEE

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Jane Wilburne, Pennsylvania State University, Harrisburg, jmw41@psu.edu

CONFERENCE APP DEVELOPMENT TEAM

App Coordinator: Joe Champion, Website Director, joechampion@boisestate.edu

App Graphics Assets: Tony Nguyen, Webmaster, ttnguyen@meredith.edu

LOCAL ARRANGEMENTS COMMITTEE

Jennifer Chauvot (Chair), University of Houston

Angela Broaddus, Benedictine College

Emma Bullock, Sam Houston State University

Justin Burris, University of Houston

Sandi Cooper, Baylor University

Shea Culpepper, University of Houston

Carrie Cutler, University of Houston

Colleen Eddy, University of North Texas

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Whitney Hanna, Relay Houston Graduate School of Education

Kimberly Hicks, Houston Independent School District

Dusty Jones, Sam Houston State University

Mark Klespis, Sam Houston State University

Karman Kurban, North American University

Carrie La Voy, The University of Kansas

Keith Leatham, Brigham Young University

Alyson Lischka, Middle Tennessee State University

Carol Lucas, University of Central Oklahoma

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Monica Gonzalez, University of Houston

Katrina Rothrock, The University of Kansas

Trena Wilkerson, Baylor University

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Raleigh, NC
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HISTORICAL LISTING OF AMTE PRESIDENTS

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Fran Arbaugh
Marilyn Strutchens
Barbara Reys
Jennifer Bay-Williams
Sid Rachlin

TERM

2017 – 2019
2015 – 2017
2013 – 2015
2011 – 2013
2009 – 2011
2007 – 2009
2005 – 2007

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Francis (Skip) Fennell
Susan Gay
Nadine Bezuk
Judith Jacobs
Henry Kepner
Mark Spikell

TERM

2003 – 2005
2001 – 2003
1999 – 2001
1997 – 1999
1995 – 1997
1993 – 1995
1991 – 1993

PUBLICATIONS SESSION

TRANSFORMING AN IDEA INTO AN AMTE PUBLICATION: GETTING FEEDBACK



MONARCH ROOM (24TH FLOOR), THURSDAY, 4:15 - 6:00 PM

To help inform potential authors about manuscript expectations for AMTE Publications, a **special extended session will be offered on Thursday, February 8 at 4:15 – 6:00 PM in the Monarch Room (24th floor)**. This session provides potential authors with feedback to transform ideas into manuscripts for submission for AMTE's publications— *Mathematics Teacher Educator (MTE)*, *Contemporary Issues in Technology and Teacher Education (CITE)* and *Connections*— focusing on clarifying expectations for the relevant publication regarding scope, format, and intended audience.

During 15-minute mini-sessions, reviewers will meet with participants to discuss an outline of a potential manuscript that has been critiqued prior to the conference. For those who were unable to sign up for a mini-session, a representative for each publication will be available at a “drop-in” table to answer general questions relative to the submission and publication processes for the respective journals. Drop-in tables will **not** provide a review of specific manuscript outlines.

MATHEMATICS TEACHER EDUCATOR (MTE) JOURNAL

Reviewers

Tonya Bartell
Melissa Boston
Rebekah Elliott
Anthony Fernandes
Mike Steele
Dorothy White

Drop-in Table

Sandra Crespo, Editor
Kristen Bieda, Associate Editor
Gloriana González Rivera, Editorial Board Chair

CONTEMPORARY ISSUES IN TECHNOLOGY AND TEACHER EDUCATION (CITE) JOURNAL

Reviewers

Shannon Driskell
Rachel Harrington
Mi Yeon Lee
Jennifer Lovett
Robert Powers
Ann Wheeler

Drop-in Table

Asli Ösgün-Koca, Co-Editor
Beth Bos, Co- Editor

AMTE CONNECTIONS

Drop-in Table

Alyson Lischka

Session Director: Christine Browning, VP for Publications

Session Facilitator: AJ Edson

AMTE AFFILIATES

AMTE is proud to welcome members of its 24 active affiliated organizations:

AFFILIATE

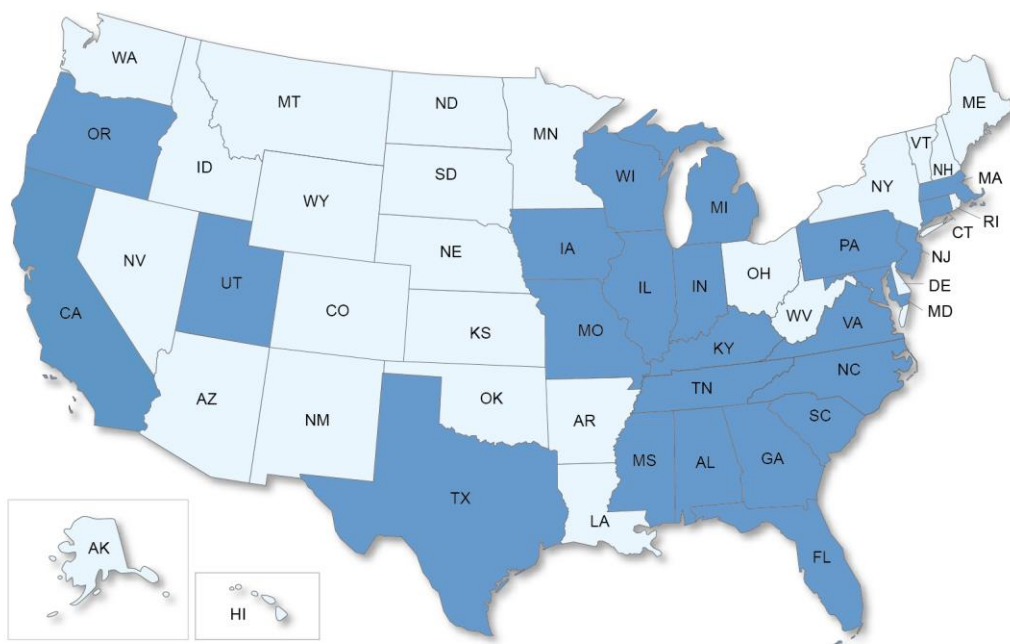
Illinois Mathematics Teacher Educators
 Utah Association of Mathematics Teacher Educators
 Florida Association of Mathematics Teacher Educators
 California Association of Mathematics Teacher Educators
 Association of Mathematics Teacher Educators of Connecticut
 Georgia Association of Mathematics Teacher Educators
 Tennessee Association of Mathematics Teacher Educators
 Association of Mathematics Teacher Educators - Texas
 Pennsylvania Association of Mathematics Teacher Educators
 Massachusetts Mathematics Association of Teacher Educators
 Missouri Mathematics Association for Advancement of Teacher Training
 South Carolina Association of Mathematics Teacher Educators
 New Jersey Association of Mathematics Teacher Educators
 Teachers of Teachers of Mathematics, Oregon
 Mississippi Association of Mathematics Teacher Educators
 Association of Mathematics Teacher Educators of Alabama
 Iowa Association of Mathematics Teacher Educators
 Association of Maryland Mathematics Teacher Educators
 Hoosier Association of Mathematics Teacher Educators
 Association of Mathematics Teacher Educators of North Carolina
 Michigan Association of Mathematics Teacher Educators
 Kentucky Association of Mathematics Teacher Educators
 Virginia Association of Mathematics Teacher Educators
 Wisconsin Association of Mathematics Teacher Educators

ACRONYM

IMTE
 UAMTE
 FAMTE
 CAMTE
 AMTEC
 GAMTE
 TAMTE
 AMTE-TX
 PAMTE
 MassMATE
 (MAT)^2
 SCAMTE
 NJAMTE
 TOTOM
 MAMTE
 AMTEA
 IAMTE
 AMMTE
 HAMTE
 AMTE-NC
 MI-AMTE
 KAMTE
 VI-AMTE
 WI-AMTE

LOCATION

Illinois
 Utah
 Florida
 California
 Connecticut
 Georgia
 Tennessee
 Texas
 Pennsylvania
 Massachusetts
 Missouri
 South Carolina
 New Jersey
 Oregon
 Mississippi
 Alabama
 Iowa
 Maryland
 Indiana
 North Carolina
 Michigan
 Kentucky
 Virginia
 Wisconsin



The Association of Mathematics Teacher Educators is a member of the Conference Board of the Mathematical Sciences and is an Affiliated Group of the National Council of Teachers of Mathematics.

Are you connected with an AMTE Affiliate? Does your state or regional area have an AMTE Affiliate?
 There are several opportunities to learn more about AMTE Affiliates during the annual conference.

SATURDAY BREAKFAST AFFILIATE MEETINGS

Saturday, February 10, 2018
Woodway I, Breakfast, 6:45-7:45 AM

The special Affiliates breakfast is a great opportunity to meet with colleagues in your region.

WESTERN REGION

1. CAMTE (California)
2. AMTE-TX (Texas)
3. UAMTE (Utah)
4. TOTOM (Oregon)

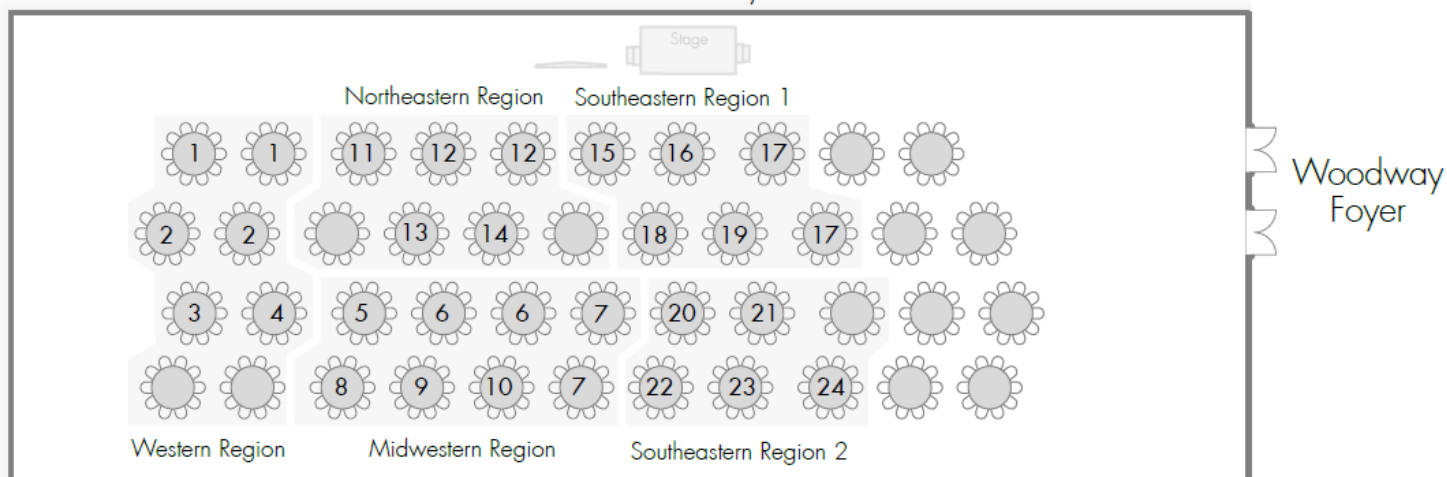
MIDWESTERN REGION

5. IMTE (Illinois)
6. HAMTE (Indiana)
7. MI-AMTE (Michigan)
8. (MAT)^2 (Missouri)
9. IAMTE (Iowa)
10. WI-AMTE (Wisconsin)

NORTHEASTERN REGION

11. AMTEC (Connecticut)
12. PAMTE (Pennsylvania)
13. MassMATE (Massachusetts)
14. NJAMTE (New Jersey)

Woodway I



SOUTHEASTERN REGION 1

15. AMMTE (Maryland)
16. SCAMTE (South Carolina)
17. AMTE-NC (North Carolina)
18. GAMTE (Georgia)
19. VA-AMTE (Virginia)

SOUTHEASTERN REGION 2

20. FAMTE (Florida)
21. TAMTE (Tennessee)
22. MAMTE (Mississippi)
23. AMTEA (Alabama)
24. KAMTE (Kentucky)

AFFILIATE CONNECTIONS COMMITTEE SESSION

MAKING AND STRENGTHENING AFFILIATE CONNECTIONS: STRONGER TOGETHER

Friday, February 9, 9:15 AM – 10:15 AM, Plaza II

Please join us to hear from members of the ACC, meet other Affiliate Leaders, share ideas to reach and support your membership.

If your state or regional area does not have an AMTE Affiliate and you are interested in organizing one, please contact (amteaffiliate@gmail.com). Also, you can find helpful information on the Affiliates section of the AMTE web site at amte.net/affiliates.

THE NTLI AWARD

Since fall 2000, the Society for Information Technology and Teacher Education (SITE) has been collaborating with four teacher education associations representing the content areas of mathematics, science, English language arts, and social studies education through the National Technology Leadership Initiative (NTLI). The NTLI fellowships were established to recognize exemplary presentations related to integration of technology in core content areas at the annual meetings of each participating association. AMTE identifies the winner of its NTLI fellowship through a competitive process that includes the requirement of submitting a paper in advance of the conference. The winner of the award receives travel funding (\$1200, made possible by a donation by Texas Instruments) for presenting at the annual conference of the SITE, and the paper is forwarded and recommended for publication in the CITE journal by the AMTE Technology Committee after additional review. For more information, visit the following website: site.aace.org/awards/awards-ntli.htm Thanks to Texas Instruments for their ongoing support of this award.

2018 NTLI AWARD WINNERS

Jennifer N. Lovett, Middle Tennessee State University
Lara K. Dick, Bucknell University
Allison W. McCulloch, University of North Carolina Charlotte
Milan F. Sherman, Drake University
Kristi Martin, North Carolina State University

Title: *Developing Preservice Teachers' TPACK of Function using a Vending Machine Metaphor Applet*

Location: Westin Galleria Houston Hotel, Plaza I

Time: Thursday, February 8, 11:00 to 11:45 am

Look in the 2019 Call for Proposals for information on how to submit a paper for the 2019 AMTE NTLI Award.

SCHOLARSHIPS FOR ELEMENTARY MATHEMATICS SPECIALISTS

The purpose of this Elementary Mathematics Specialist Scholarship is to provide the recipient with \$2,000 of funding to enhance their mathematics knowledge, teaching, and leadership by enrolling in university coursework that will result in becoming a certified elementary mathematics specialist. Elementary mathematics specialists work as teachers, teacher leaders, or coaches and support effective mathematics instruction and student learning at the classroom, school, district, or state levels.

CONGRATULATIONS TO THE 2017 EMS SCHOLARSHIP RECIPIENTS!

Barbara Woodward Stamberg, Winchester, VA
Daniel Sweet, Atlanta, Georgia
Jackie Kessler, Louisville, Kentucky

Check amte.net/about/ems in the spring for information about the next round of EMS Scholarships.

AMTE would like to thank our founding sponsor of the EMS Scholarships:



ACKNOWLEDGEMENTS

The Twenty-Second Annual AMTE Conference would not be possible without the contributions and support of many individuals. It is not possible to name each one individually!

AMTE WISHES TO EXPRESS ITS SINCERE APPRECIATION TO THE FOLLOWING:

- The Local Arrangements Committee, especially Jennifer Chauvot, Chair, who is critical to making our conference successful;
- The University of Houston, College of Education, Department of Curriculum and Instruction, especially Rebecca Perez and Daniella Heysquierdo, for managerial support in preparation for the conference;
- All of the speakers who have contributed their time and expertise to make this conference a success;
- The many individuals who make up the AMTE infrastructure – the AMTE Board of Directors, the Conference Director and Assistant Conference Director, Executive Director, Program Committee, Conference App Team, Reception Coordinator, and Headquarters staff for providing the time and effort necessary to organize all facets of the conference;
- Joe Champion, AVP for Website Development, and Tony Nguyen, AMTE Graphic Designer & Webmaster, for their dedicated work on the conference program and materials; and
- Trish Boone, Meredith College AMTE Assistant; Haley Ervin, Meredith College Student Assistant; and Stephanie Holmes, Administrative Assistant for the Department of Mathematics & Computer Science, for their dedication and organization preparing our conference registration materials.

When you see any of these individuals at our AMTE conference, we hope that you will take the time to express your own gratitude for their dedication to the organization and to the success of this 2018 conference.

*Thank
You!*

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AMTE would like to express our appreciation to this year's Gold Sponsors for providing invaluable support for our conference and for our organization's activities and initiatives.

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CPM is pleased to support AMTE and its STaR program for new math education faculty. With matching funds, CPM supports beginning math education faculty in inspiring the next wave of math teachers across the country. CPM also provides complimentary access to our secondary curriculum materials to support pre-service teacher candidates, mathematics teacher educators, and mathematics curriculum reviewers and researchers through its University Support Program. All math education faculty are welcome to sign-up at <http://cpm.org/university>.

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The Math Learning Center offers innovative, standards-based programs for elementary classrooms. Bridges in Mathematics®, Number Corner®, and Bridges Intervention® are designed to develop mathematical confidence and ability not only in students but also in teachers. In support of our nonprofit mission, we also offer a range of free resources, including the Bridges University program, which provides online access to the contents of our curriculum to schools of education.

MLC is the founding sponsor of the Elementary Mathematics Specialist (EMS) Awards. The recipients of these awards receive funding to enhance their mathematics knowledge, teaching, and leadership by enrolling in university coursework that will result in becoming a certified elementary mathematics specialist. MLC also offers university instructors free access to the full contents of the *Bridges in Mathematics K-5* curriculum through the Bridges University Program.

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Information Age Publishing continues to partner with AMTE on multiple projects, including both the republication of the AMTE Monograph Series and the publication of the AMTE Professional Book Series: a three-volume series in the field of mathematics teacher education published over the last two years. AMTE is proud to have IAP as a sponsor—they have provided support for the AMTE Awards, and are donating books as prizes for our Early Career and Graduate Student Reception. Thanks to IAP for their continued support and growing partnership.

Founded in 1999 by George F. Johnson, IAP is a social science publisher of academic and scholarly book series and journals. IAP's goal is to develop a comprehensive list of book series, monographs and journals that break down and define specific niches that lack high-level research material in the fields of Education and Management. Our products will be offered in both print and electronic formats where possible. We at IAP sincerely hope to have you become a part of a new era in publishing as we grow.

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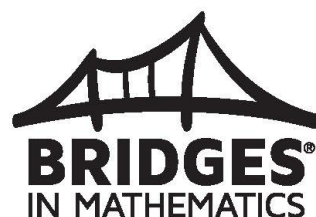
To learn more, stop by the Math Learning Center table or join us for a presentation.

Friday, February 9th

2:15–3:00 p.m., Westin Galleria, Post Oak Room

Pamela Weber Harris—Texas State University

mathlearningcenter.org/university



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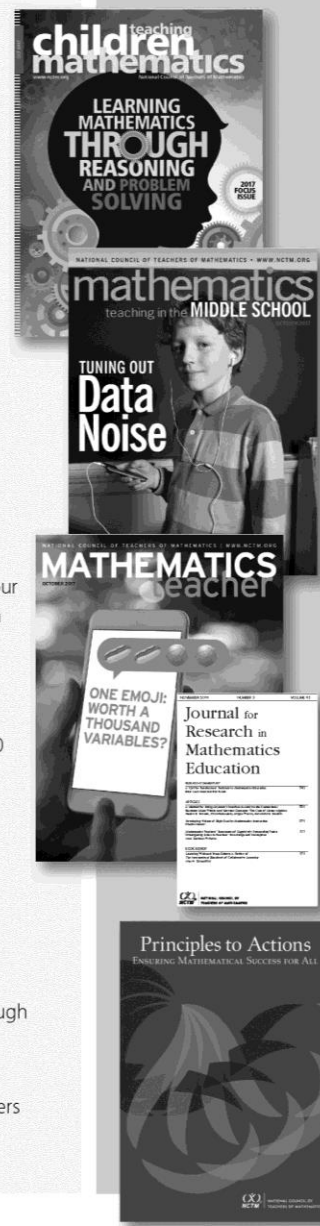
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EXHIBITOR

ABOUT THE EXHIBIT

CPM

CPM Educational Program is a California nonprofit 501 (c) (3) empowering mathematics students and teachers through exemplary curriculum, professional development, and leadership. We recognize and foster teacher expertise and leadership in mathematics education. We engage all students in learning mathematics through problem solving, reasoning, and communication. CPM's University Support Program provides complimentary curriculum materials to support pre-service teacher candidates, mathematics teacher educators, and mathematics curriculum reviewers and researchers.

HP

HP Inc. invites you to visit their exhibit table to see the HP Prime Ecosystem: HP Prime Graphing Calculator, HP Prime mobile apps, and Wireless Connectivity kit.

INFORMATION AGE PUBLISHING

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THE MATH LEARNING CENTER

The Math Learning Center (MLC) is a nonprofit organization serving the K-12 education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based resources and professional development. MLC also provides university instructors free access to the full contents of the *Bridges in Mathematics* PK-5 curriculum. Stop by our table to learn more about the Bridges University program.

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NCSM

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. 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. Stop by for more information about NCSM and our publications and resources, including the NCSM *Journal for Mathematics Education Leadership*, Position Papers and Publications. Also learn about NCSM partnerships to support Formative Assessment and Digital Learning, and about professional learning opportunities scheduled for 2018.

PEARSON

Pearson is the leading publisher in teacher education, with best-selling products for courses in math methods. Preview the brand new 10th edition of *Elementary and Middle School Mathematics: Teaching Developmentally* by Van de Walle, Karp, Bay-Williams, now available with Pearson's MyLab Education. Learn more at: pearsonhighered.com.

TODOS: MATHEMATICS FOR ALL

Mathematics for ALL is an international professional organization that advocates for equity and high quality mathematics education for all students – in particular, Latinx students. One of the goals of the organization is to advance educators' knowledge and abilities that lead to implementing an equitable, rigorous, and coherent mathematics program that incorporates the role language and culture play in teaching and learning mathematics. Stop by to hear about the benefits of membership!

**THURSDAY BREAKFAST****WOODWAY I**

Join your colleagues for a hot breakfast buffet in preparation for the opening session.

**GENERAL SESSION****GALLERIA II AND III****EXPANDING EQUITY IN MATHEMATICS EDUCATION TO INCLUDE LGBTQ+ PEOPLE**

Randolph Philipp, San Diego State University

Laurie Rubel, Brooklyn College, The City University of New York

Stephen T. Russell, University of Texas, Austin

AMTE's commitment to equity is reflected in its focus on the LGBTQ+ community in this plenary session, comprising three speakers who will highlight various perspectives about equity in mathematics education. Randy Philipp will discuss the decision landscape that honors and promotes AMTE's values about equity in a hyper-politicized national environment. Laurie Rubel will describe and argue for the importance of a vision of equity in mathematics education that goes beyond equity as an "issue" and instead, embraces LGBTQ+ learners, teachers, families, and their allies. Stephen Russell will speak about LGBT students and the role of teachers in supporting positive school climates.

This session will be instructive in supporting our mathematics education community to see LGBTQ+ people as essential to our work.



OVERVIEW OF THURSDAY MORNING SESSIONS, FEBRUARY 8, 2018

	10:00 AM - 10:45 AM	11:00 AM - 11:45 AM
PLAZA I	3. <i>I Am New to Mathematics Teacher Education: Realities of Teaching, Scholarship, and Service</i> - Lynch, James, Eskelson, Wilkerson, & Waller	15. <i>Developing Preservice Teachers' TPACK of Function Using a Vending Machine Metaphor Applet</i> - Lovett, Dick, McCulloch, Sherman, & Martin
PLAZA II	4. <i>Using Vertical Articulation to Unpack Learning Trajectories During a Coach-Facilitated Lesson Study</i> - Suh & Birkhead	16. <i>Activities to Facilitate Middle and Secondary Mathematics Teachers' Learning of Distribution Within Professional Development</i> - Peters & Watkins
CHEVY CHASE	5. <i>Comparing Multi-Media Platforms: Approximating Practice & Aligning Instruction</i> - Weston, Kosko, Amador, & Estapa	17. <i>Whiteness in Mathematics Teacher Education: Supporting Preservice Teachers in Noticing and Challenging Whiteness in Classrooms</i> - Battey
WEST ALABAMA	6. <i>Brief Report Session: Equity and Preservice Teachers</i> - Frank; Adams	18. <i>Examining Preservice Teachers' Informal Field Experiences</i> - Matney & Bostic
GALLERIA I	7. <i>Building Effective High School Math Programs for Each and Every Student</i> - Larson	19. <i>Mathematical Modeling as an Equitable Teaching Practice – Using Math to Impact our Communities</i> - Jamieson, Seshaiyer, & Hunt
GALLERIA II AND III	8. <i>Tying It Together: Preparing Teachers of Mathematics to Integrate Equity, Formative Assessment, and Effective Teaching</i> - Silver, Burton, & Strutchens	20. <i>Connecting Teaching Practices to Student Learning to Develop Well-Prepared Beginning (and Experienced) Teachers of Mathematics</i> - McGatha & Bay-Williams
BELLAIRE	9. <i>Video Analysis Supporting Preservice Teachers' Noticing Through Cycles of Structured Observation and Reflection</i> - Gallagher	21. <i>Why and How to Use Articles from NCTM's Practitioner Journals in Preservice Teacher Content Courses</i> - Strand & Thanheiser
POST OAK	10. <i>Developing Growth Mindsets in Preservice Elementary Teachers While Engaging in Problem Solving and Algebraic Thinking</i> - Slate Young & Roller	22. <i>Diverse Students' Perspectives of Social Justice Mathematics: How do Experiences With Privilege and Marginalization Influence Takeaways?</i> - Kokka
SAGE	11. <i>Evaluating the Impact and Outcomes of Teacher Preparation Programs in Mathematics</i> - Walkowiak	23. <i>Supporting Teams of General and Special Education Teachers Through Coaching Cycles</i> - Harbour & Livers
SAN FELIPE	12. <i>A Rubric for Assessing Practice-Based Mathematics Teacher Education Assignments</i> - Slavit & deVincenzi	24. <i>Video-based Formative Feedback: Supporting Inservice Teachers' Learning</i> - Garner, & Chen
TANGLEWOOD	13. <i>A Mathematics Teacher Education Instrument Repository: Beta Testing the Design</i> - van Ingen & Goffney	25. <i>Through the Looking Glass: A Qualitative Meta-Synthesis of Algebra I Instructional Strategies</i> - Hott, Dibbs, & Kline
WESTCHESTER	14. <i>Collaborating With Teachers to Support Shifts in Classroom Practice</i> - Galindo & Yoder	26. <i>Paralleling the Five Practices to Enhance Discussion of Noticing in Classroom Video</i> - Stockero

Session 3

Development of Mathematics Teacher Educators Symposium

Plaza I

I AM NEW TO MATHEMATICS TEACHER EDUCATION: REALITIES OF TEACHING, SCHOLARSHIP, AND SERVICE

Sararose Lynch, Westminster College
 Julie S. James, University of Mississippi
 Samuel L. Eskelson, University of Northern Iowa
 Trena Wilkerson, Baylor University
 Patrice Parker Waller, California State University, Fullerton

Those who are new to the mathematics teacher education community are invited to this networking opportunity. Leaders from the field, who represent a variety of rank and institution types, will lead roundtable discussions. Participants will craft their own session experience.

Session 4

Teacher Professional Development Individual Session

Plaza II

USING VERTICAL ARTICULATION TO UNPACK LEARNING TRAJECTORIES DURING A COACH-FACILITATED LESSON STUDY

Jennifer Suh, George Mason University
 Sara Birkhead, George Mason University

In this session, we will share PD routines and tools used during a content-focused institute and lesson study to deepen teachers' and coaches' understanding of the mathematics learning progression of rational number concepts through the analysis of student learning trajectories.

Session 5

Teaching and Learning with Technology Individual Session

Chevy Chase

COMPARING MULTI-MEDIA PLATFORMS: APPROXIMATING PRACTICE & ALIGNING INSTRUCTION

Tracy Weston, Middlebury College
 Karl Wesley Kosko, Kent State University
 Julie Amador, University of Idaho
 Anne Estapa, Iowa State University

We studied how multi-media platforms (LessonSketch and GoAnimate) used by prospective teachers (n=99) to create approximations of practice affected their illustrated questioning strategies. Based on our findings, we will align use of such multi-media platforms with particular instructional aims.

Session 6

Equity, Social Justice, and Mathematics Teacher Education

West Alabama

BRIEF REPORT SESSION: EQUITY AND PRESERVICE TEACHERS

EXPLORING THE RACIALIZED EXPERIENCES OF BLACK MATHEMATICS TEACHERS

Toya Jones Frank, George Mason University

We present findings from a study of pre- and inservice Black mathematics teachers on their racialized experiences while teaching mathematics. This research illuminates what stakeholders can learn from teachers of color experiences to inform mathematics teacher education and policy.

LEARNING FROM A MATHEMATICS LESSON TAUGHT IN BENGALA: IMPACTING PRESERVICE ELEMENTARY TEACHERS' SUPPORT FOR ELLS

Anne E. Adams, University of Idaho

This study examined the impact on native English speaking elementary preservice teachers of a simulated mathematics lesson taught in Bengala. Participants' written reflections and pre and post mathematics lesson plan supports for English language learners were collected and analyzed.

Session 7

NCTM Presidential Exchange Session Individual Session

Galleria I

BUILDING EFFECTIVE HIGH SCHOOL MATH PROGRAMS FOR EACH AND EVERY STUDENT

Matthew R. Larson, National Council of Teachers of Mathematics

Traditionally high school mathematics has supported college readiness for some students while simultaneously alienating others. This session will preview the NCTM report on High School Mathematics scheduled for release at the 2018 NCTM Annual Meeting in Washington DC.

Session 8

Equity, Social Justice, and Mathematics Teacher Education Individual Session

Galleria II and III

TYING IT TOGETHER: PREPARING TEACHERS OF MATHEMATICS TO INTEGRATE EQUITY, FORMATIVE ASSESSMENT, AND EFFECTIVE TEACHING

Edward Silver, University of Michigan
 Megan Burton, Auburn University
 Marilyn Elaine Strutchens, Auburn University

Equity, formative assessment, and effective mathematics instruction are often treated as distinct topics in teacher preparation. In this session we will use tasks, vignettes, and videos to illustrate how these topics can be treated in a more integrated fashion.

Session 9 <i>Preservice Teacher Field Experiences</i> <i>Individual Session</i> VIDEO ANALYSIS SUPPORTING PRESERVICE TEACHERS' NOTICING THROUGH CYCLES OF STRUCTURED OBSERVATION AND REFLECTION Melissa Gallagher, University of Louisiana at Lafayette Preservice teachers co-taught a summer PDS Math Lab that entailed: a) Collaborative planning; b) Structured Observations focused on ambitious teaching; 3) Use of the MQI. The author details the affordances and challenges of the structured observation with video analysis.	Bellaire	Session 12 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i> A RUBRIC FOR ASSESSING PRACTICE-BASED MATHEMATICS TEACHER EDUCATION ASSIGNMENTS David Slavit, Washington State University Vancouver Allison Therese deVincenzi, Washington State University Vancouver Practice-based mathematics teacher education assignments include lesson planning, task modification, and problem-solving interviews. We will share our general rubric for assessing such assignments. Participants will score PST work samples and critique the content and effectiveness of the tool.	San Felipe
Session 10 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i> DEVELOPING GROWTH MINDSETS IN PRESERVICE ELEMENTARY TEACHERS WHILE ENGAGING IN PROBLEM SOLVING AND ALGEBRAIC THINKING Erica Slate Young, Appalachian State University Sarah A. Roller, University of Alabama in Huntsville We will share results and a mindset activity from a study that incorporated lessons and discussion about how to develop a growth mindset for learning mathematics into a Math for Elementary Teachers course unit about Problem Solving and Algebraic Thinking.	Post Oak	Session 13 <i>Development of Mathematics Teacher Educators</i> <i>Discussion Session</i> A MATHEMATICS TEACHER EDUCATION INSTRUMENT REPOSITORY: BETA TESTING THE DESIGN Sarah Ann van Ingen, University of South Florida Imani Goffney, University of Maryland-College Park We solicit feedback from participants on a beta version of an instrument repository. After exploring the online repository, participants will discuss how to refine the upload, search, and interactive features to best meet the needs of mathematics teacher educators.	Tanglewood
Session 11 <i>Mathematics Education Policy and Program Issues</i> <i>Individual Session</i> EVALUATING THE IMPACT AND OUTCOMES OF TEACHER PREPARATION PROGRAMS IN MATHEMATICS Temple A. Walkowiak, North Carolina State University This session shares our evaluation model for the mathematics component of our elementary teacher preparation program. We will discuss how you can adapt our evaluation model to fit your particular context in terms of program size, goals, and available resources.	Sage	Session 14 <i>Teacher Professional Development</i> <i>Individual Session</i> COLLABORATING WITH TEACHERS TO SUPPORT SHIFTS IN CLASSROOM PRACTICE Enrique Galindo, Indiana University Gina Borgioli Yoder, Indiana University, Indianapolis Using a model of professional development that is responsive and emergent we collaborated with K-6 teachers to support their shifts in classroom practice. We share lessons learned as teachers developed their teaching skills and their mathematical knowledge for teaching.	Westchester

Session 15

Teaching and Learning with Technology
Individual Session

Plaza I

DEVELOPING PRESERVICE TEACHERS' TPACK OF FUNCTION USING A VENDING MACHINE METAPHOR APPLET

Jennifer N. Lovett, Middle Tennessee State University
Lara Dick, Bucknell University
Allison McCulloch, University of North Carolina Charlotte
Milan Sherman, Drake University
Kristi Martin, North Carolina State University

We present a secondary methods lesson designed to develop PSTs' TPACK of function. PSTs professionally noticed middle-school students' work on an applet designed to develop a definition of function. Participants will engage with lesson tasks and analyze PSTs' work.

Session 16

Teacher Professional Development
Individual Session

Plaza II

ACTIVITIES TO FACILITATE MIDDLE AND SECONDARY MATHEMATICS TEACHERS' LEARNING OF DISTRIBUTION WITHIN PROFESSIONAL DEVELOPMENT

Susan A. Peters, University of Louisville
Jonathan D. Watkins, University of Louisville

Participants engage with concept-building activities that promote the teaching and learning of the foundational statistics concept of distribution for univariate and bivariate data. Discussion focuses on features of the activities identified by teachers as effective for developing their understandings.

Session 17

Equity, Social Justice, and Mathematics Teacher Education
Individual Session

Chevy Chase

WHITENESS IN MATHEMATICS TEACHER EDUCATION: SUPPORTING PRESERVICE TEACHERS IN NOTICING AND CHALLENGING WHITENESS IN CLASSROOMS

Dan Battey, Rutgers University

This session presents a framework for whiteness in mathematics education along with classroom interactions that align with and counteract an ideology of whiteness. The goal is to support mathematics teacher educators and PSTs to notice and challenge whiteness in classrooms.

Session 18

Preservice Teacher Field Experiences
Individual Session

West Alabama

EXAMINING PRESERVICE TEACHERS' INFORMAL FIELD EXPERIENCES

Gabriel Matney, Bowling Green State University
Jonathan David Bostic, Bowling Green State University

We will describe a study conducted on a mathematics education program that required PSTs to design and enact mathematics problem solving for K-12 students. Problem solving tasks will be shared along with results to leverage discussion about informal field experiences.

Session 19

Equity, Social Justice, and Mathematics Teacher Education
Discussion Session

Galleria I

MATHEMATICAL MODELING AS AN EQUITABLE TEACHING PRACTICE – USING MATH TO IMPACT OUR COMMUNITIES

Spencer Jamieson, Fairfax County (VA) Public Schools
Padmanabhan Seshaiyer, George Mason University
Michael E. Hunt, Houston (TX) Independent School District

See what mathematical modeling (MM) looks like in elementary school classrooms and ways in which MM promotes equitable teaching practices. We present specific ways for educators to help teachers discover their students' interests and to formulate student-centered MM learning projects.

Session 20

Mathematics Pedagogy and Instructional Practice
Individual Session

Galleria II and III

CONNECTING TEACHING PRACTICES TO STUDENT LEARNING TO DEVELOP WELL-PREPARED BEGINNING (AND EXPERIENCED) TEACHERS OF MATHEMATICS

Maggie McGatha, University of Louisville
Jennifer M. Bay-Williams, University of Louisville

The *Standards for Preparing Teachers of Mathematics* and the NCTM Principles to Actions describe effective teaching practices. We will explore tools that help preservice and inservice teachers connect teaching practices to student learning opportunities and improve their own teaching practices.

Session 21

Mathematics Content, Processes, and Practices
Individual Session

Bellaire

WHY AND HOW TO USE ARTICLES FROM NCTM'S PRACTITIONER JOURNALS IN PRESERVICE TEACHER CONTENT COURSES

Krista Strand, California State University, Chico
Eva Thanheiser, Portland State University

In this session, we will share: (1) evidence-based ways to use articles from NCTM's practitioner journals in content courses for preservice K-8 teachers, and (2) insights from our research on PSTs' online discussions of such articles.

Session 22 <i>Equity, Social Justice, and Mathematics Teacher Education</i> <i>Individual Session</i> DIVERSE STUDENTS' PERSPECTIVES OF SOCIAL JUSTICE MATHEMATICS: HOW DO EXPERIENCES WITH PRIVILEGE AND MARGINALIZATION INFLUENCE TAKEAWAYS? Kari Kokka, University of Pittsburgh This comparative case study investigates how students relate to Social Justice Mathematics and how their reactions to SJM may be influenced by their experiences with privilege and/or marginalization, taking into consideration the fluid and context-dependent nature of privilege and marginalization.	Post Oak	Session 25 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i> THROUGH THE LOOKING GLASS: A QUALITATIVE META-SYNTHESIS OF ALGEBRA I INSTRUCTIONAL STRATEGIES Brittany Lynn Hott, Texas A&M University-Commerce Rebecca A. Dibbs, Texas A&M University - Commerce Taylor Kline, Texas A&M University-Commerce This session shares results of a qualitative meta-analysis of Algebra I instructional strategies. The majority of studies focused on the use of technology, task based interviews, and group work. Implications for practice and future directions will be discussed.	Tanglewood
Session 23 <i>Teacher Professional Development</i> <i>Individual Session</i> SUPPORTING TEAMS OF GENERAL AND SPECIAL EDUCATION TEACHERS THROUGH COACHING CYCLES Kristin Harbour, University of Alabama Stefanie Livers, Missouri State University We highlight the development and implementation of coaching cycles situated in a larger professional development model to support teams of co-teachers in inclusive elementary mathematics classrooms. Coaching sessions centered on co-teaching practices, differentiation strategies, and high-quality mathematics tasks.	Sage	Session 26 <i>Teaching and Learning with Technology</i> <i>Individual Session</i> PARALLELING THE FIVE PRACTICES TO ENHANCE DISCUSSION OF NOTICING IN CLASSROOM VIDEO Shari L. Stockero, Michigan Technological University Practices that parallel Smith and Stein's (2011) Five Practices for engaging students in productive mathematics discourse may enhance the orchestration of discussion of teachers' noticing in video. Examples will illustrate how such practices can support the facilitation of video-based discussions.	Westchester
Session 24 <i>Teaching and Learning with Technology</i> <i>Individual Session</i> VIDEO-BASED FORMATIVE FEEDBACK: SUPPORTING INSERVICE TEACHERS' LEARNING Brette Garner, Vanderbilt University Grace Chen, Vanderbilt University We share findings from the development and implementation of video-based formative feedback cycle to support mathematics teachers' learning opportunities. Participants will learn about the details of implementation, impacts on teachers' learning opportunities, and implications for future work.	San Felipe		

A/MTE

THURSDAY LUNCH

WOODWAY I

Join your colleagues for lunch prior to the Thursday afternoon general session.



A/MTE

GENERAL SESSION

GALLERIA II AND III

MEETING THE *STANDARDS FOR PREPARING TEACHERS OF MATHEMATICS*: WHAT WILL IT TAKE?

Kathryn Chval, University of Missouri
 Julia Aguirre, University of Washington Tacoma
 James Lewis, University of Nebraska Lincoln
 Travis Olson, University of Nevada Las Vegas
 Nicole Rigelman, Portland State University
 Marilyn Elaine Strutchens, Auburn University

This session will provide opportunities for participants to discuss Candidate Standards with writing team members. A panel discussion will set the foundation for working group time. The panel will engage with participants to support implementation efforts at institutions.

After the beginning panel discussion, attendees will move into working groups in these rooms:

- Early Childhood: Post Oak & Westchester
- Upper Elementary: San Felipe & Sage
- Middle Level: Galleria Ballroom I
- High School: Bellaire & Tanglewood



OVERVIEW OF THURSDAY AFTERNOON SESSIONS, FEBRUARY 8, 2018

	2:45 PM - 3:45 PM	4:15 PM - 6:00 PM
PLAZA I	29. <i>Preparing Mathematics Teacher Educators to Advocate and Respond to Emerging Issues</i> - Drake, Heid, McLeod, & Jett	44. <i>Leveraging What Students Know: Improving Teacher Noticing Using Real-Time Feedback on Progress Along Learning Trajectories</i> - Confrey, McGowan, & Shah
PLAZA II	30. <i>Fraction Learning Trajectories in Preservice Teacher Education Content Courses</i> - Tobias	45. <i>Launching Learning, Learning Launching: Developing Shared Images of Launching Rich Tasks</i> - Wieman, Jackson, Jansen, Kelemanik, Land, & Tyminski
CHEVY CHASE	31. <i>Improving Mathematical Knowledge for Teaching and Learning Proportional Reasoning</i> - Ozgun-Koca, Lewis, & Edwards	46. <i>Hidden Figures: Analyzing Race and Gender Bias in Mathematics Education</i> - Jacobs & Sherman
WEST ALABAMA	32. <i>Addressing Access and Equity in Secondary Methods Courses</i> - Waller, Baldinger, & Id-Deen	47. <i>Examining the Elementary Mathematics Project's Curriculum for Preservice Elementary Mathematics Content Courses</i> - Feldman, Callis, Starks, & Batista
GALLERIA I	33. <i>Mathematics Teacher Educators' Responsibilities and Roles in Advocating for LGBTQ+ Students, Teachers, and University Colleagues</i> - Koestler, Whipple, Dubbs, & Jacobs	48. <i>Preparing Elementary Teachers to Engage Families in Mathematics: Essential Routine Practices</i> - Bonner, Kalinec Craig, Aguirre, & Roth McDuffie
GALLERIA II AND III	34. <i>AMTE Equity Committee Exploration: To What Extent are AMTE Members Addressing/Meeting Indicators Toward Equity?</i> - Civil, Bartell, Bullock, & Fernandes	49. <i>Collaborating to Align Programs With the Standards for Preparing Teachers of Mathematics</i> - Bay-Williams, Bezuk, Martin, & Clements
BELLAIRE	35. <i>Comparing Teachers' and Teacher Educators' Values for Secondary Methods Courses</i> - Otten, Yee, & Taylor	50. <i>Guiding Teaching Principles to Implementing Mathematical Modeling in the Elementary Grades</i> - Seshaiyer, Suh, Levy, Carlson, Jamieson, & Hunt
POST OAK	36. <i>Going Beyond the Framework: Operationalizing an Equity Framework in Designing Quantitative Surveys</i> - Mohr-Schroeder, Jackson, Maiorca, Delaney, & Roberts	51. <i>Advanced Mathematics Courses for Secondary Teachers: An Instructional Model for Connecting to Secondary Teaching Practice</i> - Wasserman & McGuffey
SAGE	37. <i>Brief Report Session: Planning for Instruction</i> - Munter & Haines; Webel, Engledowl, & Yeo; Willingham & Gibson	41. <i>Informal Reflection as a Stimulus of Teacher Learning</i> - Rupnow & Barker
SAN FELIPE	38. <i>Variation and Intentionality in Teaching Mathematics Methods Courses: A Focus on Video Cases</i> - Casey, Fox, & Lischka	52. <i>Attending to the Social, Historical, and Institutional Contexts of Education in Mathematics Methods Courses</i> - Yeh, Stoeher, Chao, Ozturk, & Lin
TANGLEWOOD	39. <i>Early School-Based Learning Field Experiences: Embedding and Enacting Core Teaching Practices in Authentic Classroom Settings</i> - Billings, Ball, & Benincasa	42. <i>Brief Report Session: Elementary Grades Preservice Teachers</i> - Nurnberger-Haag; Utley, Reeder, & Redmond-Sanogo
WESTCHESTER	40. <i>Using the Instructional Quality Assessment (IQA) as a Professional Development Tool With Mathematics Teachers</i> - Candela & Boston	43. <i>Brief Report Session: Equity and Teachers</i> - Chen & Garner; Raygoza; Lee

Session 29

Mathematics Education Policy and Program Issues Symposium

Plaza I

PREPARING MATHEMATICS TEACHER EDUCATORS TO ADVOCATE AND RESPOND TO EMERGING ISSUES

Corey Drake, Michigan State University
M.Kathleen Heid, Pennsylvania State University
Kevin McLeod, University of Wisconsin-Milwaukee
Christopher Jett, University of West Georgia

Given recent changes in education policy, it is critical that mathematics teacher educators are prepared to advocate proactively on behalf of students, teachers, and mathematics education. This session will support mathematics teacher educators in developing strategies and tools for advocacy.

Session 30

AMTE Early Career Award Winner Individual Session

Plaza II

FRACTION LEARNING TRAJECTORIES IN PRESERVICE TEACHER EDUCATION CONTENT COURSES

Jennifer M. Tobias, Illinois State University

Results from two studies, analyzing the ways in which preservice elementary and middle school teachers develop an understanding of fraction concepts and operations, will be shared. Learning trajectories from each study will be compared and discussed.

Session 31

Mathematics Content, Processes, and Practices Individual Session

Chevy Chase

IMPROVING MATHEMATICAL KNOWLEDGE FOR TEACHING AND LEARNING PROPORTIONAL REASONING

S. Asli Ozgun-Koca, Wayne State University
Jennifer M. Lewis, Wayne State University
Thomas G. Edwards, Wayne State University

This session describes professional development delivered and aimed at improving proportional reasoning instruction using mathematical/engineering tasks set in authentic contexts. PD positively influenced participants' MKT in ways that fostered improved instruction, with students working on authentic application tasks set in engaging contexts.

Session 32

Equity, Social Justice, and Mathematics Teacher Education Discussion Session

West Alabama

ADDRESSING ACCESS AND EQUITY IN SECONDARY METHODS COURSES

Patrice Parker Waller, California State University, Fullerton
Erin E. Baldinger, University of Minnesota
Lateefah Id-Deen, University of Louisville

This session addresses two dilemmas encountered when working with preservice secondary mathematics teachers: (1) the belief that mathematics is politically-neutral and there is no room for integration with social justice CRP and (2) the superficial implementation of CRP in designing mathematics tasks.

Session 33

Development of Mathematics Teacher Educators Discussion Session

Galleria I

MATHEMATICS TEACHER EDUCATORS' RESPONSIBILITIES AND ROLES IN ADVOCATING FOR LGBTQ+ STUDENTS, TEACHERS, AND UNIVERSITY COLLEAGUES

Courtney Koestler, OHIO Center for Equity
Kyle Stephen Whipple, University of Minnesota
Christopher Dubbs, Michigan State University
Judith E. Jacobs, JEJMath

This discussion session is intended to provide a space for mathematics teacher educators to discuss why and how to include attention to LGBTQ+ issues in mathematics education. All levels of experience with LGBTQ+ education are welcome.

Session 34

Equity, Social Justice, and Mathematics Teacher Education Discussion Session

Galleria II and III

AMTE EQUITY COMMITTEE EXPLORATION: TO WHAT EXTENT ARE AMTE MEMBERS ADDRESSING/MEETING INDICATORS TOWARD EQUITY?

Marta Civil, University of Arizona
Tonya Bartell, Michigan State University
Erika Bullock, University of Wisconsin-Madison
Anthony Fernandes, University of North Carolina Charlotte

We examine AMTE members' survey results around indicators relevant to equity in AMTE's *Standards for Preparing Teachers of Mathematics*. This work can support AMTE in ascertaining the degree to which candidates/programs are meeting/addressing these indicators and identify those in need of attention.

Session 35

Mathematics Education Policy and Program Issues Discussion Session

Bellaire

COMPARING TEACHERS' AND TEACHER EDUCATORS' VALUES FOR SECONDARY METHODS COURSES

Samuel Otten, University of Missouri
Sean P. Yee, University of South Carolina
Megan Westwood Taylor, Trellis Education

Based on national survey responses of 130 teachers and 116 teacher educators about what topics they value for secondary mathematics teaching methods courses, participants will discuss similarities and differences between the two groups' responses and engage in collaborative program reflection.

Session 36 **Post Oak**
Equity, Social Justice, and Mathematics Teacher Education
Individual Session

GOING BEYOND THE FRAMEWORK: OPERATIONALIZING AN EQUITY FRAMEWORK IN DESIGNING QUANTITATIVE SURVEYS

Margaret J. Mohr-Schroeder, University of Kentucky
Christa Jackson, Iowa State University
Cathrine Maiorca, California State University, Long Beach
Ashley Delaney, Iowa State University
Thomas Roberts, Bowling Green State University

We operationalize Gutiérrez's (2009) four dimensions of equity for investigating STEM literacy. We will engage the participants in the process of the creation of survey items on a quantitative survey that explicitly measures STEM literacy using Gutiérrez's work.

Session 37 **Sage**
Mathematics Pedagogy and Instructional Practice

BRIEF REPORT SESSION: PLANNING FOR INSTRUCTION

MATHEMATICS TEACHERS' ENACTMENT OF COGNITIVELY DEMANDING TASKS AND STUDENTS' PERCEPTION OF RACIAL DIFFERENCES IN OPPORTUNITY

Charles Munter, University of Missouri
Cara Haines, University of Missouri

An examination of whether urban secondary students perceived racial differences in opportunities in mathematics, whether those perceptions differed by race, and the relation of those perceptions to a key instructional practice: teachers' choice and use of mathematical tasks.

PATTERNS IN ELEMENTARY TEACHERS' SELECTION, USE, AND PERCEPTIONS OF MATERIALS FOR TEACHING MATHEMATICS

Corey Webel, University of Missouri
Christopher Engledowl, New Mexico State University
Sheunghyun Yeo, University of Missouri

We describe survey data regarding curriculum resource use from 50 participants in a larger project investigating Elementary Mathematics Specialists in teaching roles. Using Latent Class Analysis, we generated two profiles of curriculum use (traditional and blended) and explored planning practices.

THE INFLUENCE OF GROWTH MINDSET CHARACTERISTICS ON A TEACHER'S MATHEMATICAL LEARNING GOALS

James Chris Willingham, James Madison University
Jennifer S. Gibson, James Madison University

During this session, we will describe how mindset and self regulation theories helped reveal distinct goal layers influencing an elementary mathematics teacher's classroom. We will develop the theoretical framework guiding this study and the goal structures which emerged from its use.

Session 38 **San Felipe**
Mathematics Pedagogy and Instructional Practice
Discussion Session

VARIATION AND INTENTIONALITY IN TEACHING MATHEMATICS METHODS COURSES: A FOCUS ON VIDEO CASES

Stephanie Casey, Eastern Michigan University
Ryan Fox, Belmont University
Alyson E. Lischka, Middle Tennessee State University

Attendees will engage in analysis of a video case that was the focus of a survey study. Results showing variation among MTEs' reactions to the video will be shared, with focus on the differences among MTEs holding different theoretical perspectives.

Session 39 **Tanglewood**
Preservice Teacher Field Experiences
Individual Session

EARLY SCHOOL-BASED LEARNING FIELD EXPERIENCES: EMBEDDING AND ENACTING CORE TEACHING PRACTICES IN AUTHENTIC CLASSROOM SETTINGS

Esther M.H. Billings, Grand Valley State University
Dayna Ball, Grand Valley State University
Oriana Benincasa, Grand Valley State University

We describe a school partnership where elementary preservice teachers take a 200-level integrated content-pedagogy math class (focused on number and operations) at a local urban school, learning about and enacting core teaching practices with grade-school children.

Session 40 **Westchester**
Mathematics Pedagogy and Instructional Practice
Discussion Session

USING THE INSTRUCTIONAL QUALITY ASSESSMENT (IQA) AS A PROFESSIONAL DEVELOPMENT TOOL WITH MATHEMATICS TEACHERS

Amber Grace Candela, University of Missouri - St. Louis
Melissa Boston, Duquesne University

This session will provide an overview of how an observational tool, Instructional Quality Assessment (IQA), can be used to frame professional development. Participants will analyze professional development activities and consider how the tool could support teachers' self-reflection and instructional improvement.



THURSDAY AFTERNOON BREAK

GALLERIA FOYER

This is a great time to stretch, catch-up with colleagues, and visit the exhibitors.



Session 41

Sage

*Teacher Professional Development
Individual Session*

INFORMAL REFLECTION AS A STIMULUS OF TEACHER LEARNING

Theodore J. Rupnow, University of Nebraska at Kearney
David Barker, Illinois State University

In this session we describe one high school mathematics teacher's learning through informal reflection. We will share three types of reflection that produced learning and engage in a discussion of how to use these reflective practices individually and with teachers.

Session 42

Tanglewood

Mathematics Content, Processes, and Practices

BRIEF REPORT SESSION: ELEMENTARY GRADES PRESERVICE TEACHERS

PRESERVICE TEACHERS CRITIQUE CHILDREN'S TRADE BOOKS ABOUT SHAPES TO IMPROVE THEIR OWN KNOWLEDGE

Julie Nurnberger-Haag, Kent State University

The session reports the impact of an activity used with more than 200 preservice teachers (PSTs) in mathematics content and elementary mathematics methods courses designed to improve teachers' knowledge of geometric shapes as well as understand potential student conceptions.

REFLECTING ON BELIEFS ABOUT TEACHING MATHEMATICS: DRAW A MATHEMATICS TEACHER TEST AND RUBRIC

Juliana Utley, Oklahoma State University
Stacy Reeder, University of Oklahoma
Adrienne Anne Redmond-Sanogo, Oklahoma State University

Prospective teachers need the opportunity to reflect upon their beliefs about teaching mathematics. This session will examine the development of the Draw a Mathematics Teacher Test and rubric as well as how preservice elementary teachers envision their future mathematics classrooms.

Session 43

Westchester

Equity, Social Justice, and Mathematics Teacher Education

BRIEF REPORT SESSION: EQUITY AND TEACHERS

HOW VETERAN MATHEMATICS TEACHERS (LEARN TO) ACT FOR EQUITY AND SOCIAL JUSTICE

Grace Chen, Vanderbilt University
Brette Garner, Vanderbilt University

From a longitudinal study of veteran mathematics teachers in a large urban district who are dedicated to equity and social justice, we share emerging findings about how they understand and act upon their commitments, and lessons for teacher educators.

MATHEMATICS TEACHERS' REFLECTIONS ON TEACHING ABOUT SOCIETAL INEQUALITY AS LESSONS FOR TEACHER EDUCATION

Mary Candace Raygoza, University of California, Los Angeles

This research report describes a study on mathematics teachers who teach about economic inequality (e.g. lessons about the distribution of wealth) and the lessons we can take away from their stories as mathematics teacher educators.

TEACHERS OF COLOR AND THEIR NEEDS TO SUPPORT EQUITY IN MATHEMATICS EDUCATION

Ji Hye Lee, The Ohio State University

The report explores teachers of color in the United States and examines what their needs are to support equity in mathematics education.

Session 44

Teaching and Learning with Technology
Extended Session

Plaza I

LEVERAGING WHAT STUDENTS KNOW: IMPROVING TEACHER NOTICING USING REAL-TIME FEEDBACK ON PROGRESS ALONG LEARNING TRAJECTORIES

Jere Confrey, North Carolina State University
William Gabriel McGowan, North Carolina State University
Meetal Shah, North Carolina State University

Explore a digital tool that provides real-time diagnostic assessment data to students and teachers, while providing PD opportunities for middle school math content and pedagogy. We share the results from one design study, documenting teachers' moves toward learner-centered instruction.

Session 45

Mathematics Pedagogy and Instructional Practice
Extended Session

Plaza II

LAUNCHING LEARNING, LEARNING LAUNCHING: DEVELOPING SHARED IMAGES OF LAUNCHING RICH TASKS

Rob Wieman, Rowan University
Kara Jackson, University of Washington
Amanda Jansen, University of Delaware
Grace Kelemanik, Fostering Math Practices
Tonia Jo Land, Drake University
Andrew Tyminski, Clemson University

What do effective launches look like? What is expertise in launching? In this session, researchers, teacher educators and curriculum developers will share examples and will engage participants in discussion about effective launches.

Session 46

Equity, Social Justice, and Mathematics Teacher Education
Extended Session

Chevy Chase

HIDDEN FIGURES: ANALYZING RACE AND GENDER BIAS IN MATHEMATICS EDUCATION

Judith E. Jacobs, JEJMath
Diana Sherman, Saint Anselm College

Hidden Figures is the story of three Black women mathematicians who were an essential part of NASA's early space missions. After viewing videos, participants will analyze and identify the portrayed gender and racial biases and ways they were addressed

Session 47

Mathematics Content, Processes, and Practices
Extended Session

West Alabama

EXAMINING THE ELEMENTARY MATHEMATICS PROJECT'S CURRICULUM FOR PRESERVICE ELEMENTARY MATHEMATICS CONTENT COURSES

Ziv Feldman, Boston University
Laura Kyser Callis, Curry College
Rachel Starks, Boston University
Lisa Nguyen Batista, Boston University

The Elementary Mathematics Project has created a robust set of instructional materials for teacher educators who teach mathematics content courses for preservice elementary teachers. This workshop session will give participants opportunities to examine & consider using EMP materials in their teaching.

Session 48

Mathematics Pedagogy and Instructional Practice
Extended Session

Galleria I

PREPARING ELEMENTARY TEACHERS TO ENGAGE FAMILIES IN MATHEMATICS: ESSENTIAL ROUTINE PRACTICES

Emily Bonner, University of Texas at San Antonio
Crystal Kalinec Craig, University of Texas at San Antonio
Julia Aguirre, University of Washington Tacoma
Amy Roth McDuffie, Washington State University

Meaningful family engagement in mathematics learning is an essential practice. Unfortunately, this essential practice is often under-emphasized in mathematics methods courses. This session examines specific ways to better prepare preservice teachers to engage families around mathematics through adapting routine practices.

Session 49

Mathematics Education Policy and Program Issues
Extended Session

Galleria II and III

COLLABORATING TO ALIGN PROGRAMS WITH THE STANDARDS FOR PREPARING TEACHERS OF MATHEMATICS

Jennifer M. Bay-Williams, University of Louisville
Nadine Bezuk, San Diego State University
W. Gary Martin, Auburn University
Douglas H. Clements, University of Denver

This session will focus on the *Standards for Preparing Teachers of Mathematics'* call for action to improve teacher preparation programs by facilitating an extended discussion around these standards, with particular focus on program and course design (Program Standards P.2-P.4).

Session 50**Bellaire**

*Teacher Professional Development
Extended Session*

GUIDING TEACHING PRINCIPLES TO IMPLEMENTING MATHEMATICAL MODELING IN THE ELEMENTARY GRADES

Padmanabhan Seshaiyer, George Mason University
Jennifer Suh, George Mason University
Rachel Levy, Harvey Mudd College
Mary Alice Carlson, Montana State University
Spencer Jamieson, Fairfax County (VA) Public Schools
Michael E. Hunt, Houston (TX) Independent School District

In this session, we will share Mathematical Modeling tasks designed from real-world situations, introduced to elementary classroom teachers during a professional development program, that helped to enhance both teacher content knowledge and their pedagogical practices.

Session 51**Post Oak**

*Mathematics Content, Processes, and Practices
Extended Session*

ADVANCED MATHEMATICS COURSES FOR SECONDARY TEACHERS: AN INSTRUCTIONAL MODEL FOR CONNECTING TO SECONDARY TEACHING PRACTICE

Nicholas Wasserman, Teachers College, Columbia University
Will McGuffey, Teachers College, Columbia University

An instructional model for teaching advanced mathematics courses for secondary teachers is shared. Participants will explore two research-based tasks designed for and implemented in a real analysis course for secondary teachers. Implications for mathematics teacher education will be discussed.

Session 52**San Felipe**

*Equity, Social Justice, and Mathematics Teacher Education
Extended Session*

ATTENDING TO THE SOCIAL, HISTORICAL, AND INSTITUTIONAL CONTEXTS OF EDUCATION IN MATHEMATICS METHODS COURSES

Cathery Yeh, Chapman University
Kathleen Jablon Stoeher, Santa Clara University
Theodore Chao, The Ohio State University
Ayse Ozturk, The Ohio State University
Hochieh Lin, The Ohio State University

This session focuses on an integration of equity and access within three mathematics methods courses. Participants will engage in three activities aimed at developing awareness of and responsiveness to the social, historical, and institutional contexts of mathematics teaching and learning.

Session 53**Monarch**

*AMTE Publications Session
Extended Session*

PUBLICATIONS SESSION MONARCH ROOM (24TH FLOOR)



TRANSITIONING AN IDEA INTO AN AMTE PUBLICATION: GETTING FEEDBACK

Christine Browning, Western Michigan University

This session allows for personal feedback to potential authors for the quality improvement of manuscripts for AMTE's publications: *Mathematics Teacher Educator*, *Contemporary Issues in Technology and Teacher Education-Math (CITE)* and *Connections*, focusing on clarification of expectations for the relevant publication.

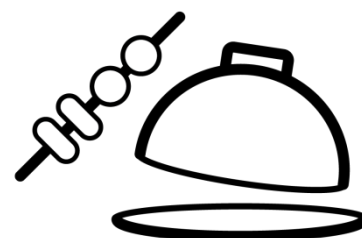


AMTE RECEPTION

WOODWAY I

Hosted by AMTE President, Randolph Philipp

AMTE welcomes representatives of five organizations, all working in the Houston area, who will describe the services and support they provide to advance positive changes in attitudes, behaviors, and policies regarding equality and respectful treatment of LGBTQ+ individuals, families, and communities. All AMTE conference attendees are invited to attend, to learn, and to enjoy hors d'oeuvres.



ABOUT THE PARTICIPATING ORGANIZATIONS

Equality Texas is the largest statewide organization dedicated solely to securing full equality for LGBTQ Texans through political action, education, community organizing, and collaboration.

Representative: Lou Weaver

equalitytexas.org

Gender Infinity creates affirming spaces for families, learners, advocates, and providers to advance relationships, knowledge, and resources that empower gender diverse individuals. In our journey together we promote justice, equity, and hope in the celebration of infinite gender possibilities.

Representatives: Megan Mooney, PhD

Robbie Sharp, PhD

genderinfinity.org

GLSEN Austin strives to assure that each member of every school community is valued and respected regardless of sexual orientation or gender identity/expression. Since 1990, GLSEN has focused on LGBTQ issues in K-12 education by promoting healthy school climates that engender a positive sense of self, which is the basis of educational achievement and personal growth.

Representative: Nathan Smith, PhD

glsen.org

PFLAG members are dedicated to supporting lesbian, gay, bisexual, transgender and queer (LGBTQ) people and keeping them united with family members, friends and allies. PFLAG's goal is to protect civil rights and promote equality for all citizens through a three-fold mission of support, education and advocacy.

Representative: Evelyn Carlson, President

pflaghouston.org

The Montrose Center's School House Program strives to develop positive school environments through confidential, on-campus group counseling led by a Montrose Center therapist and the Gay-Straight Alliance (GSA) Resource Network which hosts trainings and support for GSA student leaders and staff facilitators. These measures significantly improve school retention and reduce student drop-out rates.

Representative: Debra Murphy, BS

Youth Services Specialist

montrosecenter.org

hatchyouth.org

Thank you to our guests for joining us at this event and to Angela Broaddus, Benedictine College, for coordinating the arrangements for this reception.



Conference participants have two options for breakfast.



ADVOCACY & EMERGING ISSUES BREAKFAST

WOODWAY I

Karen King, National Science Foundation
Della B. Cronin, Washington Partners, LLC

The annual AMTE Advocacy and Emerging Issues Breakfast highlights up-to-date initiatives and events related to policy in mathematics teacher education. Our invited speakers will participate in an open discussion about how they approach advocacy in various contexts and will highlight important issues AMTE members need to consider related to research and practice in our field. After brief introductions, the panel will respond to questions prepared by the Emerging Issues Committee (EIC). We will end with an open forum inviting questions from the audience and further discussion from the panel.

FRIDAY BREAKFAST

WOODWAY II

Join colleagues for breakfast and casual conversation.

OVERVIEW OF FRIDAY MORNING SESSIONS, FEBRUARY 9, 2018

	8:00 AM - 9:00 AM	9:15 AM - 10:15 AM
PLAZA I	57. <i>Teachers' Orientations Around Using Student Mathematical Thinking as a Resource During Whole-class Discussion</i> - Leatham, Stockero, Ochieng, Van Zoest, & Peterson	70. <i>Secondary Preservice Teachers' Opportunities to Learn in Cycles of Enactment and Investigation (CEIs)</i> - Arbaugh, Freeburn, Konuk, & Graysay
PLAZA II	58. <i>Co-Designing Statewide Efforts to Improve Mathematics Education Through Partnerships</i> - Webb, Wilson, & Stephan	71. <i>Making and Strengthening Affiliate Connections: Stronger Together</i> - Evitts, Grady, Sjostrom, Stephan, & Tjoe
CHEVY CHASE	59. <i>Brief Report Session: Eliciting and Responding to Student Thinking in Elementary Grades</i> - Nitta; Maldonado; Savich & Jacobson	72. <i>The Power of Debriefs in Practice-Based Mathematics Education Courses</i> - Knapp, Virmani, Woods, Schwartz, Swartz, & Lynch
WEST ALABAMA	60. <i>Preservice Teachers' Beliefs and Competencies Related to Real World Problem Posing</i> - Simic-Muller & Fernandes	73. <i>Successes and Challenges in Preparing Secondary Mathematics Teachers to Teach Probability and Statistics</i> - Huey & Weber
GALLERIA I	61. <i>Elaborations of the Standards for the Preparation of Early Childhood Teachers of Mathematics</i> - Clements, Huinker, Rigelman, & White	74. <i>Seeing Power and Whiteness: A Critical Self-Examination on the Design of Equity-Oriented Professional Development</i> - Herbel-Eisenmann, Byun, Koestler, & Bartell
GALLERIA II	62. <i>Practical Measures of Instruction: Improving Mathematics Teaching With Quick, Actionable Feedback</i> - Kochmanski, Jarry-Shore, Jackson, Trevino, & Borko	75. <i>Early Career Mathematics Teachers' Use of Technology to Teach Mathematics</i> - Hollebrands, McCulloch, Mutlu, & Harrison
GALLERIA III	63. <i>Strengths-based Mathematics Instructional Design for Struggling Learners</i> - Karp	76. <i>Factors That Impact MTEs' Written Feedback Practice: Improving Practice Through Inquiry</i> - Kastberg, Lischka, & Hillman
BELLAIRE	64. <i>Technology for Elementary Teachers: What's in the Book?</i> - Jones & Klespis	77. <i>Using the PrimeD Framework to Understand, Guide, and Assess Secondary Mathematics Teacher Preparation</i> - Rakes, Ronau, Bush, & Mohr-Schroeder
POST OAK	65. <i>Infusing Mathematics With History: A Capstone Course for Prospective Secondary Mathematics Teachers</i> - Keiser & Harper	78. <i>Mathematics Classroom Observation Protocols: Informing Future Research and Practice</i> - Bostic, Lesseig, Sherman, & Boston
SAGE	66. <i>Meeting Teachers Where They Go and Where They Are: A New Form of Professional Development</i> - de Araujo, Otten, Zhao, & Yeo	79. <i>Supporting Teachers' Understanding of Fractions: A Measurement Approach</i> - Alqahtani & Powell
SAN FELIPE	67. <i>Enhancing the Student Teaching Experience Through Mentor Training - Roles, Responsibilities, and Characteristics of Good Mentors</i> - Beyers & Liebars	80. <i>Exploring Disciplinary Computational Thinking and TPACK in Science, Technology, Engineering, and Mathematics With Robotics</i> - Suters
TANGLEWOOD	68. <i>Three Courses Designed to Develop and Expand Middle Level Preservice Teachers' Mathematical Content Capacities</i> - White, Taylor, & Wismer	81. <i>Molding Teachers' Visions of Algebraic Learning and Teaching: Reflecting on a Three-Year Algebra Professional Development</i> - Lee, Max, Hudson, Ko, Taylor, & Mohr
WESTCHESTER	69. <i>Brief Report Session: Equity and Students</i> - Dibbs; Young	82. <i>Brief Report Session: Developing Mathematics Teacher Educators</i> - Jurgenson; Simpson; Huang

OVERVIEW OF FRIDAY MORNING SESSIONS, FEBRUARY 9, 2018

	10:30 AM - 11:45 AM
PLAZA I	83. <i>Mathematics Teacher Educators' Inquiry Into Their Practice: Unpacking Methodologies for Professional and Personal Growth</i> - Suazo Flores, Kastberg, Ward, & Cox
PLAZA II	84. <i>Considering the AMTE Standards for Preparing Teachers of Mathematics: Implications for the Work of MTEs</i> - Castro Superfine, Tyminski, Marshall, Shaughnessy, & Goffney
CHEVY CHASE	85. <i>Supporting Teachers' Use of Argumentation in the Mathematics Classroom</i> - Gomez, Conner, Staples, & Cavanna
WEST ALABAMA	86. <i>Brief Report Session: Preservice Teachers</i> - Zhao & Haines; Callis; Gerstenschlager & Barlow
GALLERIA I	87. <i>Mathematical Modeling and Social Justice: A Powerful Combination for Teacher Learning and Preparation</i> - Aguirre, Anhalt, Simic-Muller, Turner, & Cortez
GALLERIA II	88. <i>Online Mathematics Teacher Collaboration: Twitter and Blogs as Learning Spaces for Mathematics Teachers</i> - Wilhelm, Jansen, Litke, & Parrish
GALLERIA III	89. <i>Using Virtual Spaces to Promote Teacher Professional Growth: Acting to Believing</i> - Milewski, Amidon, Bardelli, & Boileau
BELLAIRE	90. <i>Preparing Prospective Mathematics Teacher Educators to Teach Via Problem Solving</i> - Masingila, Altindis, Wambua, Wambua, Waswa, & Wilson
POST OAK	91. <i>Supporting Mathematics Teacher Educators in Online and Hybrid Teaching</i> - Swartz, Junor Clarke, Wheeler, Wieman, Rhine, Smith, & Perry
SAGE	92. <i>A Shared Vision for Teacher Improvement: Adapting Professional Development for Local Context by Leveraging District-Developed Tools</i> - Fong, Dyer, & Gomez Zaccarelli
SAN FELIPE	93. <i>Creating Opportunities for Prospective Elementary Teachers to Learn Mathematics: Perspectives and Personal Journeys</i> - Stump, Underwood, Berry, & Max
TANGLEWOOD	94. <i>Family Math Night Projects for Future Elementary Teachers in Content Courses: What, How, and Why</i> - Marzocchi, Thanheiser, Strand, & Hawthorne
WESTCHESTER	95. <i>Building Concept Images of Core Algebraic Ideas: Implications for Teacher Preparation</i> - Dick, Burrill, & Zbiek

Session 57

Mathematics Pedagogy and Instructional Practice
Individual Session

Plaza I

TEACHERS' ORIENTATIONS AROUND USING STUDENT MATHEMATICAL THINKING AS A RESOURCE DURING WHOLE-CLASS DISCUSSION

Keith R. Leatham, Brigham Young University
Shari L. Stockero, Michigan Technological University
Mary A. Ochieng, Western Michigan University
Laura R. Van Zoest, Western Michigan University
Blake E. Peterson, Brigham Young University

We characterize teachers' orientations related to using student mathematical thinking as a resource during whole-class discussion. We consider the potential these orientations provide to either support or hinder the development of the practice of building on student mathematical thinking.

Session 58

School and University Partnerships and Projects
Individual Session

Plaza II

CO-DESIGNING STATEWIDE EFFORTS TO IMPROVE MATHEMATICS EDUCATION THROUGH PARTNERSHIPS

Jared Webb, University of North Carolina, Greensboro
Holt Wilson, University of North Carolina, Greensboro
Michelle L. Stephan, University of North Carolina, Charlotte

We report on an effort to co-design a statewide initiative related to new state mathematics content standards with an aim of promoting more equitable learning opportunities for students, including results from an ongoing study of district mathematics leaders and teachers.

Session 59

Mathematics Pedagogy and Instructional Practice

Chevy Chase

BRIEF REPORT SESSION: ELICITING AND RESPONDING TO STUDENT THINKING IN ELEMENTARY GRADES

EXPLORING PEDAGOGIES OF PRACTICE: THE DEVELOPMENT OF PRESERVICE TEACHERS' CAPACITY TO ENACT MATHEMATICAL TEACHING PRACTICES

Kathleen Nitta, Washington State University

This session reports on a pilot study that explored how pedagogies of practice support the development of preservice teachers' knowledge and skills to elicit and respond to student thinking. The study settings included both university and elementary classroom contexts.

TEACHING ELEMENTARY METHODS COURSES THROUGH COGNITIVELY GUIDED INSTRUCTION (CGI)

Luz Angelica Maldonado, Texas State University

This session describes how CGI is used in teaching elementary mathematics methods courses. Implementation examples are shared regarding a semester long project involving collaboration with first grade teachers where the focus is children's mathematical strategies and teacher instructional decision making.

USING MEANING FIELDS TO UNDERSTAND STUDENTS' MATHEMATICAL DRAWINGS

Theodore Savich, Indiana University
Erik Jacobson, Indiana University

How do teachers promote students' flexible use of mathematical drawings in the classroom? We report on 4th grade student work samples (n = 1710) and teacher interviews (n = 10) to explore why drawings are hard to teach and learn.

Session 60

Equity, Social Justice, and Mathematics Teacher Education
Individual Session

West Alabama

PRESERVICE TEACHERS' BELIEFS AND COMPETENCIES RELATED TO REAL WORLD PROBLEM POSING

Ksenija Simic-Muller, Pacific Lutheran University
Anthony Fernandes, University of North Carolina Charlotte

This session investigates preservice teacher beliefs about teaching mathematics through real world contexts and their capacity for and interest in creating authentic problems about real world contexts, particularly controversial issues and injustices. We present findings from a survey, interviews, and assignments.

<p>Session 61 Galleria I <i>Mathematics Education Policy and Program Issues</i> <i>Individual Session</i></p> <p>ELABORATIONS OF THE STANDARDS FOR THE PREPARATION OF EARLY CHILDHOOD TEACHERS OF MATHEMATICS</p> <p>Douglas H. Clements, University of Denver DeAnn Huinker, University of Wisconsin-Milwaukee Nicole Rigelman, Portland State University Dorothy Y. White, University of Georgia</p> <p>Examine and discuss the knowledge, skills, dispositions, and actions that well-prepared beginning Early Childhood mathematics teachers need to develop, the implications for high-quality preservice programs, and the alignment (or mis-alignment) to the <i>Standards for Preparing Teachers of Mathematics</i>.</p>	<p>Session 64 Bellaire <i>Teaching and Learning with Technology</i> <i>Individual Session</i></p> <p>TECHNOLOGY FOR ELEMENTARY TEACHERS: WHAT'S IN THE BOOK?</p> <p>Dusty Jones, Sam Houston State University Mark L. Klespis, Sam Houston State University</p> <p>How is technology presented in mathematics textbooks for elementary teachers? We share the results of a research study of popular textbooks, illustrating commonalities and unique features. Participants will discuss the roles of instructor, textbook, and technology in mathematics content courses.</p>
<p>Session 62 Galleria II <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i></p> <p>PRACTICAL MEASURES OF INSTRUCTION: IMPROVING MATHEMATICS TEACHING WITH QUICK, ACTIONABLE FEEDBACK</p> <p>Nicholas Kochmanski, Vanderbilt University Michael Jarry-Shore, Stanford University Kara Jackson, University of Washington Emma Trevino, San Francisco (CA) Unified School District Hilda Borko, Stanford University</p> <p>In this session, participants will examine two brief surveys that assess students' perceptions of classroom discussions. They will interpret representations displaying students' answers to these surveys, and consider how the data might be useful in their work supporting teacher learning.</p>	<p>Session 65 Post Oak <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i></p> <p>INFUSING MATHEMATICS WITH HISTORY: A CAPSTONE COURSE FOR PROSPECTIVE SECONDARY MATHEMATICS TEACHERS</p> <p>Jane Keiser, Miami University Suzanne Rushton Harper, Miami University</p> <p>We will introduce and share materials from our mathematics history course. One module will be explored in depth, giving participants time to interact with the mathematics from a historical perspective. A discussion of how participants integrate CAEP history standards will follow.</p>
<p>Session 63 Galleria III <i>Equity, Social Justice, and Mathematics Teacher Education</i> <i>Individual Session</i></p> <p>STRENGTHS-BASED MATHEMATICS INSTRUCTIONAL DESIGN FOR STRUGGLING LEARNERS</p> <p>Karen Karp, Johns Hopkins University</p> <p>Preservice teachers are traditionally taught to identify and remediate students' mathematical misconceptions and weaknesses, particularly for students with disabilities. This session discusses reframing students' mathematical learning opportunities by identifying their strengths (not deficits) as the basis for building mathematical understanding.</p>	<p>Session 66 Sage <i>Teacher Professional Development</i> <i>Individual Session</i></p> <p>MEETING TEACHERS WHERE THEY GO AND WHERE THEY ARE: A NEW FORM OF PROFESSIONAL DEVELOPMENT</p> <p>Zandra de Araujo, University of Missouri Samuel Otten, University of Missouri Wenmin Zhao, University of Missouri Sheunghyun Yeo, University of Missouri</p> <p>This session introduces a new form of mathematics teacher professional development that utilizes social media to share instructional ideas in a manner that fits within teachers' planning constraints. Discussion involves reconceptualizing the characteristics of effective professional development into online settings.</p>
	<p>Session 67 San Felipe <i>Preservice Teacher Field Experiences</i> <i>Individual Session</i></p> <p>ENHANCING THE STUDENT TEACHING EXPERIENCE THROUGH MENTOR TRAINING - ROLES, RESPONSIBILITIES, AND CHARACTERISTICS OF GOOD MENTORS</p> <p>James Beyers, The College of New Jersey Cathy Liebars, The College of New Jersey</p> <p>Being an effective teacher does not necessarily translate to being an effective mentor. Participants will learn techniques used to support mentors of student teachers, and reflect on how such support can benefit cooperating teachers as well as student teachers.</p>

Session 68**Tanglewood**

Mathematics Content, Processes, and Practices
Individual Session

**THREE COURSES DESIGNED TO DEVELOP AND EXPAND
MIDDLE LEVEL PRESERVICE TEACHERS' MATHEMATICAL
CONTENT CAPACITIES**

Janet A. White, Millersville University of Pennsylvania
Cynthia E. Taylor, Millersville University of Pennsylvania
Michael Wismer, Millersville University of Pennsylvania

Perspectives will be shared from a three course mathematics content sequence designed for all middle level majors focusing on developing relevant mathematical knowledge. Successes and challenges with course implementation and resources, including a colleague's new algebra textbook, will be discussed.

Session 69**Westchester**

Equity, Social Justice, and Mathematics Teacher Education

BRIEF REPORT SESSION: EQUITY AND STUDENTS**AUTHORITY DYNAMICS OF PRESERVICE MIDDLE SCHOOL
TEACHERS DURING GROUP WORK PENCASTS:
AUTHORITY VS. INFLUENCE**

Rebecca A. Dibbs, Texas A&M University - Commerce

This case study explored the development of authority, influence, and participation during group work. A discourse analysis was performed to discover several relationships among three different theoretical frameworks. These relationships have critical implications for both practitioners and researchers.

**PRINCIPLES TO RESEARCH PRACTICE: A SYSTEMATIC
REVIEW OF META-ANALYSIS IN MATHEMATICS
EDUCATION TO PROMOTE EQUITY**

Jamaal Rashad Young, University of North Texas

A systematic review of 43 meta-analyses conducted between 2000 and 2017 was conducted. Particular attention is placed on the examination of equity moderators (race, ability, etc.). Implications are provided for research, teaching, and learning to support the NCTM Equity Principle.

Session 70

*Mathematics Pedagogy and Instructional Practice
Individual Session*

Plaza I

SECONDARY PRESERVICE TEACHERS' OPPORTUNITIES TO LEARN IN CYCLES OF ENACTMENT AND INVESTIGATION (CEIS)

Fran Arbaugh, Pennsylvania State University
Ben Freeburn, MOST Research Associate
Nursen Konuk, Pennsylvania State University
Duane Graysay, Syracuse University

Participants in this session will learn about and discuss the details of a Cycle of Enactment and Investigation (CEI) implemented in a secondary mathematics methods course and consider the opportunities for PST learning during each phase of the cycle.

Session 71

*Mathematics Education Policy and Program Issues
Symposium*

Plaza II

MAKING AND STRENGTHENING AFFILIATE CONNECTIONS: STRONGER TOGETHER

Thomas Evitts, Shippensburg University
Maureen Grady, East Carolina University
Mary Pat Sjostrom, Winthrop University
Michelle L. Stephan, University of North Carolina, Charlotte
Hartono Tjoe, Pennsylvania State University, Berks Campus

In this session, representatives of AMTE affiliates can make connections with other affiliates and affiliate leaders, learn more about connections among affiliates and with AMTE, and share ideas for connecting to their members and to policy makers.

Session 72

*Preservice Teacher Field Experiences
Individual Session*

Chevy Chase

THE POWER OF DEBRIEFS IN PRACTICE-BASED MATHEMATICS EDUCATION COURSES

Melinda Knapp, Oregon State University-Cascades
Rajeev Virmani, Sonoma State University
Dawn Woods, Southern Methodist University
Catherine Schwartz, East Carolina University
Barbara Ann Swartz, McDaniel College
Sararose Lynch, Westminster College

This presentation discusses findings from how carefully planned and facilitated debriefing conversations had the potential to increase PSTs' noticing of productive teaching moves associated with eliciting and responding to student thinking within the context of practice-based mathematics education courses.

Session 73

*Mathematics Content, Processes, and Practices
Individual Session*

West Alabama

SUCCESSES AND CHALLENGES IN PREPARING SECONDARY MATHEMATICS TEACHERS TO TEACH PROBABILITY AND STATISTICS

Maryann Huey, Drake University
Wendy Weber, Central College

This session is based upon our research and experiences in preparing four cohorts of secondary teachers to teach probability and statistics content aligned with the CCSS-M. Successes and challenges will be shared to inform future professional development efforts.

Session 74

*Equity, Social Justice, and Mathematics Teacher Education
Discussion Session*

Galleria I

SEEING POWER AND WHITENESS: A CRITICAL SELF-EXAMINATION ON THE DESIGN OF EQUITY-ORIENTED PROFESSIONAL DEVELOPMENT

Beth Herbel-Eisenmann, Michigan State University
Sunghwan Byun, Michigan State University
Courtney Koestler, OHIO Center for Equity
Tonya Bartell, Michigan State University

We critically examine professional development we designed that aimed to engage teachers in equity-oriented action research. This work can be educative for mathematics education researchers and teacher educators who want to interrogate acts of privilege occurring in common academic practices.

Session 75

*Teaching and Learning with Technology
Individual Session*

Galleria II

EARLY CAREER MATHEMATICS TEACHERS' USE OF TECHNOLOGY TO TEACH MATHEMATICS

Karen Hollebrands, North Carolina State University
Allison McCulloch, University of North Carolina Charlotte
Asli Mutlu, North Carolina State University
Taylor Ray Harrison, North Carolina State University

In this session, we report findings from a study of 21 early career mathematics teachers' use of technology and share information about open-access curricula for mathematics teacher educators, which includes a new video resource library entitled, "Voices from the Field".

Session 76 <i>2018 Award for Excellence in Teaching</i> <i>Discussion Session</i> FACTORS THAT IMPACT MTES' WRITTEN FEEDBACK PRACTICE: IMPROVING PRACTICE THROUGH INQUIRY Signe Kastberg, Purdue University Alyson E. Lischka, Middle Tennessee State University Susan L. Hillman, Saginaw Valley State University <p>The AMTE Excellence in Teaching Award Winner and her collaborative self-study colleagues will engage participants in a reflective discussion of key factors that influence feedback practice, framed as a relational practice within mathematics teacher education. Ideas for improving MTE feedback as an instantiation of practice for prospective teachers will be explored.</p>	Galleria III	Session 80 <i>Teaching and Learning with Technology</i> <i>Individual Session</i> EXPLORING DISCIPLINARY COMPUTATIONAL THINKING AND TPACK IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS WITH ROBOTICS Leslie Ann Suters, Tennessee Tech University <p>This session describes activities and findings from two summer institutes focused on programming and robotics as a means to improve teachers' math and science content and pedagogical knowledge. Embedding computational thinking within STEM provides opportunities to prepare creative/critical thinkers.</p>	San Felipe
Session 77 <i>Mathematics Education Policy and Program Issues</i> <i>Individual Session</i> USING THE PRIMED FRAMEWORK TO UNDERSTAND, GUIDE, AND ASSESS SECONDARY MATHEMATICS TEACHER PREPARATION Christopher Rakes, University of Maryland Baltimore County Robert Nicholas Ronau, National Science Foundation Sarah B. Bush, University of Central Florida Margaret J. Mohr-Schroeder, University of Kentucky <p>This session will describe how the Professional Development: IMplementation, Research, and Evaluation (PrimeD) framework guided the goals, implementation activities, evaluation, and research of a secondary mathematics teacher preparation program.</p>	Bellaire	Session 81 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Symposium</i> MOLDING TEACHERS' VISIONS OF ALGEBRAIC LEARNING AND TEACHING: REFLECTING ON A THREE-YEAR ALGEBRA PROFESSIONAL DEVELOPMENT Jean S. Lee, University of Indianapolis Brooke Max, Purdue University Rick A. Hudson, University of Southern Indiana Yi-Yin Ko, Indiana State University Christine Taylor, Indiana State University Doris Mohr, University of Southern Indiana <p>Presenters facilitated a three-year statewide PD involving secondary teachers. We discuss how teachers may have broadened their visions of teaching and learning algebra and resources used to develop their knowledge of and approaches to supporting students' algebraic reasoning.</p>	Tanglewood
Session 78 <i>Development of Mathematics Teacher Educators</i> <i>Discussion Session</i> MATHEMATICS CLASSROOM OBSERVATION PROTOCOLS: INFORMING FUTURE RESEARCH AND PRACTICE Jonathan David Bostic, Bowling Green State University Kristin Lesseig, Washington State University Vancouver Milan Sherman, Drake University Melissa Boston, Duquesne University <p>Our session goals are: (1) To engage in meaningful discussion around the issues associated with making claims about instructional quality based on classroom observations; and (2) To reflect on the affordances and constraints of choosing tools with substantive validity evidence.</p>	Post Oak		
Session 79 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i> SUPPORTING TEACHERS' UNDERSTANDING OF FRACTIONS: A MEASUREMENT APPROACH Muteb Alqahtani, SUNY Cortland Arthur B. Powell, Rutgers University <p>We report on how a measurement approach shapes preservice teachers' understanding and representation of fractions. In a two-week pedagogical intervention, teachers worked in small groups and engaged in mathematical activities using Cuisenaire rods to discuss fractions and operations on fractions.</p>	Sage		

**BRIEF REPORT SESSION: DEVELOPING MATHEMATICS
TEACHER EDUCATORS****“IT WAS LIKE BEING A FIRST YEAR TEACHER”: DOCTORAL
STUDENTS’ EXPERIENCES BECOMING MATHEMATICS
TEACHER EDUCATORS**

Kari Jurgenson, Iowa State University

Teacher educators (TEs) prepare quality teachers, but how are quality TEs prepared? This session will attend to three doctoral students’ experiences and preparation in becoming new TEs. Their experiences will provide insight into suggestions for potential ways to prepare mathematics TEs.

**BEING “CHALLENGED” AND MASKING MY OWN
UNCERTAINTY: MY PARALLEL JOURNEY WITH
ELEMENTARY PROSPECTIVE TEACHERS**

Amber Simpson, Binghamton University

Do mathematics teacher educators outside of their grade band need specialized training? A self-study methodology was employed to understand the development of teaching and learning of mathematics as a discipline through interactions with elementary prospective teachers.

**SURVEY REPORT ON PEDAGOGICAL PRACTICES FOR
ONLINE MATHEMATICS TEACHER EDUCATION**

Dinglei Huang, The Ohio State University

Results will be shared from a national survey on mathematics teacher educators’ pedagogical practices of online efforts to engage the community in a conversation about knowledge for conducting online mathematics teacher education.

Session 83

Equity, Social Justice, and Mathematics Teacher Education Symposium

Plaza I

MATHEMATICS TEACHER EDUCATORS' INQUIRY INTO THEIR PRACTICE: UNPACKING METHODOLOGIES FOR PROFESSIONAL AND PERSONAL GROWTH

Elizabeth Suazo Flores, Purdue University
Signe Kastberg, Purdue University
Jennifer Ward, University of South Florida
Dana C. Cox, Miami University

MTEs engage in conversations about using narrative inquiry, self-study, and auto-ethnography to implement studies. These methodologies allowed us to empathetically and respectfully collaborate with teachers while also giving us an opportunity to develop self-awareness of our identity, experience, and bias.

Session 84

Development of Mathematics Teacher Educators Symposium

Plaza II

CONSIDERING THE AMTE STANDARDS FOR PREPARING TEACHERS OF MATHEMATICS: IMPLICATIONS FOR THE WORK OF MTEs

Alison Castro Superfine, University of Illinois at Chicago
Andrew Tyminski, Clemson University
Anne Marie Marshall, Lehman College
Meghan Shaughnessy, University of Michigan
Imani Goffney, University of Maryland-College Park

In this symposium, we consider the implications of the AMTE Standards for the work of MTEs. We will illustrate the nature of our work and facilitate discussion of the knowledge and practices MTEs might need to effectively adopt them.

Session 85

Mathematics Pedagogy and Instructional Practice Symposium

Chevy Chase

SUPPORTING TEACHERS' USE OF ARGUMENTATION IN THE MATHEMATICS CLASSROOM

Carlos Nicolas Gomez, Clemson University
AnnaMarie Conner, University of Georgia
Megan Staples, University of Connecticut
Jillian Cavanna, University of Connecticut

Panelists from three projects focusing on developing and supporting teachers' argumentation in the mathematics classroom share the goals of their projects, perspectives on argumentation, and what they have learned about supporting teachers' argumentation in the mathematics classroom.

Session 86

Mathematics Content, Processes, and Practices

West Alabama

BRIEF REPORT SESSION: PRESERVICE TEACHERS

A LEARNING TRAJECTORY OF PROSPECTIVE TEACHERS' CONCEPTION OF MATHEMATICAL MODELING

Wenmin Zhao, University of Missouri
Cara Haines, University of Missouri

This session will present findings about a hypothetical learning trajectory of secondary prospective teachers' understanding of mathematical modeling. We will also share implications of our study about how mathematical modeling can be infused into a methods course.

INSTRUCTIONAL PRACTICES USED IN MATHEMATICS CONTENT COURSES FOR PRESERVICE TEACHERS: A LARGE SCALE SURVEY STUDY

Laura Kyser Callis, Curry College

This session will present the findings of a large scale (n=458) survey on the instructional practices used in mathematics courses for preservice elementary teachers and the impact instructors' academic and professional background has on the use of these practices.

NUMBER TALKS WITH PRESERVICE TEACHERS TO DEVELOP THREE LEVELS OF UNIT FOR FRACTIONS

Natasha Erika Gerstenschlager, Western Kentucky University
Angela T. Barlow, Middle Tennessee State University

We describe how we developed a series of number talks as a way to develop preservice teachers' understanding of three levels of unit within fractions with the anticipated outcome of teachers having a better understanding of fraction multiplication.

Session 87

Equity, Social Justice, and Mathematics Teacher Education Symposium

Galleria I

MATHEMATICAL MODELING AND SOCIAL JUSTICE: A POWERFUL COMBINATION FOR TEACHER LEARNING AND PREPARATION

Julia Aguirre, University of Washington Tacoma
Cynthia Oropesa Anhalt, University of Arizona
Ksenija Simic-Muller, Pacific Lutheran University
Erin Turner, University of Arizona
Ricardo Cortez, Tulane University

This session addresses the challenge to prepare equity-based teachers of mathematics. Utilizing mathematical modeling tasks connected to environmental justice and fairness, presenters share ways to deepen teachers' understanding of mathematics and social justice in content courses, methods, and professional development.

<p>Session 88 <i>Teacher Professional Development Symposium</i></p> <p>ONLINE MATHEMATICS TEACHER COLLABORATION: TWITTER AND BLOGS AS LEARNING SPACES FOR MATHEMATICS TEACHERS</p> <p>Anne Garrison Wilhelm, Southern Methodist University Amanda Jansen, University of Delaware Erica Litke, University of Delaware Christopher Parrish, University of South Alabama</p> <p>In this session, we will share and discuss across three different research projects aimed at supporting or understanding mathematics teachers' participation in an online network of mathematics teachers, the Math Twitter Blogosphere.</p>	<p>Session 91 <i>Teaching and Learning with Technology Symposium</i></p> <p>SUPPORTING MATHEMATICS TEACHER EDUCATORS IN ONLINE AND HYBRID TEACHING</p> <p>Barbara Ann Swartz, McDaniel College Pier Angeli Junor Clarke, Georgia State University Ann Wheeler, Texas Woman's University Rob Wieman, Rowan University Steve Rhine, Pacific University Ryan C. Smith, Radford University Jill A. Perry, Rowan University</p> <p>Mathematics teacher educators may struggle to teach online and/or hybrid classes. Participants will explore strategies to promote effective instruction in online learning environments through breakout sessions based on different online instructional options/tools and experience with teaching online.</p>
<p>Session 89 <i>Mathematics Pedagogy and Instructional Practice Symposium</i></p> <p>USING VIRTUAL SPACES TO PROMOTE TEACHER PROFESSIONAL GROWTH: ACTING TO BELIEVING</p> <p>Amanda M. Milewski, University of Michigan Joel Amidon, University of Mississippi Emanuele Bardelli, University of Michigan Nicolas Boileau, University of Michigan</p> <p>We examine the use of virtual spaces for supporting mathematics teacher education. We detail the problems of practice that led to the development of three different virtual environments for supporting both inservice and preservice teachers' engagement in professional experimentation.</p>	<p>Session 92 <i>School and University Partnerships and Projects Symposium</i></p> <p>A SHARED VISION FOR TEACHER IMPROVEMENT: ADAPTING PROFESSIONAL DEVELOPMENT FOR LOCAL CONTEXT BY LEVERAGING DISTRICT-DEVELOPED TOOLS</p> <p>Alissa Barnett Fong, Stanford University Elizabeth Dyer, Stanford University Floencia Gomez Zaccarelli, Stanford University</p> <p>We present our work adapting existing professional development programs for mathematics teachers and teacher leaders to local context by incorporating frameworks and documents developed and used by a school district. Benefits, challenges, and strategies for this work will be discussed.</p>
<p>Session 90 <i>Development of Mathematics Teacher Educators Symposium</i></p> <p>PREPARING PROSPECTIVE MATHEMATICS TEACHER EDUCATORS TO TEACH VIA PROBLEM SOLVING</p> <p>Joanna O. Masingila, Syracuse University Nigar Altindis, Syracuse University Mitchelle Mbete Wambua, Syracuse University Victoria Mwia Wambua, Syracuse University Anne Nyarotso Waswa, Syracuse University Tonya Rae Wilson, Syracuse University</p> <p>We will discuss developing mathematical knowledge for teaching teachers through a Community of Practice engaged in teaching via problem solving. Participants will engage in tasks, discuss challenges when supporting prospective teachers, and reflect on experiences for prospective mathematics teacher educators.</p>	<p>Session 93 <i>Mathematics Content, Processes, and Practices Symposium</i></p> <p>CREATING OPPORTUNITIES FOR PROSPECTIVE ELEMENTARY TEACHERS TO LEARN MATHEMATICS: PERSPECTIVES AND PERSONAL JOURNEYS</p> <p>Sheryl Stump, Ball State University Diana Underwood, Purdue University Northwest Betsy Berry, Indiana University Purdue University Fort Wayne Brooke Max, Purdue University</p> <p>Four mathematics teacher educators who teach mathematics content courses will describe their own personal journeys and the unique perspective of the courses in their programs in relation to the three indicators of AMTE Standard P.2 Opportunities to Learn Mathematics.</p>

Session 94

*Preservice Teacher Field Experiences
Symposium*

Tanglewood**FAMILY MATH NIGHT PROJECTS FOR FUTURE
ELEMENTARY TEACHERS IN CONTENT COURSES: WHAT,
HOW, AND WHY**

Alison S. Marzocchi, California State University, Fullerton
Eva Thanheiser, Portland State University
Krista Strand, California State University, Chico
Casey Hawthorne, Furman University

Family Math Nights (FMNs) in mathematics content courses can motivate and deepen future elementary teachers' knowledge for teaching mathematics. Session attendees will experience sample FMN activities, learn four perspectives on facilitating FMNs, and discuss FMN themes in breakout sessions.

Session 95

*Teaching and Learning with Technology
Symposium*

Westchester**BUILDING CONCEPT IMAGES OF CORE ALGEBRAIC IDEAS:
IMPLICATIONS FOR TEACHER PREPARATION**

Thomas Dick, Oregon State University
Gail Burrill, Michigan State University
Rose Mary Zbiek, Pennsylvania State University

An interactive discussion will focus on a technology-leveraged approach for developing understanding of basic algebraic concepts. The emphasis is on using a coherent approach to building robust concept images of expressions and equations by exploiting dynamic visualization across multiple representations.

**FRIDAY LUNCH****WOODWAY I**

Join your colleagues for lunch preceding the Poster Session.

**Session 97**
**POSTER SESSION -
MONARCH ROOM (24TH FLOOR)**

**A1. BUILDING RURAL K-8 MATH TEACHERS'
CONFIDENCE, KNOWLEDGE, AND SKILLS**

Liza Cope, Delta State University

This poster will contain an overview of our professional development program, a description of our participants, our research design, the evaluation methods we used, the results of our study, and conclusions that we have drawn.

**A2. CHANGING TIMES IN MATHEMATICS TEACHING
RESOURCES AND STRATEGIES: A NATIONAL SURVEY OF
STUDENT TEACHERS**

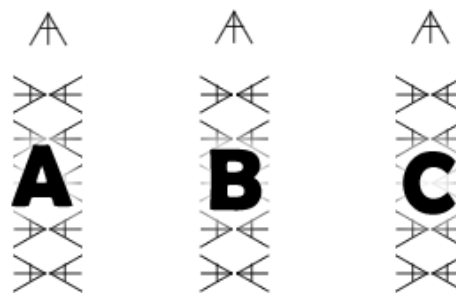
Katrina Stullken Rothrock, University of Kansas
Susan Gay, University of Kansas

How is mathematics being taught in today's middle and high school classrooms? Insight about print and digital textbooks, access to and use of other resources, and preferred use of traditional and newer instructional strategies will be shared.

**A3. COLLEGE ALGEBRA STUDENTS' UNDERSTANDING OF
RATIONAL FUNCTIONS THROUGH THE USE OF
MYMATHLAB LEARNING AIDS**

Avijit Kar, University of Georgia

The poster describes college students' understanding of rational function, and changes in their understandings when using MyMathLab. Four categories of students' impressions (task difficulty, problem types, tools available, and character of the function) were identified as influencing understanding.



Poster Layout in Monarch Room (24th floor)

**A4. DEEPENING THE IMPACT OF EARLY FIELD
EXPERIENCES**

Karen Anderson, Stonehill College
Kate Ariemma Marin, Stonehill College

This poster demonstrates that early instructionally focused, supervised field experiences not only provide PSTs with exposure to research-based instructional practices, they also have the potential to foster many of the intellectual and practical skills key to a liberal arts education.

**A5. DEVELOPING PRESERVICE TEACHERS' BELIEFS AND
KNOWLEDGE ABOUT PROBLEM-BASED LEARNING
THROUGH TASK COMPARISONS**

Rebecca Layton, University of Tennessee Knoxville
Jo Ann Cady, University of Tennessee, Knoxville

This study examined how preservice teachers' beliefs and knowledge about problem-based learning were influenced by task comparisons. The study took place in an introductory mathematics methods course that aimed to emphasize a student-centered, problem-based approach to teaching mathematics.

A6. ELEMENTARY & MIDDLE SCHOOL PRESERVICE TEACHERS' UNDERSTANDING OF VARIABILITY AND THE USE OF DYNAMICAL STATISTICAL SOFTWARE

Yaomingxin Lu, Western Michigan University

The purpose of this presentation is to share findings about how the usage of TinkerPlots affects preservice teachers' understanding of variability. This proposal encourages thinking further about the usage of technology in developing students' understanding in major statistical concepts.

A7. EXPLORING MATHEMATICAL MODELING IN RELATION TO SECONDARY PRESERVICE TEACHERS' CONTENT KNOWLEDGE

Aline Abassian, University of Central Florida
Farshid Safi, University of Central Florida

This session discusses how secondary preservice teachers make sense of a mathematical modeling task and reflect on the process. The participants' content knowledge while solving the task will be examined. The results of the study, implications and limitations will be discussed.

A8. FEATURES THAT SUPPORT ENACTING CHANGES IN GEOMETRIC DISCOURSE

Peter Wiles, Eastern Illinois University
Rick Anderson, Eastern Illinois University

Using Sfard's work, this presentation further informs features of discourse regarding the design of a series of short tasks focused on shapes and their properties and to characterize how teachers can transform discourse to create learning opportunities for fourth grade students.

A9. FIVE FREE COLLEGE AND CAREER READY MATH RESOURCES YOUR TEACHER CANDIDATES SHOULD KNOW AND LOVE

Barbara Beske, Student Achievement Partners

This poster showcases highly respected free resources used across the US in K-12 districts and how they can be an integral support for preservice teachers. The resources help educators understand and implement the focus and coherence built within the CCSS.

A10. HISTORY OF MATHEMATICS MEETS ETHNOMATHEMATICS

Laura Beene, Texas A&M University - Commerce

This poster describes the results of a mixed methods case study that combined culturally responsive pedagogy with a history of mathematics content course for preservice middle school mathematics teachers. There was a significant improvement in cultural awareness.

A11. IMPLEMENTING A SITE-BASED COURSE: INTEGRATING REHEARSALS AND ENACTMENTS WITH STUDENT THINKING AND FUNDS OF KNOWLEDGE

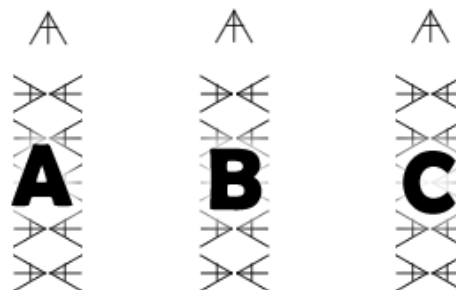
Rajeev Virmani, Sonoma State University

This poster will present the development of, and research conducted on, a site-based math methods course held in a 2nd grade urban classroom that used instructional activities to support PSTs learning about student thinking and community funds of knowledge.

A12. INTEGRATING CHEMISTRY AND MATHEMATICS TO FOSTER CONCEPTUAL UNDERSTANDING OF LOGARITHMS

David Glassmeyer, Kennesaw State University
Andrew Smith, Kennesaw State University

This study describes how preservice and inservice teachers thought about logarithms in the science context of pH and how a specific lesson impacted their conceptual understanding of logarithms.



Poster Layout in Monarch Room (24th floor)

B13. INVESTIGATING THE USE OF HYPOTHETICAL LEARNING TRAJECTORIES WITH A GRADUATE TEACHING ASSISTANT

Ashley Duncan, Arizona State University

This study reports results of how a teacher's mathematical meanings and instructional planning decisions transformed while participating in, and then generating a hypothetical learning trajectory on angle measure.

B14. ISSUES THAT EMERGED IN THE PROCESS OF DESIGNING, IMPLEMENTING AND REFLECTING ON LESSONS

Marggie Gonzalez, University of Puerto Rico at Mayaguez

The poster examined secondary mathematics teachers as they engaged in a Lesson Study approach to professional development where they planned and taught lessons that integrate technology. Results about issues regarding knowledge of technology, and knowledge of mathematics will be shared.

B15. MATHEMATICAL KNOWLEDGE FOR TEACHING AND MATHEMATICAL QUALITY OF INSTRUCTION OF NOVICE ELEMENTARY SCHOOL TEACHERS

Jiwon Lee, University of California, Irvine
Rossella Santagata, University of California, Irvine

This study explores the relationship between first year elementary school teachers' mathematical knowledge for teaching (MKT) and their mathematical quality of instruction (MQI) captured in videotaped lessons. Teachers with higher MKT performed at higher levels in the MQI than their counterparts.

B16. MATHEMATICS INTERVENTION FOR STUDENTS WITH AUTISM: A SINGLE CASE STUDY

Ja'Bria M. Miles, Texas A & M University Commerce

Surprisingly, students with autism struggle with mathematics when the material becomes more abstract. The poster will show a single case study about an intervention to help two students on the autism spectrum with algebra.

B17. MATHEMATICS PROJECTS FOR ELEMENTARY PRESERVICE TEACHERS: APPLICATIONS TO THE K-8 CLASSROOM

Winifred Mallam, Texas Woman's University

As mathematics educators, projects in our mathematics courses are typically assigned that focus on preservice mathematics teacher preparation. The poster highlights projects assigned and how they relate to elementary and middle school classrooms. Interactions with school districts will be shared.

B18. MATHEMATICS TEACHER PREPARATION FOR CANDIDATES WITH UNDERGRADUATE STEM DEGREES

Allyson Hallman Thrasher, Ohio University
Derek Joseph Sturgill, Ohio University

An image of a teacher preparation program for individuals with STEM content degrees will be shared. Furthermore, the effectiveness of two program courses, and what was learned from them about a population of teacher candidates with undergraduate STEM degrees will be discussed.

B19. MICRO-LESSON STUDY, SELF AND PEER EDITING AND TEACHING THROUGH PROBLEM SOLVING

Kadisha Mills, Florida International University

The present study used Micro-Lesson study, Self and Peer editing and Teaching Through Problem Solving as a teaching strategy to enrich teachers' conceptual understanding of fractions.

B20. PRESERVICE MATHEMATICS TEACHERS' ATTITUDES ABOUT STATISTICS: PILOT STUDY OF A NEW INSTRUMENT

Douglas Whitaker, University of Wisconsin-Stout

This poster reports on a pilot study of a new instrument for assessing preservice and inservice teachers' attitudes toward statistics, the SOMAS. A description of the development process and preliminary results from the pilot study are to be presented.

B21. PRESERVICE TEACHERS' CONTENT KNOWLEDGE AFTER COMPLETING MATHEMATICS FOR TEACHERS COURSES

Judy Werner, Slippery Rock University
Mike Long, Howard Community College

The poster will identify issues in mathematics content preparation of preservice teachers who have completed mathematics for teachers course(s). Performance of how the teacher candidates scored on tests aligned with state standards that reflect the CCSSM will be shared.

B22. REFLECTING ON THE ACT OF DEFINING

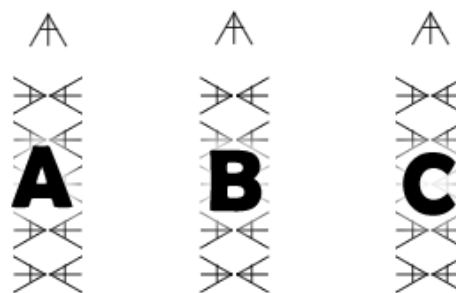
Dana C. Cox, Miami University
Jane Keiser, Miami University
Suzanne Rushton Harper, Miami University

This presentation will present a qualitative study that examined preservice teachers' dispositions toward the act of defining mathematical terms as well as their beliefs about the role definitions play in the learning of mathematics for adults as well as children.

B23. RESPONSIVE MIDDLE LEVEL MATHEMATICS TEACHING: CONVERGING DEVELOPMENTALISM AND CULTURAL RESPONSIVENESS IN MIDDLE LEVEL MATHEMATICS

Eugenia Vomvoridi-Ivanovic, University of South Florida

In this poster I will outline a framework for Responsive Middle Level Mathematics Teaching (RMLMT), defined as mathematics teaching that is simultaneously culturally and developmentally responsive to the characteristics, needs, and interests of young adolescent learners.



Poster Layout in Monarch Room (24th floor)

C24. SELECTING EXAMPLES: PRESERVICE AND INSERVICE TEACHER KNOWLEDGE AND PRACTICE

Rachel B. Snider, The College of New Jersey

This poster session considers the complex relationship between knowledge and practice by drawing on two studies of how secondary mathematics preservice and inservice teachers enact knowledge while selecting examples. Implications for teacher education and research on teaching will also be discussed.

C25. SHIFTING THE EXPERIENCE: DE/REPROGRAMMING PRESERVICE TEACHERS' MATHEMATICS KNOWLEDGE NEEDED FOR TEACHING

Tashana Howse, Georgia Gwinnett College
Lakesia L. Dupree, University of South Florida

This poster will present how preservice teachers engaged in an investigation of their learning experiences about whole numbers and operations during their university coursework. We will share the connections to the development of PSTs' mathematical pedagogy and future instructional practice.

C26. SUPPORTING PRESERVICE TEACHERS TO LEARN PROBABILITY AND STATISTICS TOPICS THROUGH THE CONTEXT OF SCHOOL CHOICE

Heidi Eisenreich, Georgia Southern University
Ha Nguyen, Georgia Southern University

This poster explores how using the context of school choice supported learning probability and statistics topics in a content course for K-8 preservice teachers. Connecting mathematics to a current event helped make learning more relevant. Preliminary findings will be shared.

C27. SUPPORTING TEACHER REFLECTION ON UNCONSCIOUS BIAS THROUGH CLASSROOM OBSERVATIONS

Daniel Lee Reinholz, San Diego State University
Beth Herbel-Eisenmann, Michigan State University

The EQUIP observation tool generates quantitative descriptions of discourse patterns in a classroom, according to social markers (e.g., race, gender). With EQUIP, we engage in collaborative action research with teachers to use these data to reflect on their practice.

C28. TEACHERS' JOURNEY IN IMPLEMENTING THE FIVE PRACTICES TO FACILITATE MEANINGFUL DISCUSSIONS ABOUT PROPORTION

Olof B. Steinhorsdottir, University of Northern Iowa
Elizabeth Hughes, University of Northern Iowa

This presentation will demonstrate evidence of teachers' professional growth from engaging in a two year PD program focused on proportion and facilitating mathematical discussions. Qualitative and quantitative data from RTOP, pre-post content knowledge assessment, teacher surveys and reflections will be shared.

C29. TEACHERS' VALIDITY ARGUMENTS FOR MATHEMATICAL MODELING: COMPETENCY MEASURES AND CONNECTIONS

Celil Ekici, University of the Virgin Islands
Cigdem Alagoz-Ekici, University of the Virgin Islands

This study presents scoring, interpretation, and uses of the scores from mathematical modeling assessment as a formative performance tool accounting for disciplinary and interdisciplinary connections. Content experts evaluated and created the learning outcomes and attributes targeted by the project lessons.

C30. THE CHALLENGE OF RECRUITING MIDDLE LEVEL MATHEMATICS TEACHERS IN RURAL COMMUNITIES

George J. Roy, University of South Carolina
Matthew J. Irvin, University of South Carolina

Rural schools have a difficult time recruiting and retaining teachers across the US. Accordingly, we undertook a preliminary survey of preservice middle level teachers (n=33) to better understand factors that may be related to PSTs' interest in teaching in a rural setting.

C31. THE NATURE OF STUDENT THINKING AVAILABLE IN A SECONDARY MATHEMATICS CLASSROOM

Mary A. Ochieng, Western Michigan University
Joshua M. Ruk, Western Michigan University
Laura R. Van Zoest, Western Michigan University
Keith R. Leatham, Brigham Young University
Blake E. Peterson, Brigham Young University

Our investigation of a lesson revealed ways in which student thinking is not a uniform construct. We will illustrate the manner in which different types of student mathematical thinking provide different resources for instruction and require different responses from teachers to be used effectively.

C32. USING CHILDREN'S LITERATURE TO FOSTER MATHEMATICAL IDEAS: RESEARCH AND PRACTICE

Dittika Gupta, Midwestern State University

This poster presents a qualitative research study that examined the growth in attitudes and perceptions of preservice teachers towards integrating children's literature in elementary mathematics methods. Results, integration model, and implications for mathematics education will be shared.

C33. WHAT KNOWLEDGE RESOURCES ARE TEACHERS USING TO SOLVE PROPORTIONAL REASONING TASKS?

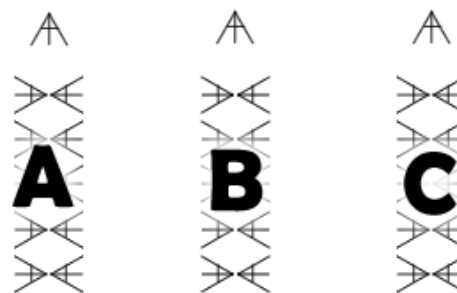
Rachael Eriksen Brown, Pennsylvania State Abington
Chandra Hawley Orrill, University of Massachusetts Dartmouth

We will share a preliminary analysis of two task-based interviews by 32 participants. Using Epistemic Network Analysis, our participants fell into two broad groups: primarily relying on proportional reasoning knowledge and primarily on problem solving knowledge.

C34. WRITING WORD PROBLEMS TO MATCH MATHEMATICAL EXPRESSIONS: NOT SO EASY FOR ALL FUTURE TEACHERS

Sarah J. Hicks, Rockhurst University

Creating mathematical word problems with various types of numbers and operations was found to not always be easy for preservice teachers. These findings are illustrated with data collected during a mathematics for elementary school teachers course.



Poster Layout in Monarch Room (24th floor)

OVERVIEW OF FRIDAY AFTERNOON SESSIONS, FEBRUARY 9, 2018

	2:15 PM - 3:00 PM	3:30 PM - 4:30 PM
PLAZA I	98. <i>A Framework for Investigating the Professional Noticing of Mathematics Coaches</i> - Carlson, Williams, & Heaton	111. <i>Teacher Preparation Response to the Surge of Web-based Mathematics Curricula Resources</i> - Driskell, Rhine, Wheeler, Ives, Harrington, Lee, & Earnest
PLAZA II	99. <i>Using Mini-Cases to Support Preservice Teachers' Development of Mathematical Knowledge for Teaching</i> - Nabors Olah, DeLucia, & Lai	112. <i>Help Elementary Teachers Know Mathematics Well Enough to Make it Accessible to All Students</i> - Howe & Li
CHEVY CHASE	100. <i>Developing Knowledge of Teaching Mathematics to ELLs Through an Online Learning Community</i> - I & Martinez	113. <i>Messages for Doctoral Programs in Mathematics Education Based on Feedback From Over 500 Doctoral Graduates</i> - Shih & Engledowl
WEST ALABAMA	101. <i>Mathematical Modeling, "Modeling Thinking," and the Mathematical Horizon of Elementary School Teachers</i> - Anhalt & Cortez	114. <i>A Consideration of Mathematical Content Knowledge for Elementary Teaching: Connecting to Children's Thinking</i> - Siegfried & Philipp
GALLERIA I	102. <i>How Do You Prepare Beginning Teachers to Provide Equitable Mathematics Experiences for Each and Every Student?</i> - Schrock	115. <i>The Impact of a Sustained Professional Development Model in Third-Fifth Grade Mathematics Classrooms</i> - Melhuish, White, Fagan, & Rosencrans
GALLERIA II	103. <i>Mathematics Specialists: What Do They Do? Do They Make a Difference? Analyzing Responsibilities and Impact</i> - Fennell, Kobett, & Wray	116. <i>Supporting Elementary Mathematics Teachers and Teacher Leaders through School-University Partnerships</i> - Rigelman & McGatha
GALLERIA III	104. <i>Mathematical Modeling in the Non-STEM Classroom</i> - Ham	117. <i>National Science Foundation Funding and Research Opportunities for Mathematics Teacher Educators</i> - Richardson, Hjalmarson, & Ronau
BELLAIRE	105. <i>A Commitment to Equity: One District's Systemic Approach to Change in High School Mathematics Education</i> - Lawler & Leaf	118. <i>Supporting Respectful and Effective Implementation of the AMTE Standards for Preparing Teachers of Mathematics</i> - Hauk & Jackson
POST OAK	106. <i>Learn How to Incorporate Free PK-5 Math Curriculum Into Your Courses</i> - Harris	119. <i>Developing and Validating a Lesson Plan Scoring Instrument for Secondary Mathematics Education Program: A Collaborative Effort</i> - Yao & Brownstein
SAGE	107. <i>Inscriptions: Developing, Recording, and Communicating Mathematical Understandings</i> - Edson, Phillips, & Grant	120. <i>Facilitation Factors that Impact Discourse During Mathematics Professional Development for Elementary Teachers</i> - Tauber, Maroto Vargas, & Sztajn
SAN FELIPE	108. <i>Storylines About Mathematics Learning in Task-Based Mathematics Instruction</i> - Martin, Webb, & Wilson	121. <i>Using NCTM Membership to Support Preservice and Inservice Teacher Growth and Development</i> - Barnes & Andrews
TANGLEWOOD	109. <i>Promoting Teacher Reflection with Q-Sorts</i> - Wilburne & Franz	122. <i>Designing Effective Professional Development in an Online Environment to Support Teachers' Learning</i> - Mojica, Lee, & Lovett
WESTCHESTER	110. <i>Lessons Learned From Teaching Mathematics Methods in Close Partnership With an Elementary Class</i> - Chinen & McVicar	123. <i>The Impact of Developing a Vision for Mathematics Teaching with Elementary Preservice Teachers</i> - Middleton, Lee, Schwartz, & Belford

Session 98

*Mathematics Pedagogy and Instructional Practice
Individual Session*

Plaza I

A FRAMEWORK FOR INVESTIGATING THE PROFESSIONAL NOTICING OF MATHEMATICS COACHES

Mary Alice Carlson, Montana State University
Molly Williams, University of Nebraska-Lincoln
Ruth Heaton, University of Nebraska

A framework for mathematics coach noticing will be used by participants to examine and discuss transcript examples of three coaches' noticings. Participants will discuss variation in types of noticing and implications for coaching professional development and future research.

Session 99

*Mathematics Content, Processes, and Practices
Discussion Session*

Plaza II

USING MINI-CASES TO SUPPORT PRESERVICE TEACHERS' DEVELOPMENT OF MATHEMATICAL KNOWLEDGE FOR TEACHING

Leslie Nabors Olah, Educational Testing Service
Maria DeLucia, Middlesex County College
Yvonne Lai, University of Nebraska-Lincoln

Implementing AMTE's Standards requires materials targeting mathematics and pedagogy. We introduce Mathematical Knowledge for Teaching (MKT) mini-cases that support teacher educators in developing their students' MKT. Participants will experience how the mini-cases emphasize mathematical structure, instructional decision-making, and student thinking.

Session 100

*Equity, Social Justice, and Mathematics Teacher Education
Individual Session*

Chevy Chase

DEVELOPING KNOWLEDGE OF TEACHING MATHEMATICS TO ELLS THROUGH AN ONLINE LEARNING COMMUNITY

Ji Yeong I, Iowa State University
Ricardo Martinez, Iowa State University

Join the discussion as we share our online class Teaching Mathematics to English Language Learners and talk about the following topics: Who are ELLs?, Culturally Responsive Teaching, ELL-focused Strategies, Academic Language, Mathematical Discussion, and ELL-focused Lesson Planning.

Session 101

*Mathematics Content, Processes, and Practices
Individual Session*

West Alabama

MATHEMATICAL MODELING, "MODELING THINKING," AND THE MATHEMATICAL HORIZON OF ELEMENTARY SCHOOL TEACHERS

Cynthia Oropesa Anhalt, University of Arizona
Ricardo Cortez, Tulane University

In work with elementary prospective teachers (EPTs), this session presents a holistic view of the mathematical modeling process through focused competency-building tasks that foster "modeling thinking" as a way to position teachers to build horizon knowledge in mathematical modeling.

Session 102

*NCSM Presidential Exchange Session
Individual Session*

Galleria I

HOW DO YOU PREPARE BEGINNING TEACHERS TO PROVIDE EQUITABLE MATHEMATICS EXPERIENCES FOR EACH AND EVERY STUDENT?

Connie S. Schrock, Emporia State University

AMTE's Standards call for teachers to understand the importance of providing opportunities for each and every student to learn mathematics. This session will be spent discussing ideas to target this call and for engaging other organizations around Action 7.

Session 103

*School and University Partnerships and Projects
Individual Session*

Galleria II

MATHEMATICS SPECIALISTS: WHAT DO THEY DO? DO THEY MAKE A DIFFERENCE? ANALYZING RESPONSIBILITIES AND IMPACT

Skip Fennell, McDaniel College
Beth McCord Kobett, Stevenson University
Jon Wray, Howard County (MD) Public Schools

This session presents a multi-year analysis of the responsibilities and perceived impact of mathematics specialists/coaches. Participants will be engaged in discussing the analysis and considering implications for programs for specialists/coaches as well as supporting and advocating for such positions.

Session 104

*AMATYC Presidential Exchange Session
Individual Session*

Galleria III

MATHEMATICAL MODELING IN THE NON-STEM CLASSROOM

James Ham, American Mathematical Assoc. of Two-Year Colleges

Several national reports recommend a greater attention to modeling in the mathematics classroom. Modeling examples and activities appropriate for high school courses and courses in the first two years of college, particularly in the non-STEM pathway will be shared.

Session 105 <i>Teacher Professional Development</i> <i>Individual Session</i> A COMMITMENT TO EQUITY: ONE DISTRICT'S SYSTEMIC APPROACH TO CHANGE IN HIGH SCHOOL MATHEMATICS EDUCATION Brian R. Lawler, Kennesaw State University Abi Leaf, Escondido (CA) Union High School District We present our effort to rehumanize mathematics experiences for students and teachers in one high school district. Emphasis will be to describe a four(plus)-year project to shift mathematics instruction, an emergent three-year teacher curriculum, and tensions provoked by our aims.	Bellaire	Session 108 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i> STORYLINES ABOUT MATHEMATICS LEARNING IN TASK-BASED MATHEMATICS INSTRUCTION Megan F. Martin, University of North Carolina-Greensboro Jared Webb, University of North Carolina, Greensboro Holt Wilson, University of North Carolina, Greensboro In this session, we share initial work identifying the storylines about learning mathematics in secondary mathematics classrooms as teachers engage students in mathematically rich tasks.	San Felipe
Session 106 <i>AMTE Gold Sponsor</i> <i>Individual Session</i> LEARN HOW TO INCORPORATE FREE PK-5 MATH CURRICULUM INTO YOUR COURSES Pamela Weber Harris, Texas State University The content of <i>Bridges in Mathematics PK-5</i> from The Math Learning Center is now available for free to schools of education. Join <i>Bridges</i> author and university instructor Pam Harris to learn how this program can enhance your math methods courses.	Post Oak	Session 109 <i>Teacher Professional Development</i> <i>Individual Session</i> PROMOTING TEACHER REFLECTION WITH Q-SORTS Jane M. Wilburne, Pennsylvania State University, Harrisburg Dana Pomykal Franz, Mississippi State University This session will describe the Q-sort process and how it was used to promote reflection on effective teaching practices with inservice classroom teachers. Participants will engage in a sample Q-sort and discuss potential uses and benefits over Likert-scale surveys.	Tanglewood
Session 107 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i> INSCRIPTIONS: DEVELOPING, RECORDING, AND COMMUNICATING MATHEMATICAL UNDERSTANDINGS Alden Jack Edson, Michigan State University Elizabeth Phillips, Michigan State University Yvonne Grant, Connected Mathematics Project This session focuses on how students use inscriptions to develop, record, and communicate their mathematical understandings. Participants will discuss the many opportunities and challenges teachers face with the interplay between student inscriptions and the development of mathematical understandings.	Sage	Session 110 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i> LESSONS LEARNED FROM TEACHING MATHEMATICS METHODS IN CLOSE PARTNERSHIP WITH AN ELEMENTARY CLASS Starlie Chinen, University of Washington Elzena McVicar, University of Washington What learning opportunities are created by a methods course taught in partnership with an elementary classroom? We will share our insights regarding the learning of teachers and teacher educators who center children's thinking, experiences and equity in their work.	Westchester

FRIDAY, FEBRUARY 9, 2018

3:00 PM - 3:30 PM



FRIDAY AFTERNOON BREAK

GALLERIA FOYER

This is a great time to stretch, catch-up with colleagues, and visit the exhibitors.



Session 111**Plaza I**

Teaching and Learning with Technology
Discussion Session

TEACHER PREPARATION RESPONSE TO THE SURGE OF WEB-BASED MATHEMATICS CURRICULA RESOURCES

Shannon Driskell, University of Dayton
 Steve Rhine, Pacific University
 Ann Wheeler, Texas Woman's University
 Sarah Ives, California State University, Sacramento
 Rachel A. Harrington, Western Oregon University
 Mi Yeon Lee, Arizona State University
 Darrell Earnest, University of Massachusetts, Amherst

Web-based curricula resources (WBCR) have made rapid and extensive inroads into mathematics classrooms. We propose a discussion session to promote dialogue about the implications of practices with WBCR in elementary mathematics classrooms for the preparation of future teachers.

Session 112**Plaza II**

Mathematics Content, Processes, and Practices
Individual Session

HELP ELEMENTARY TEACHERS KNOW MATHEMATICS WELL ENOUGH TO MAKE IT ACCESSIBLE TO ALL STUDENTS

Roger Evans Howe, Texas A&M University
 Yeping Li, Texas A&M University

Making mathematics accessible is not simply about exposing students to mathematics, nor "watering down" to make mathematics easy, but developing students' mathematical confidence. This requires teachers with solid understanding of mathematics. We describe a project to better provide such understanding.

Session 113**Chevy Chase**

Development of Mathematics Teacher Educators
Discussion Session

MESSAGES FOR DOCTORAL PROGRAMS IN MATHEMATICS EDUCATION BASED ON FEEDBACK FROM OVER 500 DOCTORAL GRADUATES

Jeffrey Shih, University of Nevada, Las Vegas
 Christopher Engledowl, New Mexico State University

This session will report results from over 500 doctoral graduates in mathematics education. Information about program length and components will be used to generate discussion about ways that doctoral preparation can be strengthened.

Session 114**West Alabama**

Mathematics Content, Processes, and Practices
Individual Session

A CONSIDERATION OF MATHEMATICAL CONTENT KNOWLEDGE FOR ELEMENTARY TEACHING: CONNECTING TO CHILDREN'S THINKING

John (Zig) Siegfried, James Madison University
 Randolph Philipp, San Diego State University

We will share our study of the effects of learning about children's mathematical thinking on the content knowledge of preservice and inservice elementary teachers and discuss how this thinking can help teachers view mathematical content through a richly pedagogical lens.

Session 115**Galleria I**

Teacher Professional Development
Individual Session

THE IMPACT OF A SUSTAINED PROFESSIONAL DEVELOPMENT MODEL IN THIRD-FIFTH GRADE MATHEMATICS CLASSROOMS

Kathleen Melhuish, Texas State University
 Alexander White, Texas State University
 Joshua Fagan, Texas State University
 Brenda Rosencrans, Portland State University

We conducted a large-scale study evaluating the efficacy of the Mathematics Studio PD (a modified lesson study) model at the elementary level. We found that through sustained PD (greater than 2 years) teachers' practice grew and students' test scores improved.

Session 116**Galleria II**

School and University Partnerships and Projects
Individual Session

SUPPORTING ELEMENTARY MATHEMATICS TEACHERS AND TEACHER LEADERS THROUGH SCHOOL-UNIVERSITY PARTNERSHIPS

Nicole Rigelman, Portland State University
 Maggie McGatha, University of Louisville

We will describe goals and outcomes of two school-university partnerships focused on supporting elementary mathematics teacher leaders. We will share our professional development models and significant research findings. Against this background participants will discuss successes and challenges of school-university partnerships.

<p>Session 117 Galleria III <i>Mathematics Education Policy and Program Issues</i> <i>Individual Session</i></p> <p>NATIONAL SCIENCE FOUNDATION FUNDING AND RESEARCH OPPORTUNITIES FOR MATHEMATICS TEACHER EDUCATORS</p> <p>Sandra Richardson, National Science Foundation Margret Hjalmarson, George Mason University Robert Nicholas Ronau, National Science Foundation</p> <p>This session will provide information about NSF funding opportunities in mathematics education research and development. The following NSF programs will be included in the discussion: Improving Undergraduate STEM Education, EHR Core Research, Discovery Research K-12, and Noyce Program (Research Track).</p>	<p>Session 120 Sage <i>Development of Mathematics Teacher Educators</i> <i>Individual Session</i></p> <p>FACILITATION FACTORS THAT IMPACT DISCOURSE DURING MATHEMATICS PROFESSIONAL DEVELOPMENT FOR ELEMENTARY TEACHERS</p> <p>Mona Tauber, North Carolina State University Ana Patricia Maroto Vargas, N. Carolina State U. and U. of Costa Rica Paola Sztajn, North Carolina State University</p> <p>We will examine facilitation that supported productive discourse during a year-long professional development. Through a presentation of our analyses, including video clips, and multiple representations of our findings, we will discuss factors that co-occurred and portray different facilitation types.</p>
<p>Session 118 Bellaire <i>Development of Mathematics Teacher Educators</i> <i>Discussion Session</i></p> <p>SUPPORTING RESPECTFUL AND EFFECTIVE IMPLEMENTATION OF THE AMTE <i>STANDARDS FOR PREPARING TEACHERS OF MATHEMATICS</i></p> <p>Shandy Hauk, WestEd and the University of Northern Colorado Billy Jackson, University of Tennessee at Chattanooga</p> <p>Participants discuss strategies for mathematics teacher educators (MTEs) to engage colleagues in awareness-building and productive conversations about the <i>Standards for Preparing Teachers of Mathematics</i>. This session provides a professional growth opportunity for MTEs aiming to reshape teacher preparation at their home institutions.</p>	<p>Session 121 San Felipe <i>AMTE Silver Sponsor</i> <i>Individual Session</i></p> <p>USING NCTM MEMBERSHIP TO SUPPORT PRESERVICE AND INSERVICE TEACHER GROWTH AND DEVELOPMENT</p> <p>David Barnes, National Council of Teachers of Mathematics (NCTM) Delise Andrews, Lincoln Public Schools</p> <p>Utilize NCTM resources to work smarter and engage and support your teachers as they develop. Learn, analyze, and discuss strategies, activities and the impact at all levels. Also learn about membership changes which make NCTM accessible to beginning teachers.</p>
<p>Session 119 Post Oak <i>Mathematics Education Policy and Program Issues</i> <i>Individual Session</i></p> <p>DEVELOPING AND VALIDATING A LESSON PLAN SCORING INSTRUMENT FOR SECONDARY MATHEMATICS EDUCATION PROGRAM: A COLLABORATIVE EFFORT</p> <p>Xiangquan Yao, The Ohio State University Erica Brownstein, The Ohio State University</p> <p>Assessing preservice teachers' ability to write lesson plans is a key assessment teacher preparation programs use for program review submitted to SPAs. This session reports a rubric developed to assess unit plans mathematics preservice teachers produced in their methods course.</p>	<p>Session 122 Tanglewood <i>Teacher Professional Development</i> <i>Individual Session</i></p> <p>DESIGNING EFFECTIVE PROFESSIONAL DEVELOPMENT IN AN ONLINE ENVIRONMENT TO SUPPORT TEACHERS' LEARNING</p> <p>Gemma Mojica, North Carolina State University Hollylynne Lee, North Carolina State University Jennifer N. Lovett, Middle Tennessee State University</p> <p>A model for Online Professional Development (OPD) will be shared. Participants will engage with resources and materials from an OPD course and consider how resources and experiences have the potential to influence changes in teachers' perspectives and practices.</p>
	<p>Session 123 Westchester <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i></p> <p>THE IMPACT OF DEVELOPING A VISION FOR MATHEMATICS TEACHING WITH ELEMENTARY PRESERVICE TEACHERS</p> <p>Catharina Middleton, East Carolina University Carrie Lee, East Carolina University Catherine Schwartz, East Carolina University Leigh B. Belford, East Carolina University</p> <p>This session includes sharing data about how elementary preservice teachers' visions of high quality mathematics instruction changed across two sequenced methods courses, discussing the implications of making vision work explicit in methods courses, and experiencing vision-focused activities used in coursework.</p>

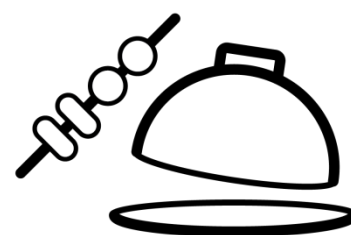
**JUDITH JACOBS LECTURE****GALLERIA I****A MATHEMATICS TEACHER EDUCATOR'S JOURNEY: RESPONDING TO AN EVOLVING FIELD**

Margaret (Peg) Smith, University of Pittsburgh

In this talk I will identify key events in mathematics education over the past three decades, discuss how these events helped shape and change the field, and describe how one mathematics educator responded to these changes.

**Reception for Graduate Students
& Early Career Faculty****GALLERIA III**

Graduate students and early career faculty in their first three years are invited to join the AMTE Board of Directors and leadership in Galleria Ballroom III for a reception. Refreshments will be served.



**AMTE BREAKFAST & AFFILIATE MEETINGS****WOODWAY I**

Tables will be designated for AMTE Affiliate groups to meet during Saturday morning's breakfast. For a listing of the AMTE Affiliates and table locations, please see pages 9 and 10 of the program.



OVERVIEW OF SATURDAY MORNING SESSIONS, FEBRUARY 10, 2018

	8:00 AM – 8:45 AM	9:00 AM - 9:45 AM
PLAZA I	127. <i>Mathematical Modeling in Grades 3-5: Connections to Community and School Contexts</i> - Turner, Roth McDuffie, & Bennett	140. <i>A Critical Mathematical Perspective on Mathematical Modeling in Middle School</i> - Poling & Naresh
PLAZA II	136. <i>Video for Equity: Designing Video-Based Discussions of Student Authority</i> - Jarry-Shore, Fong, Dyer, Gomez Zaccarelli, & Borko	
CHEVY CHASE	128. <i>Developing Prospective Teachers' "Orientations" in Content Courses: Mathematics Teacher Educators' Reflections on Practice</i> - Appova	141. <i>Teaching Mathematics as Agape: Balancing Strategy and Stance</i> - Amidon, Nance, & Marshall
WEST ALABAMA	129. <i>Impact of Targeted Video Projects on Preservice Teachers' Ability to Effectively Communicate Mathematical Issues of Subtraction</i> - Faulkner	142. <i>Non-Traditional Service Learning as Field Experience: The NUMB3RS Project</i> - Anderson
GALLERIA I	137. <i>Transforming Secondary Mathematics Teacher Preparation: A Networked Approach to Enacting the AMTE Standards</i> - Martin, Ellis, Smith, & Strutchens	
GALLERIA II	138. <i>Activities that Support the Statistical Education of Teachers</i> - Lee, Franklin, Casey, Hudson, Bargagliotti, Mojica, Azmy, Confrey, & Shah	
GALLERIA III	139. <i>Preservice Teachers' Reasoning About Multiplication, Division, and Proportions in Terms of Quantities: What Is Challenging?</i> - Kulow, Beckmann, Johnson, & Stevenson	
BELLAIRE	130. <i>Equity of Learning Opportunities and Instructional Strategies for Students with Learning Disabilities in Mathematics</i> - Anderson & Kang	143. <i>Examining Scaffolding Practices in Mathematical Modeling Contexts through an Ethnomodeling Lens</i> - Lewis & Manouchehri
POST OAK	131. <i>A Gay Elementary Teacher Engaging Students in Mathematics: What Can He Teach Us?</i> - Whipple	144. <i>Blending Book Study and Action Research to Explore Young Children's Mathematical Thinking</i> - Hughes, Belliston, & Wager
SAGE	132. <i>Brief Report Session: Assessing Practice</i> - Livers, Harbour, & Hjalmarson; Zolkowski & Campbell	145. <i>Brief Report Session: Preservice Elementary Grades Teachers</i> - Montgomery & Akerson; Whitehead & Walkowiak
SAN FELIPE	133. <i>Brief Report Session: Facilitating Discourse</i> - Chen; Woods	146. <i>Scalable Professional Development in Early Mathematics: The Learning and Teaching with Learning Trajectories Tool</i> - Clements
TANGLEWOOD	134. <i>How PSTs' Noticing Developed Across a Sequence of Mediated Field Experiences in a Third Grade Classroom</i> - Sharpe & Njuguna	147. <i>Secondary Teachers' Professional Noticing of Students' Proportional Reasoning</i> - LaRochelle
WESTCHESTER	135. <i>Mathematics Teachers Using Data to Inform Classroom Practice: Agency and Expectations</i> - Cavanna	148. <i>Prospective PreK-8 Teachers' Initial and Auxiliary Problem Solving Strategies</i> - Schultz & Lovin

OVERVIEW OF SATURDAY MORNING SESSIONS, FEBRUARY 10, 2018

	10:00 AM – 10:45 AM	11:00 AM - 11:45 AM
PLAZA I	149. <i>Examining Secondary PSTs' Attention to Curriculum Materials through Their Eyes When Planning-</i> Males, Setniker, & Flores	162. <i>What Makes an Exploration Exploratory? Helping Teachers Identify Investigations That Inspire Inquiry-</i> Richman & Dietiker
PLAZA II	150. <i>Extending Noticing to Practice: Analyzing Preservice Teachers' Pedagogical Enactment Based on the Professional Noticing Framework-</i> Amador, Estapa, Weston, & Kosko	163. <i>Working Together: A Cross-Cultural Study Addressing Mathematics Anxiety in K-8 Preservice Teachers-</i> Hansen & Magiera
CHEVY CHASE	151. <i>From Research to Practice and Back Again: Developing High School Teachers' Action Research Capacity-</i> Steele	164. <i>Developing Measurements of Secondary Math Teachers' Specialized Content Knowledge-</i> Brasel & Garcia
WEST ALABAMA	152. <i>Partnering for Enhanced Parent Engagement in the "Common Core" Math Practices-</i> Mangram	165. <i>Is More Math Better? Comparing the Effects of Additional Mathematics Content Courses for Elementary Teachers-</i> Johnson, Shaqlaih, & Graham
GALLERIA I	153. <i>CAEP-NCTM Standards and Mathematics TE Program Recognition: What To Know. Provide Your Feedback-</i> Barnes, Cruz-White, & Rasch	166. <i>Understanding Mathematics Teachers' Growth in Terms of Generative Metaphors-</i> Chapman
GALLERIA II	154. <i>Statistics: A Tool for Creating Culturally Relevant Lessons-</i> Kinch	167. <i>What Do Novices Bring to Teacher Education? Examining the Practice of Interpreting Student Thinking-</i> Shaughnessy, Boerst, & DeFino
GALLERIA III	155. <i>Using a Strengths-Based Inquiry Approach to Support Beginning Mathematics Teachers' Success From the Start-</i> Kobett	168. <i>A Collaborative Exploration of Middle School Students' Views on Mathematical Strengths-</i> White & Gomez
BELLAIRE	156. <i>Brief Report Session: Connections and Inferences-</i> Abu-Ghalyoun; Foster & Lee	169. <i>Brief Report Session: Improving Practice in Secondary Education-</i> Junor Clarke & Moldavan; Smith & Taylor
POST OAK	157. <i>The Framework of Mathematics Teacher Learning: Can Preservice Teachers Construct Methods Course Outcomes for Themselves?-</i> Bahr & Belliston	170. <i>A Design Approach to Supporting the Transition into Teaching for Equity-</i> Scott
SAGE	158. <i>Positioning Students for Success: Supporting Student Engagement Through Classroom Discourse Practices-</i> Robinson	171. <i>Impact of Electronic Journals on Mathematics Teacher Educator Instructional Decisions-</i> Gallivan
SAN FELIPE	159. <i>How Does Video Analysis Influence Preservice Teachers' Ability to Notice Student Mathematical Thinking While Teaching?-</i> Switzer & Teuscher	172. <i>Developing Prospective Teachers' Understanding of Mathematics Through Engaging With Representations of Pedagogical Dilemmas-</i> Zahner
TANGLEWOOD	160. <i>Using a Problematic Diagram to Motivate Sociomathematical Norms in a Course for Elementary PSTs-</i> Rathouz & Cengiz-Phillips	173. <i>Brief Report Session: Learning from Professional Development-</i> Geary; McGraw & Neihaus
WESTCHESTER	161. <i>Learning to Teach Preservice Teachers Similarity Through Teaching Research-</i> Liang, Prasad, Vallines Mira, & Patterson	174. <i>Visible Thinking Routines as a Window into Preservice Teacher Knowledge-</i> Ilaria

Session 127

*Mathematics Pedagogy and Instructional Practice
Individual Session*

Plaza I

MATHEMATICAL MODELING IN GRADES 3-5: CONNECTIONS TO COMMUNITY AND SCHOOL CONTEXTS

Erin Turner, University of Arizona

Amy Roth McDuffie, Washington State University

Amy Been Bennett, University of Arizona

This session reports on a transformative professional development model focused on teaching and learning mathematical modeling with cultural and community contexts in grades 3-5. Presenters describe modeling tasks and teacher practices that support student learning in diverse classroom contexts.

Session 128

*Development of Mathematics Teacher Educators
Individual Session*

Chevy Chase

DEVELOPING PROSPECTIVE TEACHERS' "ORIENTATIONS" IN CONTENT COURSES: MATHEMATICS TEACHER EDUCATORS' REFLECTIONS ON PRACTICE

Aina Appova, The Ohio State University

We share reflections from ten expert MTEs on specific "orientations" toward mathematics and teaching mathematics that they wanted PTs to develop during their content courses, including explicit examples of how MTEs structured their courses to promote and cultivate these orientations.

Session 129

*Mathematics Content, Processes, and Practices
Discussion Session*

West Alabama

IMPACT OF TARGETED VIDEO PROJECTS ON PRESERVICE TEACHERS' ABILITY TO EFFECTIVELY COMMUNICATE MATHEMATICAL ISSUES OF SUBTRACTION

Valerie Faulkner, North Carolina State University

Our study examined the extent to which before and after video attempts to explain a subtraction-within-20 problem influenced preservice teachers to adopt and maintain accurate language that reflected their understanding of the mathematical content.

Session 130

*Equity, Social Justice, and Mathematics Teacher Education
Discussion Session*

Bellaire

EQUITY OF LEARNING OPPORTUNITIES AND INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH LEARNING DISABILITIES IN MATHEMATICS

Rubia D. Anderson, University of Georgia

Rui Kang, Georgia College & State University

Through three open-ended, classroom-based cases, this presentation will engage mathematics teacher educators and special educators in a collaborative activity and discussion about instructional strategies that potentially maximize the learning opportunities of students with learning disabilities (LD) in mathematics.

Session 131

*Equity, Social Justice, and Mathematics Teacher Education
Individual Session*

Post Oak

A GAY ELEMENTARY TEACHER ENGAGING STUDENTS IN MATHEMATICS: WHAT CAN HE TEACH US?

Kyle Stephen Whipple, University of Minnesota

I will present a case study focused on gay identity and intersectionality with mathematics teacher identity. Through this research, I learned that this teacher makes explicit decisions regarding curriculum choices and implementation strategies that he attributes to his gay identity.

Session 132

Mathematics Education Policy and Program Issues

Sage

BRIEF REPORT SESSION: ASSESSING PRACTICE

ADDRESSING THE NEED FOR MEASUREMENT AND VALIDITY IN ELEMENTARY MATHEMATICS COACHES AND SPECIALIST RESEARCH

Stefanie Livers, Missouri State University

Kristin Harbour, University of Alabama

Margret Hjalmarson, George Mason University

Research is needed about mathematics coaches and specialists and their work with teachers and students. We advocate there are questions of policy and practice that need instrument design and development to advance research regarding the diverse knowledge, practices, and roles.

SECONDARY MATHEMATICS PROGRAMMATIC COURSEWORK EFFECTS ON PRAXIS II AND EDTPA

Jeremy Zerkowski, University of Alabama

Tye Campbell, University of Alabama

This session will provide initial findings on the effects of programmatic coursework, assessments, and program design aligned to the CBMS MET2 and NCTM SPA 2012 CAEP standards on Praxis II 5161 and edTPA as they relate to AMTE SPTM.

Session 133**San Felipe***Mathematics Pedagogy and Instructional Practice***BRIEF REPORT SESSION: FACILITATING DISCOURSE****INTERPRETING AND REPRESENTING STUDENTS' THINKING IN THE MOMENT: PRESERVICE TEACHERS' INITIAL MULTIPLICATION LESSONS**

Lizhen Chen, Purdue University

This study investigates how PSTs' anticipation of strategies related to their discursive interactions with students and what potential the use of different talk moves had for supporting students' understanding of the mathematical strategies and concepts.

NUMBER TALKS: SUPPORTING TEACHERS TO DEVELOP MATH TALK COMMUNITIES

Dawn Woods, Southern Methodist University

In this study I examined how number talks, conversations around purposefully designed computation problems, were a mechanism that provided inservice elementary teachers with the opportunity to implement ambitious instructional practices that supported diverse students in talking about mathematical ideas.

Session 134**Tanglewood***Preservice Teacher Field Experiences**Individual Session***HOW PSTS' NOTICING DEVELOPED ACROSS A SEQUENCE OF MEDIATED FIELD EXPERIENCES IN A THIRD GRADE CLASSROOM**

Charlotte Dunlap Sharpe, Syracuse University

Grace Njuguna, Syracuse University

Mediated field experiences (MFEs) support PSTs to bridge the divide between methods course discussions and field based enactments of practice. We report findings from an analysis of PSTs' written noticings about others' videotaped enactments before and after four week MFE sequence.

Session 135**Westchester***Mathematics Pedagogy and Instructional Practice**Individual Session***MATHEMATICS TEACHERS USING DATA TO INFORM CLASSROOM PRACTICE: AGENCY AND EXPECTATIONS**

Jillian Cavanna, University of Connecticut

What does it mean when teachers are asked to "use data"? Based on a study with middle school mathematics teachers, I will discuss definitions of data and data use, teacher evaluation and agency, along with implications for teacher educators.

Session 136

*Equity, Social Justice, and Mathematics Teacher Education
Extended Session*

Plaza II

VIDEO FOR EQUITY: DESIGNING VIDEO-BASED DISCUSSIONS OF STUDENT AUTHORITY

Michael Jarry-Shore, Stanford University
Alissa Barnett Fong, Stanford University
Elizabeth Dyer, Stanford University
Florescia Gomez Zaccarelli, Stanford University
Hilda Borko, Stanford University

Discussions of classroom video are a powerful means for supporting teacher learning. Participants are encouraged to bring a laptop if possible, will choose their own video clip & prepare to lead a discussion of this clip focusing on students' mathematical authority.

Session 137

*Mathematics Education Policy and Program Issues
Extended Session*

Galleria I

TRANSFORMING SECONDARY MATHEMATICS TEACHER PREPARATION: A NETWORKED APPROACH TO ENACTING THE AMTE STANDARDS

W. Gary Martin, Auburn University
Mark W. Ellis, California State University, Fullerton
Wendy Smith, University of Nebraska
Marilyn Elaine Strutchens, Auburn University

The *Standards for Preparing Teachers of Mathematics* suggest a cyclical process of improvement is needed to enact its recommendations. A network of universities is working collaboratively to establish procedures to undertake the necessary transformation of secondary mathematics teacher preparation programs.

Session 138

*Mathematics Pedagogy and Instructional Practice
Extended Session*

Galleria II

ACTIVITIES THAT SUPPORT THE STATISTICAL EDUCATION OF TEACHERS

Hollylynne Lee, North Carolina State University
Christine Annette Franklin, American Statistical Association
Stephanie Casey, Eastern Michigan University
Rick A. Hudson, University of Southern Indiana
Anna E. Bargagliotti, Loyola Marymount University
Gemma Mojica, North Carolina State University
Christina Azmy, North Carolina State University
Jere Confrey, North Carolina State University
Meetal Shah, North Carolina State University

Participants will engage with research-based materials designed for preparation to teach statistics in grades 6-12. Participants should bring a laptop to engage with activities on topics including technology, videocases, statistical investigations, task analysis, mathematical and statistical practices, and learning trajectories.

Session 139

*Mathematics Content, Processes, and Practices
Extended Session*

Galleria III

PRESERVICE TEACHERS' REASONING ABOUT MULTIPLICATION, DIVISION, AND PROPORTIONS IN TERMS OF QUANTITIES: WHAT IS CHALLENGING?

Torrey Kulow, University of Georgia
Sybilla Beckmann, University of Georgia
Sheri Johnson, University of Georgia
Dean L Stevenson, University of Georgia

In this session we discuss a coherent approach to multiplicative structures, ratios, and proportional relationships that we have been developing in our mathematics content courses for future middle grades and secondary teachers.

Session 140

Equity, Social Justice, and Mathematics Teacher Education
Individual Session

Plaza I

A CRITICAL MATHEMATICAL PERSPECTIVE ON MATHEMATICAL MODELING IN MIDDLE SCHOOL

Lisa Poling, Appalachian State University
Nirmala Naresh, University of North Texas

We describe how critical mathematics education perspective, applied to mathematical modeling, resulted in preservice teachers using mathematics to model real-world scenarios with middle-school students to deepen mathematical knowledge. These activities alter beliefs about who can conceptualize and do mathematics.

Session 141

Equity, Social Justice, and Mathematics Teacher Education
Individual Session

Chevy Chase

TEACHING MATHEMATICS AS AGAPE: BALANCING STRATEGY AND STANCE

Joel Amidon, University of Mississippi
Rebecca Smith Nance, University of Mississippi
Anne Marie Marshall, Lehman College

The purpose of this session is to share a refined framework, teaching mathematics methods as agape, that can be used to "design and implement professional education experiences that promote and value the equitable mathematics learning and advancement of all children."

Session 142

Preservice Teacher Field Experiences
Individual Session

West Alabama

NON-TRADITIONAL SERVICE LEARNING AS FIELD EXPERIENCE: THE NUMB3RS PROJECT

Karen Anderson, Stonehill College

Come learn about how the NUMB3RS Project, an early-instruction-focused field experience merging elements of service learning and pre-practicum, impacted PSTs' views towards mathematics and empowered them to see themselves as change agents in K-12 classrooms.

Session 143

Mathematics Pedagogy and Instructional Practice
Individual Session

Bellaire

EXAMINING SCAFFOLDING PRACTICES IN MATHEMATICAL MODELING CONTEXTS THROUGH AN ETHNOMODELING LENS

Stephen T. Lewis, The Ohio State University
Azita Manouchehri, The Ohio State University

In this session we share the results of our classroom-based study examining scaffolding practices in mathematical modeling contexts. Our analysis reveals the social uptake of these practices and in particular highlights how they prompted validation and refinement of models.

Session 144

Teacher Professional Development
Individual Session

Post Oak

BLENDING BOOK STUDY AND ACTION RESEARCH TO EXPLORE YOUNG CHILDREN'S MATHEMATICAL THINKING

Gwyneth R. Hughes, University of Wisconsin, Madison
Alisa Belliston, University of Wisconsin, Madison
Anita A. Wager, Vanderbilt University

This session examines the content, structure, and outcomes of a mathematics professional development course for early childhood educators. The blended in-person/online course connects children's early number development to problem solving and equity through teacher action research.

Session 145

Preservice Teacher Field Experiences

Sage

BRIEF REPORT SESSION: PRESERVICE ELEMENTARY GRADES TEACHERS

IMPLEMENTING A COTEACHING MODEL IN AN EARLY MATHEMATICS FIELD EXPERIENCE

Mark S. Montgomery, Stephen F. Austin State University
Adam Akerson, Stephen F. Austin State University

The purpose of this pilot study was to understand the degree coteaching models and experiences are beneficial for teacher candidates. By being placed in peer to peer coteaching teams, candidates were given twice as many opportunities to teach and learn together.

PRESERVICE ELEMENTARY TEACHERS' POST LESSON ANALYSES: A LONGITUDINAL INVESTIGATION

Ashley Whitehead, Appalachian State University
Temple A. Walkowiak, North Carolina State University

This session will share findings from a study focused on the development of novice elementary teachers' analyses of implemented mathematical tasks during their preservice teacher preparation program and first year of teaching. Implications for mathematics teacher education will be described.

Session 146

Teaching and Learning with Technology
Individual Session

San Felipe

SCALABLE PROFESSIONAL DEVELOPMENT IN EARLY MATHEMATICS: THE LEARNING AND TEACHING WITH LEARNING TRAJECTORIES TOOL

Douglas H. Clements, University of Denver

Based on 20 years of research, the Learning and Teaching with Learning Trajectories (LTLT) tool is a resource for trainers and teachers to promote equity. Both can delve into understanding children's thinking and learn why specific activities develop that thinking.

Session 147 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i> SECONDARY TEACHERS' PROFESSIONAL NOTICING OF STUDENTS' PROPORTIONAL REASONING Raymond Michael LaRochelle, San Diego State University In this presentation, I will share results from a study in which I characterized and compared the professional noticing of students' mathematical thinking expertise in the domain of proportional reasoning of prospective teachers, experienced teachers, and emerging teacher leaders.	Tanglewood	Session 148 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i> PROSPECTIVE PREK-8 TEACHERS' INITIAL AND AUXILIARY PROBLEM SOLVING STRATEGIES Kyle T. Schultz, University of Mary Washington LouAnn Lovin, James Madison University Analysis of beginning prospective teachers' problem solving strategies revealed heavy reliance on strategies incongruent with expectations for future practice. Session participants will analyze student work and discuss the implications of problem solving strategies with respect to PreK-8 mathematics content courses.	Westchester
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Session 149

Mathematics Pedagogy and Instructional Practice
Individual Session

Plaza I

EXAMINING SECONDARY PSTS' ATTENTION TO CURRICULUM MATERIALS THROUGH THEIR EYES WHEN PLANNING

Lorraine M. Males, University of Nebraska-Lincoln

Ariel Setniker, University of Nebraska-Lincoln

Matt Flores, University of Nebraska-Lincoln

In this session we share findings from a study that used eye tracking to examine secondary PSTs' attention to curriculum materials while planning and how structure and format of materials may influence this attention.

Session 150

Teaching and Learning with Technology
Individual Session

Plaza II

EXTENDING NOTICING TO PRACTICE: ANALYZING PRESERVICE TEACHERS' PEDAGOGICAL ENACTMENT BASED ON THE PROFESSIONAL NOTICING FRAMEWORK

Julie Amador, University of Idaho

Anne Estapa, Iowa State University

Tracy Weston, Middlebury College

Karl Wesley Kosko, Kent State University

Preservice teachers at four universities used LessonSketch or GoAnimate to illustrate their pedagogical decisions through an enacted approximation of practice. This session will highlight the role of technology to illuminate and extend noticing beyond attending, interpreting, and deciding to respond.

Session 151

Teacher Professional Development
Individual Session

Chevy Chase

FROM RESEARCH TO PRACTICE AND BACK AGAIN: DEVELOPING HIGH SCHOOL TEACHERS' ACTION RESEARCH CAPACITY

Mike Steele, University of Wisconsin Milwaukee

We report first year results of a five year teacher professional development project for experienced mathematics and science teachers. Teachers' capacity to ask and answer questions using action research tools showed critical improvement and shifted their beliefs about teaching and learning.

Session 152

School and University Partnerships and Projects
Individual Session

West Alabama

PARTNERING FOR ENHANCED PARENT ENGAGEMENT IN THE "COMMON CORE" MATH PRACTICES

Charmaine Mangram, University of Hawaii at Manoa

To address issues of access and equity, a university-community partnership was formed to support parents' understanding of CCSSM. This session presents findings and intervention design principles from a 5-month mathematics intervention for parents of middle school students from diverse backgrounds.

Session 153

Mathematics Education Policy and Program Issues
Individual Session

Galleria I

CAEP-NCTM STANDARDS AND MATHEMATICS TE PROGRAM RECOGNITION: WHAT TO KNOW. PROVIDE YOUR FEEDBACK

David Barnes, National Council of Teachers of Mathematics (NCTM)

Irma Cruz-White, Chipola College

Katharine Rasch, Maryville University

Opportunities, avoidables, and possibilities exist for the NCTM – CAEP Mathematics TE Program Standards. We will share expert insight into what is needed, has been successful, and common pitfalls in report development. Provide feedback to support development of new program standards.

Session 154

TODOS Presidential Exchange Session
Individual Session

Galleria II

STATISTICS: A TOOL FOR CREATING CULTURALLY RELEVANT LESSONS

Diane Kinch, TODOS: Mathematics for ALL

This session explores statistics to create active, inquiry-based learning experiences, discussing and practicing the Guidelines for Assessment and Instruction in Statistics Education (GAISE): formulating statistical questions, collecting and analyzing data and interpreting results. Algebra is included in conjunction with statistics.

Session 155

Teacher Professional Development
Individual Session

Galleria III

USING A STRENGTHS-BASED INQUIRY APPROACH TO SUPPORT BEGINNING MATHEMATICS TEACHERS' SUCCESS FROM THE START

Beth McCord Kobett, Stevenson University

This session describes a university-led induction program designed to support beginning mathematics teachers by encouraging them to identify and leverage mathematics teaching strengths to bolster mathematics teaching challenges through an Appreciative Inquiry Approach.

<p>Session 156 <i>Mathematics Pedagogy and Instructional Practice</i></p> <p>BRIEF REPORT SESSION: CONNECTIONS AND INFERENCES</p> <p>DEVELOPING K-8 PRESERVICE TEACHERS' INFORMAL STATISTICAL INFERENCE IN A DYNAMIC SOFTWARE ENVIRONMENT</p> <p>Omar Mohammad Abu-Ghalyoun, Western Michigan University</p> <p>This paper reports on results of a study aiming to identify aspects of informal statistical inference that emerge when elementary/middle school mathematics preservice teachers explore statistical investigations using the dynamic software TinkerPlots.</p> <p>PRESERVICE TEACHERS THOUGHTS ON THE PRACTICE OF MAKING CONNECTIONS</p> <p>Jonathan Foster, University of Georgia Hwa Young Lee, Texas State University</p> <p>We examine preservice teachers' thoughts on the practice of making connections in the context of a methods course with a field component. Also, we document the types of connections preservice teachers attended to during the field component.</p>	<p>Bellaire</p>
<p>Session 157 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i></p> <p>THE FRAMEWORK OF MATHEMATICS TEACHER LEARNING: CAN PRESERVICE TEACHERS CONSTRUCT METHODS COURSE OUTCOMES FOR THEMSELVES?</p> <p>Damon L. Bahr, Brigham Young University Alisa Belliston, University of Wisconsin, Madison</p> <p>We summarize self-study research conducted to create the Framework, a structure of methods course outcomes that operationalizes our vision of mathematics teaching, and a second study of our use of the Framework as PSTs construct course outcomes for themselves.</p>	<p>Post Oak</p>
<p>Session 158 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i></p> <p>POSITIONING STUDENTS FOR SUCCESS: SUPPORTING STUDENT ENGAGEMENT THROUGH CLASSROOM DISCOURSE PRACTICES</p> <p>Richard Robinson, The Citadel</p> <p>In this session we draw on theories of positioning and the social forces that shape interactions, discussing the storylines (or patterns of interaction based on commonly shared narrative conventions (Davies & Harré, 1990)) at play within a secondary mathematics classroom.</p>	<p>Sage</p>
<p>Session 159 <i>Preservice Teacher Field Experiences</i> <i>Individual Session</i></p> <p>HOW DOES VIDEO ANALYSIS INFLUENCE PRESERVICE TEACHERS' ABILITY TO NOTICE STUDENT MATHEMATICAL THINKING WHILE TEACHING?</p> <p>John Matthew Switzer, Texas Christian University Dawn Teuscher, Brigham Young University</p> <p>We share findings from an analysis of eight preservice secondary mathematics teachers' ability to notice student mathematical thinking while student teaching and discuss differences among student teachers who had varying degrees of exposure to analyzing video during their undergraduate program.</p>	<p>San Felipe</p>
<p>Session 160 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i></p> <p>USING A PROBLEMATIC DIAGRAM TO MOTIVATE SOCIOMATHEMATICAL NORMS IN A COURSE FOR ELEMENTARY PSTS</p> <p>Margaret Rathouz, University of Michigan - Dearborn Nesrin Cengiz-Phillips, University of Michigan-Dearborn</p> <p>In this presentation, we will focus on the use of erroneous or problematic PST-generated representations as the centerpiece of classroom discussions. The confusing nature of the diagrams encourages PSTs to practice sociomathematical norms to revise the diagrams and solve problems.</p>	<p>Tanglewood</p>
<p>Session 161 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i></p> <p>LEARNING TO TEACH PRESERVICE TEACHERS SIMILARITY THROUGH TEACHING RESEARCH</p> <p>Su Liang, University of Texas at San Antonio Priya Vinata Prasad, University of Texas at San Antonio Raquel Vallines Mira, University of Texas at San Antonio Cody Lynn Patterson, University of Texas at San Antonio</p> <p>Similarity will be discussed based on the findings from the teaching research project of four faculties. We intend to add new knowledge to improve teaching similarity and provide valuable insights for the audience conducting further research on this topic.</p>	<p>Westchester</p>

Session 162

Mathematics Content, Processes, and Practices
Individual Session

Plaza I

WHAT MAKES AN EXPLORATION EXPLORATORY? HELPING TEACHERS IDENTIFY INVESTIGATIONS THAT INSPIRE INQUIRY

Andrew S. Richman, Boston University
Leslie Dietiker, Boston University

In this discussion-based session, participants will examine two ostensibly investigative lessons and learn how a research framework can be used to identify differences in the extent to which the lessons support student inquiry.

Session 163

Mathematics Pedagogy and Instructional Practice
Individual Session

Plaza II

WORKING TOGETHER: A CROSS-CULTURAL STUDY ADDRESSING MATHEMATICS ANXIETY IN K-8 PRESERVICE TEACHERS

Heidi Hansen, Bemidji State University
Marta T. Magiera, Marquette University

Presentation will describe a study on K-8 PST's math anxiety across public, private and foreign universities that provide a forum for dialogue on the importance of including the topic in preservice teacher training and possible interventions for alleviating math anxiety.

Session 164

Mathematics Content, Processes, and Practices
Individual Session

Chevy Chase

DEVELOPING MEASUREMENTS OF SECONDARY MATH TEACHERS' SPECIALIZED CONTENT KNOWLEDGE

Jason Brasel, University of Michigan
Nicole Marie Garcia, University of Michigan

We focus on the development and validation of measures of secondary mathematics teachers' specialized content knowledge. The presentation examines traditional and non-traditional item types that more closely resemble the daily work of teaching along with results from item validation studies.

Session 165

Mathematics Education Policy and Program Issues
Individual Session

West Alabama

IS MORE MATH BETTER? COMPARING THE EFFECTS OF ADDITIONAL MATHEMATICS CONTENT COURSES FOR ELEMENTARY TEACHERS

Gwendolyn Joy Johnson, University of North Texas at Dallas
Ali S. Shaqlaih, University of North Texas at Dallas
Yolanda Graham, University of North Texas at Dallas

The MET II called on teacher-education programs to require 12 semester-hours of mathematics from a teacher's perspective. In response, we created four courses designed specifically for teachers. We will share the impact of this change on our candidates' test scores.

Session 166

Teacher Professional Development
Individual Session

Galleria I

UNDERSTANDING MATHEMATICS TEACHERS' GROWTH IN TERMS OF GENERATIVE METAPHORS

Olive Chapman, University of Calgary

This paper reports on a study of the change and the learning process underlying high school mathematics teachers' growth in inquiry-based teaching of mathematics. Outcomes indicate how the teachers used self-directed learning and generative metaphors in supporting their growth.

Session 167

Mathematics Pedagogy and Instructional Practice
Individual Session

Galleria II

WHAT DO NOVICES BRING TO TEACHER EDUCATION? EXAMINING THE PRACTICE OF INTERPRETING STUDENT THINKING

Meghan Shaughnessy, University of Michigan
Tim Boerst, University of Michigan
Rosalie DeFino, University of Michigan

We report on a study of the specific skills with interpreting student thinking that novices bring to teacher education and consider ways in which such information could guide the design and enactment of learning opportunities in teacher education.

Session 168

Teacher Professional Development
Individual Session

Galleria III

A COLLABORATIVE EXPLORATION OF MIDDLE SCHOOL STUDENTS' VIEWS ON MATHEMATICAL STRENGTHS

Dorothy Y. White, University of Georgia
Carlos Nicolas Gomez, Clemson University

This session describes the work of a PLC to design and conduct inquiry projects to explore middle school students' views of mathematical strengths. Participants will examine the common themes across the students' perspectives and share recommendations for mathematics methods courses.

<p>Session 169 <i>Mathematics Pedagogy and Instructional Practice</i></p> <p>BRIEF REPORT SESSION: IMPROVING PRACTICE IN SECONDARY EDUCATION</p> <p>PRESERVICE SECONDARY MATHEMATICS TEACHERS EXPLORING A COTEACHING MODEL DURING THEIR CLINICAL EXPERIENCES</p> <p>Pier Angeli Junor Clarke, Georgia State University Alesia Mickle Moldavan, Georgia State University</p> <p>Exploring coplanning and coteaching as viable strategies for effective student teaching has provided insights to a small cohort of preservice secondary school mathematics teachers who felt confident to differentiate their instruction and share the physical space in the mathematics classrooms.</p> <p>SECONDARY MATHEMATICS METHODS COURSE GOALS AND ACTIVITIES</p> <p>Ryan C. Smith, Radford University Cynthia E. Taylor, Millersville University of Pennsylvania</p> <p>In this presentation, we examine and discuss data we collected from an online survey of secondary MTEs in which they stated the most important goals and activities for their secondary mathematics methods course. Results and examples will be shared.</p>	<p>Bellaire</p>
<p>Session 170 <i>Equity, Social Justice, and Mathematics Teacher Education</i> <i>Individual Session</i></p> <p>A DESIGN APPROACH TO SUPPORTING THE TRANSITION INTO TEACHING FOR EQUITY</p> <p>Mallika Scott, University of California, Berkeley</p> <p>This session presents a design-based study aimed at better supporting first year teachers through the formation of an equity-focused learning community. Participants will learn about design, view video data, and discuss relationships between design choices and opportunities for teacher learning.</p>	<p>Post Oak</p>
<p>Session 171 <i>Teaching and Learning with Technology</i> <i>Individual Session</i></p> <p>IMPACT OF ELECTRONIC JOURNALS ON MATHEMATICS TEACHER EDUCATOR INSTRUCTIONAL DECISIONS</p> <p>Heather Gallivan, University of Northern Iowa</p> <p>Electronic journal technology has the potential to better support mathematics teacher educators (MTEs) in making instructional decisions. Results suggest the instructor was able to more easily access and provide formative feedback to PSTs as well as plan for whole class discussions.</p>	<p>Sage</p>
<p>Session 172 <i>Mathematics Content, Processes, and Practices</i> <i>Individual Session</i></p> <p>DEVELOPING PROSPECTIVE TEACHERS' UNDERSTANDING OF MATHEMATICS THROUGH ENGAGING WITH REPRESENTATIONS OF PEDAGOGICAL DILEMMAS</p> <p>William Zahner, San Diego State University</p> <p>This presentation describes research on using representations of teaching scenarios in mathematics courses for prospective secondary teachers. The scenarios were designed to deepen prospective teachers' understandings of fundamental mathematical concepts through considering pedagogical dilemmas in teaching secondary mathematics.</p>	<p>San Felipe</p>
<p>Session 173 <i>Teacher Professional Development</i></p> <p>BRIEF REPORT SESSION: LEARNING FROM PROFESSIONAL DEVELOPMENT</p> <p>INCREASING MATHEMATICAL EFFICACY IN PRESCHOOL TEACHERS</p> <p>Cynthia Geary, WestEd</p> <p>This presentation reports on a survey (qualitative and quantitative) given to participant teachers in the Early Pre-K Mathematical Intervention. Data results and video snapshots will highlight the pre-K teachers' voices. Attendees will have the opportunity to explore curriculum and manipulatives.</p> <p>TRANSFORMATIVE LEARNING EXPERIENCES: PROFESSIONAL LEARNING FROM THE TEACHER'S PERSPECTIVE AND IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT PROGRAMS</p> <p>Rebecca McGraw, University of Arizona Aubrey Neihaus, University of Arizona</p> <p>In this session, we will share initial findings from a study of teacher transformation following participation in a PD program, discuss the potential of narrative analysis for studying professional learning, and consider implications for PD design.</p>	<p>Tanglewood</p>
<p>Session 174 <i>Mathematics Pedagogy and Instructional Practice</i> <i>Individual Session</i></p> <p>VISIBLE THINKING ROUTINES AS A WINDOW INTO PRESERVICE TEACHER KNOWLEDGE</p> <p>Daniel Ilaria, West Chester University</p> <p>Visible Thinking Routines (VTRs) provide an opportunity for the learner to reflect while the instructor can gauge learner knowledge. We will examine different VTRs used in methods courses and discuss resulting changes in preservice teacher knowledge and instruction.</p>	<p>Westchester</p>

**CLOSING LUNCH & BUSINESS MEETING WOODWAY I**

Join your colleagues for lunch, organizational updates, and a planning session for a special new AMTE initiative.



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Yeo, Sheunghyun	<i>University of Missouri</i>	syhw6@mail.missouri.edu	37, 66
Yoder, Gina Borgioli	<i>Indiana University, Indianapolis</i>	gbyoder@iupui.edu	14
Young, Jamaal Rashad	<i>University of North Texas</i>	jamaal.young@unt.edu	69

Z

Zahner, William	<i>San Diego State University</i>	bzahner@mail.sdsu.edu	172
Zbiek, Rose Mary	<i>Pennsylvania State University</i>	rmz101@psu.edu	95
Zelkowski, Jeremy	<i>University of Alabama</i>	jzelkowski@ua.edu	132
Zhao, Wenmin	<i>University of Missouri</i>	wenminzhao@mail.missouri.edu	66, 86

HISTORY OF THE JUDITH E. JACOBS LECTURE

The Judith E. Jacobs Lecture was established in 2003 to honor Dr. Judith E. Jacobs, one of the founding members of AMTE. Dr. Jacobs was instrumental in developing AMTE into a national organization and in the development of the AMTE conference with its current structure and emphasis on interaction. Judith Jacobs is an active member who served as treasurer, president, and as the first executive director. The Judith Jacobs Lecture was established after Dr. Jacobs completed her tenure as AMTE Executive Director.

Dr. Jacobs gave the first lecture where she described what it means to be a mathematics teacher educator. She outlined how being a mathematics teacher educator is different from being a mathematics teacher, a career professional developer, or a researcher in mathematics education. Dr. Jacobs challenged us to recognize our roles as mathematics teacher educators and reminded us that, through the AMTE organization, an outlet has been created to share and learn from each other.

YEAR	JUDITH E. JACOBS LECTURER	AFFILIATION	TITLE
2018	Margaret (Peg) Smith	University of Pittsburgh	<i>A Mathematics Teacher Educator's Journey: Responding to An Evolving Field</i>
2017	Marilyn E. Strutchens	Auburn University	<i>Attending to Access, Equity, and Empowerment Matters for Each and Every Student: Beyond Courses and Workshops</i>
2016	Francis (Skip) Fennell	McDaniel College	<i>Mathematics Teacher Education: Normal Schools to Now. What's the Fit and Future for AMTE?</i>
2015	Nadine Bezuk	San Diego State University	<i>Supporting Elementary Teachers in Developing Their Mathematics Teaching</i>
2014	Barbara J. Reys	University of Missouri	<i>Curriculum Matters! For Teachers, for Students, and for Mathematics Teacher Educators</i>
2013	Karen Karp	University of Louisville	<i>The Invisible 10% - Preparing Teachers to Teach Mathematics to Students with Special Needs</i>
2012	Deborah Schifter	Education Development Center	<i>Interpreting the Common Core: What Might It Look Like in the Classrooms?</i>
2011	Joan Ferrini-Mundy	Michigan State University	<i>Learning for Tomorrow: Challenges and Opportunities in Mathematics Teacher Education</i>
2010	James Hiebert	University of Delaware	<i>Building Knowledge for Helping Teachers Learn to Teach: An Alternative Path for Teacher Education</i>
2009	Jeremy Kilpatrick	University of Georgia	<i>Going to War with the Army You Have</i>
2008	Ed Silver	University of Michigan	<i>Mathematics Teacher Education in Dodge City: Desperately Seeking Wyatt Earp and Henri Poincaré</i>
2007	Deborah Loewenberg Ball	University of Michigan	<i>The Core and Contemporary Challenges of Mathematics Teacher Education</i>
2006	Judith Sowder	San Diego State University	<i>Preparing Elementary Teachers: The Role of Reasoning about Numbers and Quantities</i>
2005	Glenda Lappan	Michigan State University	<i>Reflections on a Lifetime of Work: Why Curriculum Matters</i>
2004	Thomas J. Cooney	University of Georgia	<i>The Role of Mathematics Teacher Education: Reform or Enculturation?</i>
2003	Judith E. Jacobs	California State Polytechnic University, Pomona	<i>Improving Mathematics Education: Mathematics Teacher Educators Lead the Way</i>

PROPOSAL REVIEWERS FOR 2018 ANNUAL AMTE CONFERENCE

Abassian, Aline	University of Central Florida	Koestler, Courtney	OHIO Center for Equity
Abernathy, Melissa	MSD of Decatur Township: Liberty Early Elementary	LaRoche, Raymond Michael	San Diego State University
Alagoz-Ekici, Cigdem	University of the Virgin Islands	Levin, Mariana	Western Michigan University
Alqahtani, Muteb	SUNY Cortland	Liang, Su	University of Texas at San Antonio
Alshehri, Khaled Abdullah	Imam Abdulrahman Bin Faisal Uni.	Liebars, Cathy	The College of New Jersey
Amador, Julie	University of Idaho	Lin, Hochieh	The Ohio State University
Appelgate, Mollie	Iowa State University	Lischka, Alyson E.	Middle Tennessee State University
Appova, Aina	The Ohio State University	Liu, Jinqing	Indiana University
Bailey, Pamela Rae	Mary Baldwin University	Lovett, Jennifer N.	Middle Tennessee State University
Baldinger, Erin E.	University of Minnesota	Lu, Yaomingxin	Western Michigan University
Barker, David	Illinois State University	Magner, Jodelle S.W.	SUNY Buffalo State
Berry, Robert	University of Virginia	Maldonado, Luz Angelica	Texas State University
Bolyard, Johnna	West Virginia University	Mallam, Winifred	Texas Woman's University
Brass, Amy	University of Northern Iowa	Marin, Kate Ariemma	Stonehill College
Broadbush, Angela	Benedictine College	Martin, Leigh	Clemson University
Cady, Jo Ann	University of Tennessee, Knoxville	Martinez, Ricardo	Iowa State University
Campbell, Matthew P	West Virginia University	Marynowski, Richelle	University of Lethbridge
Carson, Mary Alice	Montana State University	McCloskey, Andrea	Penn State University
Chao, Theodore	The Ohio State University	McGraw, Rebecca	University of Arizona
Conner, AnnaMarie	University of Georgia	Melhuish, Kathleen	Texas State University
Costner, Kelly M	Winthrop University	Middleton, Catharina	East Carolina University
Cox, Dana C.	Miami University	Miller, Katherine E	The Ohio State University
Cunningham, Elizabeth Petit	University of Michigan-Flint	Mohr-Schroeder, Margaret J.	University of Kentucky
de Araujo, Zandra	University of Missouri	Molitoris Miller, Susanna	Kennesaw State University
Deleeuw, William	Arizona State University	Morgan, Michelle Ann	University of Northern Colorado
Dibbs, Rebecca A.	Texas A&M University - Commerce	Myers, Marrielle	Kennesaw State University
Dupree, Lakesia L.	University of South Florida	Naresh, Nirmala	University of North Texas
Ekici, Celil	University of the Virgin Islands	Nguyen, Giang-Nguyen	University of West Florida
Eli, Jennifer Ann	The University of Arizona	Nirode, Wayne	Miami University
Elliott, Rebekah	Oregon State University	Njuguna, Grace	Syracuse University
Enderson, Mary C	Old Dominion University	Nurnberger-Haag, Julie	Kent State University
Faulkner, Valerie	North Carolina State University	Olanoff, Dana	Widener University
Feldman, Ziv	Boston University	Orrill, Chandra Hawley	Univ. of Massachusetts Dartmouth
Felton-Koestler, Mathew D.	Ohio University	Ozturk, Ayse	The Ohio State University
Fillingim, Jennifer G	Madison County Schools	Pampel, Krysten	Arizona State University
Fox, Ryan	Belmont University	Patterson, Lynn Gannon	Murray State University
Franz, Dana Pomykal	Mississippi State University	Pitvovec, Kathleen	University of Illinois at Chicago
Freeburn, Ben	MOST Research Associate	Poling, Lisa	Appalachian State University
Galindo, Enrique	Indiana University	Rakes, Christopher	U. of Maryland Baltimore County
Gerardo, Juan Manuel	U. of Illinois at Urbana-Champaign	Reiten, Lindsay	University of Northern Colorado
Gerasimova, Daria	George Mason University	Roller, Sarah A.	Univ. of Alabama in Huntsville
Gichobi, Mary N.	UW-Green Bay	Safi, Farshid	University of Central Florida
Gomez, Carlos Nicolas	Clemson University	Salem, Wesam M.	The University of Memphis
Greenstein, Steven	Montclair State University	Schwartz, Catherine	East Carolina University
Harbour, Kristin	University of Alabama	Sears, Ruthmae	University of South Florida
Harper, Suzanne Rushton	Miami University	Seashore, Kimberly	San Francisco State University
Hicks, Kimberly Ann	University of Houston	Sharpe, Charlotte Dunlap	Syracuse University
Holliman, Natalie	Texas Tech University	Shaughnessy, Meghan	University of Michigan
Hudson, Rick A.	University of Southern Indiana	Simpson, Amber	Binghamton University
Id-Deen, Lateefah	University of Louisville	Siy, Eric	University of Georgia
Jackson, Billy	Univ. of Tenn. at Chattanooga	Smith, Ryan C.	Radford University
Johnson, Gwendolyn Joy	University of North Texas at Dallas	Smith, Wendy	University of Nebraska
Johnson, Kim Helene	West Chester University	Snider, Rachel B.	The College of New Jersey
Kar, Avijit	University of Georgia	Somers, John W.	University of Indianapolis
Kim, Soomi	Teachers College, Columbia Uni.	Staples, Megan	University of Connecticut
Kirwan, J Vince	Kennesaw State University	Stockero, Shari L.	Michigan Technological University
Knapp, Melinda	Oregon State Univ.-Cascades	Strachota, Susanne	University of Wisconsin-Madison
Ko, Yi-Yin	Indiana State University	Sun, Kathy	Santa Clara University
Koester, Mark	MSU Denver	Swartz, Barbara Ann	McDaniel College
		Tackie, Nii Ansah	Univ. of Louisiana at Lafayette

Taylor, Cynthia E.
Toreky, Carrie
Tyminski, Andrew
Valentine, Keri
Vontoure, Dana Enriquez
Whipple, Kyle Stephen
Whitehead, Ashley
Wilburne, Jane M.
Williams, Molly

Millersville Univ. of Pennsylvania
University of South Florida
Clemson University
West Virginia University
Vontoure Learning, LLC
University of Minnesota
Appalachian State University
Penn. State University, Harrisburg
University of Nebraska-Lincoln

Willingham, James Chris
Wilson, Aaron T
Wilson, Holt
Woods, Dawn
Yao, Xiangquan
Yin, Yuxin
Young, Jamaal Rashad
Zelkowski, Jeremy
Zhao, Wenmin

James Madison University
Univ. of Texas Rio Grande Valley
U. of North Carolina, Greensboro
Southern Methodist University
The Ohio State University
Ohio State University
University of North Texas
University of Alabama
University of Missouri

2018 AMTE BUSINESS MEETING AGENDA

Saturday, February 10, 2018

Woodway I, The Westin Galleria Hotel, Houston, TX

A. WELCOME

RANDOLPH PHILIPP, *AMTE PRESIDENT*, PRESIDING

B. APPROVAL OF THE MINUTES

SANDI COOPER

C. TREASURER AND MEMBERSHIP REPORT

ANITA WAGER, TIM HENDRIX

D. CONFERENCE REPORT

SUSAN GAY

E. DIVISION REPORTS & RECOGNITIONS

Headquarters Division

Membership Division

Professional Learning Division

Publications Division

Advocacy, Equity and Research Division

Communications and Outreach Division

Tim Hendrix, Executive Director

Maggie McGatha, Vice-President

Lynn Breyfogle, Vice-President

Christine Browning, Vice-President

Paola Sztajn, Vice-President

Suzanne Harper, Vice-President

F. NEW BUSINESS

RANDOLPH PHILIPP

G. INSTALLATION OF NEW BOARD MEMBERS

RANDOLPH PHILIPP

H. NEW AFFILIATE RECOGNITION

RANDOLPH PHILIPP

I. <i>DISCUSSION OF AMTE PRIORITIES, PROGRAMS, OR COMMITMENTS INTO THE FUTURE</i>	RANDOLPH PHILIPP
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J. ADJOURNMENT

RANDOLPH PHILIPP

2017 AMTE BUSINESS MEETING MINUTES

February 11, 2017
12:15 PM - 1:30 PM (EDT)
Rosen Plaza, Ballroom C/D
Orlando, Florida

Christine Thomas, president, called the meeting to order at 12:15 pm

WELCOME

Christine Thomas welcomed attendees, thanking the membership for their confidence in her and for electing her as president. She commented on her enthusiasm for this thriving organization at the forefront of the work in mathematics teacher education. She also mentioned the challenges facing the work of the organization as we attend to issues of equity and advocacy in the current political climate. She reminded members of the strategic priorities from her two years as president. These include:

For 2015

- Strengthen connections across the organization to promote the improvement of mathematics teacher education through evidence-based decisions.
- Strengthen AMTE's advocacy for high quality mathematics teacher education in support of quality mathematics teaching.

For 2016

- Reflect on AMTE's impact and celebrate the past 25 years as an organization.
- Strengthen the AMTE infrastructure to support our individual and collective capacities to advance mathematics teacher education for the next 25 years.

Christine highlighted the release of the *Standards for Preparing Teachers of Mathematics* and thanked Nadine Bezuk, Jenny Bay-Williams, Gary Martin, and Doug Clements for their leadership in their development. She let the membership know that the next steps in the *Standards* work are to assure this a living document and to lead the engagement of everyone that supports the preparation of mathematics teachers in this work.

APPROVAL OF MINUTES FROM BUSINESS MEETINGS HELD ON JANUARY 30, 2016.

Christine called for any changes in the 2016 Business Meeting minutes found on pages 87-90 of the conference program. There were none.

Motion: Christine Browning made the motion to accept the minutes from the 1/30/16 meeting. Gary Martin seconded the motion. Unanimously approved.

TREASURER REPORT

Anita Wager, Treasurer, presented the operating budget for the 2016-2017 and the expenses year to date. The operating income from July 2016 through June 2017 is \$120,032. The expected expenditures in that time frame are \$125,100. The difference between expenditures and income is made up with income generated through sponsors and the annual conference. We also currently have about \$150,676 in reserves representing more than one year's expenses.

Motion: Mike Steele made the motion to accept the Treasurer's Report. Tim Boerst seconded the motion. Unanimously approved.

MEMBERSHIP REPORT

Tim Hendrix provided the following information about membership.

- Current membership: 1006
- Membership last year: 1035

Of our current members, 161 are graduate students and 35 are emeritus members. Forty-nine states are represented in our membership along with Washington DC, Puerto Rico, 4 Canadian Provinces and six other countries.

Stats on our memberships:

- 1 membership is extended until mid-2026
- 1 membership is extended until mid-2023
- 30 memberships expire in 2020 or later
- 279 memberships expire in 2018 or later
- 726 memberships expire in 2017
- At least 27 current members have been a member since before 2000

Please encourage your colleagues to join AMTE or renew their memberships.

Tim also reminded everyone to complete the conference feedback survey. This can be accessed through the conference app or the website.

Motion: Maggie McGatha made the motion to accept the Membership Report. Mike Steele seconded the motion. Unanimously approved.

COMMITTEE AND TASK FORCE REPORTS

Affiliate Connections Committee: Tom Evitts provided the report on behalf of Jean Lee. Tom will serve as incoming chair/associate vice president (AVP). He thanked 2016 members Jean Lee, Alejandra Salinas, Travis Miller, Maureen Grady, and Mary Pat Sjostrom; he welcomed Jill Newton and Michelle Stephan as new committee members. Megan Burton and Anita Wager are board representatives to this committee.

Committee Activities: The Affiliate Connections Committee (ACC) continues to renew and advance the support to AMTE Affiliates. This includes the affiliate renewal form, the affiliate leader webinar, a conference presentation, and the affiliate webpage. ACC members are assigned to regions so they can better support affiliate leaders. The committee is also exploring a ½ day conference for affiliate leaders. They have also engaged in substantial updates to affiliates webpage - creating resources for new affiliates and highlighting benefits for being an affiliate member. Their upcoming work includes fine-tuning the roles of ACC Reps and refining the protocol for receiving and processing affiliate renewal forms.

Awards Committee: Christine T. shared the Awards Committee Report on behalf of Kim Markworth. Lisa Poling will be the new chair/AVP of the committee. Members of the committee include: Bethany Noblitt, Stephanie Livers, Zandra de Araujo, Nirmala Naresh, Courtenay Miller, and Lisa Poling. She also recognized Kathleen Lynch-Davis as the board liaison this past year.

Committee Announcements:

- There is a change to timeline for Excellence and Early Career Awards - Nominations now due June 15
- EMS Scholarships are now \$2000 (Many thanks to the Math Learning Center for sponsoring these scholarships)
- The committee's work this year will also include increased attention to publicizing the various awards in order to increase nominations.

Communications Committee: Christine Browning provided the report on behalf of Erika Bullock and thanked Tim Boerst for his service as board liaison. Committee members in 2016 include: Stephanie Cross, Lorraine Males, Kevin McLeod, Michael Simone, and Cory Bennett.

Committee Special Project: An AMTE Twitter reboot in February 2016. You can follow @AMTENews on Twitter!

- January 2016 Twitter Stats: 92 followers with 5 impressions
- January 2017 Twitter Stats: 265 followers with 16,300 impressions

Constitution and By-Laws:

Christine provided the report on behalf of Skip Fennell, the chair. We will be voting on the changes in the AMTE By-Laws later on in the meeting. The committee includes Fran Arbaugh and Bonnie Oppenheimer with Board Representative Tim Hendrix.

Committee Activities: Completed changes to By-Laws for consistency with the restructuring of AMTE governance.

Emerging Issues Committee:

Marilyn Strutchens provided the report. Committee members include: Kathryn Chval, Corey Drake, Kathleen Heid, Shari Stockero, Paola Sztajn, with Nicole Rigelman as the board representative.

Committee Activities: Continued activities this year included providing notifications of emerging issues and breaking news on the Emerging Issues banner and tab on AMTE.net, the Advocacy and Emerging Issues breakfast, and

conference session. The committee also advocates through public comment on policy and development of a toolkit for members. In the coming year, the committee intends to work more closely with the Equity and Research committees and keep up with reports on teacher shortages and successes in addressing them.

Membership Committee:

Jonathan Bostic provided the report. The committee members include: Tommy Hodges, Suzanne Harper, Chris Jett, Jane Keiser, and Winnie Ko. The board liaison was Megan Burton with support from the outgoing liaison Nicole Rigelman.

Committee Activities: This year, the Membership Committee developed a new volunteer form and made revisions to the membership directory. These items have been shared with AMTE leadership for consideration moving forward as the Membership Committee will dissolve at the end of this meeting due to AMTE restructuring.

Mentoring Committee: Gladis Kersaint provided the report. Members include: Jennifer Chavout, Pier A. Junior Clarke, Karen King, Alyson Lischka, and Sararose Lynch. Dorothy White served as board liaison to this committee.

Committee Activities: The committee worked with the Professional Development Committee to merge mentoring and professional development under AMTE's restructuring. They are interested in mentoring that is specific to individuals at various stages in their careers, at various institution types with colleagues or alone. The group held a session at this year's conference to provide mentoring for early career MTEs. They have launched a mechanism to honor those that have been mentors in your life through the website. The committee left with recommendations to the Professional Development Committee as this committee will dissolve with the restructuring.

STaR Sub-Committee: Amanda Jansen provided the report on behalf of Barbara Reys. She thanked committee members, which include Sue Peters, Bob Reys, Denise Spangler, Jeff Wanko, Jeremy Zelkowski, Susan Gregson, and Niral Shah as well as board representative Kathleen Lynch-Davis.

Committee Announcements:

- The 7th cohort (2016) of the STaR Fellows met for the Summer Institute in June 2016. The group included 32 Fellows (employed at 31 institutions), bringing the total number of Fellows since the inception of the program (2010) to 239.
- Karen Hollebrands and Jeff Shih have assumed the role of co-Directors of the STaR Program. Denise Spangler will become Chair of the STaR Committee at the conclusion of this conference.
- To date, \$177,000 has been raised to support the program (from individuals, professional associations, AMTE affiliates, and foundations).

Special Projects:

- During this annual conference, professional videos were developed to help tell the story of the STaR Program. A raffle was conducted to support the continuation of the program.

Nominations and Elections Committee: Margaret Mohr-Schroeder provided the report as ongoing chair/AVP of the committee. She thanked committee members Adam Feldhaus, Temple Walkowiak, Ted Watanabe, Toya Frank, and Mark Klespis along with President-Elect Randy Philipp.

Committee Activities: Margaret reminded attendees that AMTE is seeking nominations for president-elect and board member-at-large. The newly elected secretary, Sandi Cooper, and board member-at-large, Eva Thanheiser, will assume their new roles at the end of this meeting.

Professional Development for Members Committee: Julie James provided the report for the committee and thanked Tim Boerst and Mike Steele who served as board liaisons to this committee. She also thanked committee members Mark Hoover, P. Mark Taylor, Trena Wilkerson, and Sam Eskelson for their work.

Committee Activities: This year, the committee organized five webinars. Julie thanked members for participating. She reminded attendees that they can suggest a webinar topic or speaker using the conference app or on the AMTE website. More information will be coming soon about the 2017 webinars.

Conference Program Committee: Holt Wilson provided the report as outgoing chair of the conference committee. He recognized Susan Gay for all that she does for the conference. Committee members included: David Barker, Robert Berry, AnnaMarie Conner, Dana Cox, Shannon Dingman (past chair), Enrique Galindo, Rick Hudson, Courtney Koestler, Jill Newton, Stacy Reeder, Farshid Safi (incoming chair), Catherine Schwartz, and David Slavit.

Conference Program Stats:

- 452 Submitted Proposals (58.6% acceptance)
- 494 Presenters (conference record)
- 201 Sessions
- 142 Proposal Reviewers

Holt also reminded attendees that the AMTE 2018 Proposal Deadline is May 15, 2017.

Research Committee: Sarah van Ingen provided the report as incoming AVP. She thanked the 2016 Chairs - John Lannin and Babette Benken (board representative) as well as members Hilda Borko, Mathew Felton-Koestler, Janet Frost, Imani Goffney, John Lannin. She welcomed new members Ruthmae Sears and Blake Peterson.

Committee Activities and Special Projects:

- Continue to provide mentoring to poster session presenters
- Develop a repository for mathematics education research instruments on AMTE's website
- Generate themes expressed in research statements made over the past ten years in AMTE documents (e.g., Early Career Award recipients' Connections articles)

Technology and Mathematics Teacher Education Committee: Barbara Swartz provided the report for the committee. Barbara thanked Christine Browning and Asli Özgün-Koca for their support as she transitioned into this role. She also thanked the committee members: Mi Yeon Lee, Angiline Powell, Steve Rhine, Rob Wieman, and Ann Wheeler.

Committee Activities: The committee works to inform AMTE's members about the technology related issues/updates via the conference workshop and write-ups to the AMTE newsletter. Barbara announced that the 2017 NTLI Winners are Amanda Thomas and AJ Edson for "A Framework for Mathematics Teachers' Evaluation of Digital Instructional Materials: Integrating Mathematics Teaching Practices with Technology Use in K-8 Classrooms." The committee intends to introduce a "Tech Talk" proposal to spotlight success stories MTEs have had with incorporating technology into their teaching and PD efforts

Mathematics Teacher Educator Editorial Panel: Randall Groth provided the report for the committee. He thanked the members of the committee (Sandra Crespo, Kristen Bieda, Jeffrey Shih, Angela Barlow, Edd Taylor, Gloriana González Rivera, David Barnes (NCTM)) for their ongoing work and Rebekah Elliott for her leadership as chair. He welcomed new members: Jan Yow and Theodore (Teddy) Chao. Finally he thanked Christine Browning as AMTE board representative and Nadine Bezuk as NCTM board representative.

Announcements and Special Projects: Randall let the group know that current editors, Sandra Crespo and Kristen Bieda, have extended their tenure in that role for another year. The MTE is published in March and September. He encouraged attendees to read, write, and review for the journal. The panel awarded its first reviewer award this year and intends to do the same in subsequent years.

Connections Editorial Panel: Christine provided the report for the panel on behalf of Babette Benken. She thanked members: Barbara Hess, Daniel Ilaria, Gwendolyn Johnson, Maggie Niess, Sarah Selmer, and James Telese. She welcomed new members Jonathan Bostic and Alyson Lischka.

Announcements and Special Projects: The next issue: Spring 2017 will be available about March 1. The panel accepts articles on an on-going basis (max 1400 words). There were 7 articles accepted and published in 2016. The solicitation is available on AMTE website under the "Publications" tab. A new reoccurring feature is the "Spotlight on STaR Fellow." These will be offered two times a year.

CITE Editorial Panel: No report given.

Conference and Celebrations Task Force: Susan thanked everyone for their participation and engagement with colleagues on behalf of the conference committee. She recognized the Celebrations Task Force whose members include: Jennifer Bay-Williams, Nadine Bezuk, Shannon Dingman, Mark Ellis, David Glassmeyer, Suzanne Harper, and Casey Hawthorne. Susan drew attention to the splashes of silver for the 25th anniversary. She highlighted the photo booth, the photograph countdown on Facebook, the brainstorm activity, and the poster that represents the *Standards for Preparing Teachers of Mathematics*.

RECOGNITIONS

Susan thanked Selcuk Haciomeroglu and Megan Nickels for their work as co-chairs for the Local Arrangements Committee. Susan also pointed out that the technology helpers were younger this year. Megan's student, Julisa, accepted Megan's award on her behalf.

Christine thanked and honored Susan for all of her work. Christine recognized the following outgoing board members for their work on the board of directors: Kathleen Lynch Davis as Sponsorship Director; Megan Burton as Affiliates

Director; Nicole Rigelman as secretary; and Tim Boerst as member-at-large. Randy thanked Christine for her work as president.

NEW BUSINESS

Christine discussed the restructuring and provided information about the various ways that the organization has grown and taken even more of a leadership and advocacy role in mathematics education. Some of this growth is evident through

- Increased quantity of regular publications,
- Deeper engagement with varied mathematics education organizations,
- Increased responses/advocacy on documents and policies influencing mathematics education,
- Continued creation of policy and standards documents,
- Varied professional development offerings,
- Continued giving of awards to members, and
- Administration of STaR.

She described how the former structure included an elected board and 5 directors. Because AMTE is a volunteer organization it relies heavily on the work of committees. With the restructuring, there is a recommendation for 5 divisions where VPs lead the work of 3-4 committees with their associated AVPs (formerly committee chairs). A task force developed the plan in 2015. The plan for restructuring was completed in 2016 and communicated to the membership throughout this past year. Attendees received a copy of the poster that outlines the new structure.

Changes in By-Laws

The restructuring involves some additions to the By-Laws to add the new Vice-Presidents of the Divisions, some edits to describe the titles of roles and composition of the Board of Directors. Specifically, there is a shift in language from various appointed director positions to appointed vice-president (VP) positions. A description of each of the five VPs (Membership; Professional Learning; Publications; Advocacy, Equity, and Research; Communication and Outreach) is also provided. As was true with the Director positions, the terms of service for these roles are three years with the possibility of renewal.

A question emerged regarding potential confusion with having so many titles that include the word president. Christine responded that the former “director” title also had some confusion given that there were both appointed and elected directors in the former structure. The new VPs over various division will be appointed and work with an elected board member as a liaison. Fran Arbaugh spoke in support of the restructuring.

Motion: Fran Arbaugh made the motion to accept the changes in the By-Laws. Gladis Kersaint seconded the motion. Unanimously approved.

INSTALLATION OF NEW BOARD MEMBERS

Christine welcomed Eva Thanheiser as incoming board member-at-large, Sandi Cooper as Secretary, and Randy Philipp as President. She then invited Randy to speak about next steps and his vision for our collective work. He provided some inspirational thoughts and articulated the strategic priorities for the coming year.

AMTE 2017 STRATEGIC PRIORITIES AND ANNOUNCEMENTS

Randy shared the priorities for 2017, listed below:

- **Equity** - Continue to place issues of equity and social justice at the forefront of AMTE's focus
- **AMTE Standards Dissemination** - Disseminate the *AMTE Standards for Preparing Teachers of Mathematics* and make the *Standards* a focal point for work of AMTE
- **Restructure AMTE's Infrastructure** - Enact and facilitate the transition of AMTE's infrastructure around five Divisions

ADJOURNMENT

Randy adjourned the meeting at 1:30 pm (EDT).

Respectfully submitted by Nicole Rigelman.

MORE INFORMATION ON AMTE.NET

On the AMTE website (amte.net), you will find information on each of the following:

- AMTE Leadership, including members serving on committees and task forces
- AMTE Awards, including the Excellence in Mathematics Teacher Education Award and the Early Career Award
- Susan Gay AMTE Conference Scholarship for Graduate Students
- Elementary Mathematics Specialist (EMS) Scholarship
- Call for Manuscripts, Reviewers, Readers, & Comments for *CITE-Math Journal*
- Call for Manuscripts for *Mathematics Teacher Educator*

AMTE'S 2019 ANNUAL CONFERENCE

We invite you to attend and speak at next year's Twenty-Third Annual AMTE Conference, to be held during **February 7-9, 2019**, in **Orlando, FL**.

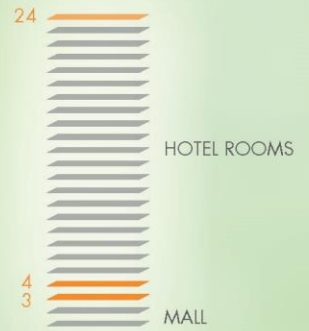
The Call for Proposals will be available on the AMTE website (amte.net) by March 1, 2018, and in the next issue of *AMTE Connections*. The Program Chair is Dana Cox of Miami University (programchair@amte.net).

**THE DEADLINE FOR SUBMITTING PROPOSALS
FOR THE 2019 ANNUAL CONFERENCE IS MAY 15, 2018.**

Visit amte.net/conferences for updated information on past and future conferences.

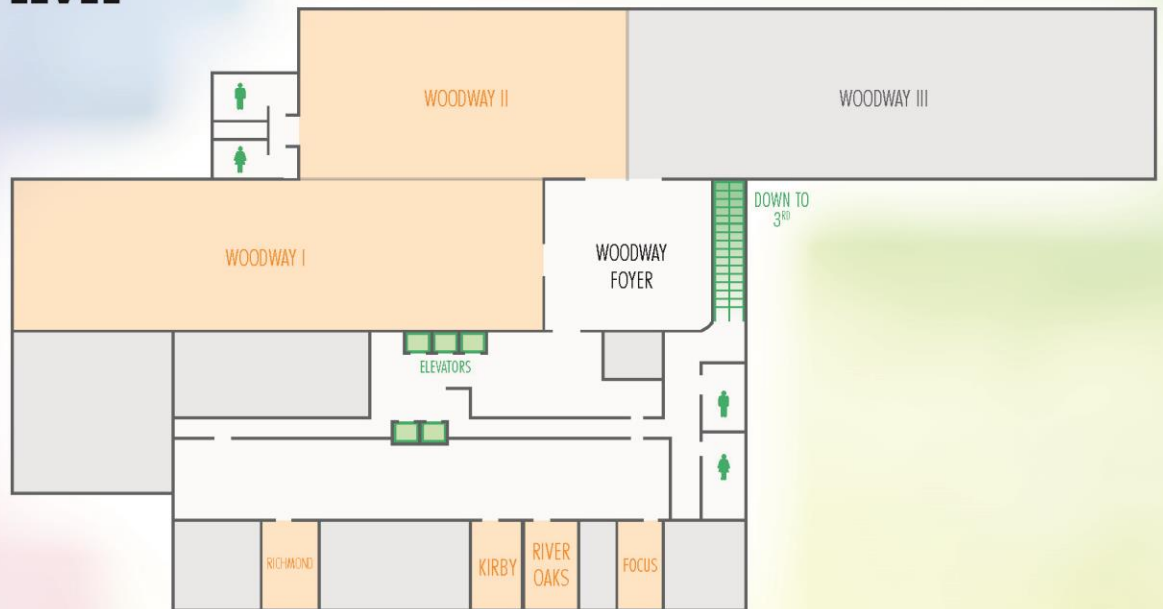
24

TWENTY FOURTH LEVEL



4

FOURTH LEVEL



3

THIRD LEVEL

