

AMTE

25<sup>TH</sup>

CONFERENCE

ASSOCIATION OF MATHEMATICS TEACHER EDUCATORS

# TWENTY-FIFTH ANNUAL AMTE CONFERENCE

FEBRUARY 11-13 & 18-20, 2021



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# WELCOME

Dear AMTE Friends,

It's our pleasure to welcome you to the Twenty-Fifth Annual Conference of the Association of Mathematics Teacher Educators (AMTE)! As with just about everything this year, our conference looks quite a bit different. We are excited to welcome you to our first-ever virtual conference. The AMTE Conference Committee, Program Committee, and Board of Directors have worked hard over the past nine months to design an experience that honors the most important aspects of in-person AMTE meetings – collaborative and interactive sessions, opportunities for formal and informal conversations, and a sense of community. We've also used this moment as an opportunity to revisit and revitalize some aspects of our conference and we are thrilled that the virtual setting will remove some of the traditional barriers to attend and engage. You'll notice a number of features that honor AMTE's legacy at our 25<sup>th</sup> conference this year, including our virtual rooms named for past AMTE Presidents. This 25<sup>th</sup> Annual Conference will feature more first-time and early-career attendees than ever before, and we welcome you to our AMTE family.

While things will look a little bit different this year and we all greatly miss the opportunity to see you in person, you will find so many opportunities to engage in meaningful discussions about mathematics teacher education at our conference! We invite you to Commit to AMTE (#CommitAMTE2021) and share how you are engaging in this year's conference and what you are learning! We invite you to take advantage of the online poster session, virtual visits with exhibitors and vendors, networking time, and fireside chats with our Opening Session and Judith Jacobs speakers. And new this year, AMTE invites you to Community Circles, an informal space for mathematics teacher educators to discuss issues and contexts of interest to them. Information on how to engage with all these opportunities can be found in this program and in the Guidebook app and webpage for the conference.

We know this has been a year unlike any other. On behalf of the AMTE Board of Directors, we want to personally thank you for the amazing work you've done this year in supporting mathematics teacher education and strengthening outcomes for mathematics teachers and their students across the country. We are so glad you are able to take some time to listen, learn, and share with your AMTE family for these six days. Welcome!

## PROGRAM INFORMATION

There are 173 sessions and 442 speakers on this year's program. There were 419 proposals submitted for review and 231 (55.1%) of these proposals were accepted for the program. The final program consists of 136 individual presentations, discussion and extended sessions, and symposia; 63 brief reports organized into 21 thematic sessions; and 28 asynchronous posters for the poster session. The annual AMTE poster session will be held asynchronously throughout the conference. The program also includes 9 invited presentations, 3 award-winner sessions, and 3 sessions presented by AMTE sponsors.

## LEAD THE WAY

AMTE has grown in scope and influence, and our activities now include co-publishing two journals, publishing books and policy documents, publishing a quarterly newsletter, offering webinars and podcasts, hosting an active website, administering the STaR program, and working with other professional organizations to provide national leadership. And yet, as much as AMTE offers throughout the year, our conference continues to be a highlight. There really is no substitute for the dynamic quality of sharing and learning with other mathematics teacher educators! Thank you for attending the 2021 AMTE Annual Conference and helping to make this a rich experience.



Mike Steele, AMTE President



Rick Hudson, 2021 AMTE AVP for Annual Conference Program



Colleen Eddy, AMTE AVP for Conferences



Shari Stockero, AMTE Executive Director

# CONFERENCE SCHEDULE

2021 ANNUAL AMTE CONFERENCE  
FEBRUARY 11-13 & FEBRUARY 18-20, 2021  
**All times are Eastern Standard Time (EST)**

## THURSDAY, FEBRUARY 11, 2021

12:00 PM – 5:00 PM MTEP Pre-session  
6:00 PM – 8:00 PM Opening Session

## FRIDAY, FEBRUARY 12, 2021

11:00 AM – 12:00 PM Concurrent Sessions  
12:15 PM – 1:15 PM Concurrent Sessions  
1:30 PM – 2:30 PM Concurrent Sessions  
2:30 PM – 3:00 PM Vendor Break  
3:00 PM – 3:45 PM Concurrent Sessions  
4:00 PM – 5:00 PM Concurrent Sessions  
5:30 PM – 7:00 PM AMTE Business Meeting &  
Happy Hour

## SATURDAY, FEBRUARY 13, 2021

11:00 AM – 12:00 PM Karen D. King Advocacy Award  
Talk  
12:15 PM – 1:15 PM Concurrent Sessions  
1:30 PM – 2:30 PM Concurrent Sessions  
3:00 PM – 3:45 PM Concurrent Sessions  
4:00 PM – 5:00 PM Concurrent Sessions  
5:15 PM – 7:00 PM Manuscript Review Groups &  
Community Circles  
7:15 PM – 8:00 PM Networking & Social Hour

## THURSDAY, FEBRUARY 18, 2021

6:00 PM – 8:00 PM Judith E. Jacobs Lecture  
8:00 PM – 9:00 PM AMTE Listening Session

## FRIDAY, FEBRUARY 19, 2021

11:00 AM – 12:00 PM Concurrent Sessions  
12:15 PM – 1:15 PM Concurrent Sessions  
1:30 PM – 2:30 PM Concurrent Sessions  
2:30 PM – 3:00 PM Vendor Break  
3:00 PM – 3:45 PM Concurrent Sessions  
4:00 PM – 5:00 PM Concurrent Sessions  
5:30 PM – 7:00 PM Fireside Chat with Opening  
Session and Judith E. Jacobs  
Lecture Presenters  
7:00 PM – 8:00 PM Community Circles Follow-Up

## SATURDAY, FEBRUARY 20, 2021

11:00 AM – 12:00 PM Concurrent Sessions  
12:15 PM – 1:15 PM Concurrent Sessions  
1:30 PM – 2:30 PM Concurrent Sessions  
1:30 PM – 3:30 PM Extended Concurrent Sessions

**Sixth Annual AMTE Poster Session**  
**Asynchronous throughout the Conference**



## CONFERENCE INFORMATION

### CONFERENCE WEBSITE/APP INFORMATION

Guidebook will be used to access conference sessions and activities. This platform is available as a website and mobile app. Download and login instructions will be sent via email to registered conference participants. Zoom will be used for all conference session activities. Links are available in Guidebook. Flipgrid will be used to view and comment on posters. Links are available in Guidebook.

### CANCELLATIONS AND PROGRAM CHANGES

Updated lists of cancellations and other program changes will be posted in the conference app.

### SPONSORS AND VENDORS

We appreciate the generous support of our sponsors and vendors. Please take an opportunity to thank them for their contributions to AMTE during the dedicated sponsor and vendor times outlined below. Sponsors and vendors include CPM Educational Program, Information Age Publishing – IAP, Maier Math Foundation, National Council of Teachers of Mathematics, National Council of Supervisors of Mathematics, Great Minds – Eureka Math, Kendall Hunt Publishing Company, and TODOS – Mathematics for ALL! More information about sponsors and vendors can be found in Guidebook (conference app) and on pages 14-20.

FRIDAY, FEBRUARY 12 2:30 PM - 3:00 PM (EST)

FRIDAY, FEBRUARY 19 2:30 PM - 3:00 PM (EST)

### JOIN THE FUN

We have planned a variety of fun, interactive opportunities to get to know your fellow AMTE members. You can find more information about each of these events in this program and in the conference app.

CONFERENCE QR CODE SCAVENGER HUNT – THROUGHOUT THE CONFERENCE

AMTE 25<sup>TH</sup> ANNIVERSARY TRIVIA – FRIDAY, FEBRUARY 12, FOLLOWING THE AMTE BUSINESS MEETING

MANUSCRIPT REVIEW GROUPS – SATURDAY, FEBRUARY 13, 5:15 – 7:00 PM (EST)

COMMUNITY CIRCLES – SATURDAY, FEBRUARY 13, 5:15 – 7:00 PM (EST)

NETWORKING & SOCIAL HOUR – SATURDAY, FEBRUARY 13, 7:15 – 8:00 PM (EST)

AMTE LISTENING SESSION – THURSDAY, FEBRUARY 18, 8:00 – 9:00 PM (EST)

FIRESIDE CHAT – FRIDAY, FEBRUARY 19, 5:30 – 7:00 PM (EST)

## SOCIAL MEDIA

LIKE AMTE ON FACEBOOK



[facebook.com/AMTE.net](https://facebook.com/AMTE.net)

FOLLOW AMTE ON TWITTER



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

USE **#AMTE2021** AND **#COMMITAMTE2021** TO JOIN PUBLIC DISCUSSION AROUND THE CONFERENCE.

# AMTE 2020 BOARD OF DIRECTORS

## PRESIDENT

Michael D. Steele  
University of Wisconsin, Milwaukee  
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## BOARD MEMBER-AT-LARGE

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## VICE-PRESIDENT OF PUBLICATIONS

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## VICE-PRESIDENT OF ADVOCACY, EQUITY, & RESEARCH

Sarah van Ingen  
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Tampa, FL  
[vaningen@usf.edu](mailto:vaningen@usf.edu)

# HISTORICAL LISTING OF AMTE PRESIDENTS

| PRESIDENT          | TERM        | PRESIDENT              | TERM        | PRESIDENT     | TERM        |
|--------------------|-------------|------------------------|-------------|---------------|-------------|
| Mike Steele        | 2019 – 2021 | Barbara Reys           | 2009 – 2011 | Susan Gay     | 1999 – 2001 |
| Randolph Philipp   | 2017 – 2019 | Jennifer Bay-Williams  | 2007 – 2009 | Nadine Bezuk  | 1997 – 1999 |
| Christine Thomas   | 2015 – 2017 | Sid Rachlin            | 2005 – 2007 | Judith Jacobs | 1995 – 1997 |
| Fran Arbaugh       | 2013 – 2015 | Karen Karp             | 2003 – 2005 | Henry Kepner  | 1993 – 1995 |
| Marilyn Strutchens | 2011 – 2013 | Francis (Skip) Fennell | 2001 – 2003 | Mark Spikell  | 1991 – 1993 |

# 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 AMTE members. 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 E. 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  |
|------|---------------------------|---|--|
| 2021 | Marta Civil               | The University of Arizona                       | <i>What Does It Mean to Be a Mathematics Teacher Educator?</i>   |
| 2020 | Paola Sztajn              | North Carolina State University                 | <i>Research and Mathematics Education: Triumphs, Trials, and Transitions</i>   |
| 2019 | Denise A. Spangler        | University of Georgia                           | <i>Fundamental Commitments of My Work as a Mathematics Teacher Educator</i>  |
| 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>                                   |



# 2021 ANNUAL AMTE CONFERENCE COMMITTEE

**Associate Vice-President for Conferences:** Colleen Eddy, University of North Texas, Colleen.Eddy@unt.edu

**Associate Vice-President for Annual Conference Program:** Rick Hudson, University of Southern Indiana, rhudson@usi.edu

## CONFERENCES COMMITTEE

**If you have questions, comments, or concerns throughout the conference, please notify one of these members of the Conferences Committee. They will be happy to assist you.**

Shari Stockero (AMTE Executive Director), Michigan Technological University, stockero@mtu.edu

Enrique Galindo (AMTE Board Liaison), Indiana University, egalindo@indiana.edu

Colleen Eddy, University of North Texas, Colleen.Eddy@unt.edu

Suzanne Harper, Miami University, harpersr@MiamiOH.edu

Ray LaRochelle, University of Delaware, rlarochel@udel.edu

Lateefah Id-Deen, Kennesaw State University, liddeen@kennesaw.edu

Julie James, University of Mississippi, jjames1@olemiss.edu

Trena Wilkerson, Baylor University, trena\_wilkerson@baylor.edu

## ANNUAL CONFERENCE PROGRAM COMMITTEE

### Program Committee Chairs:

**2021** Rick Hudson, University of Southern Indiana, rhudson@usi.edu

**2020** AnnaMarie Conner, University of Georgia, aconner@uga.edu

**2022** Julie Amador, University of Idaho, jamador@uidaho.edu

### 2018 - 2021

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

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Thomas Hodges, University of South Carolina, hodgeste@mailbox.sc.edu

Jeremy Zelkowski, University of Alabama, jzelkowski@ua.edu

### 2019 - 2022

Kelly Costner, Winthrop University, costnerk@winthrop.edu

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Carlos Nicolas Gomez, University of Texas, nico.gomez@utexas.edu

Michelle Cirillo, University of Delaware, mcirillo@udel.edu

### 2020 - 2023

Jennifer Ward, Kennesaw State University, ward.jennifer.k@gmail.com

Robert Powers, University of Northern Colorado, robert.powers@unco.edu

Wendy Smith, University of Nebraska, wsmith5@unl.edu

Nirmala Naresh, University of North Texas, nirmala.naresh@unt.edu

## CONFERENCE APP DEVELOPMENT TEAM

App Coordinator: Steve Rhine, AVP for Web Development, amte-support@amte.net

App Graphics Assets: Tony Nguyen, Webmaster

# AMTE AFFILIATES

AMTE is proud to welcome members of its 25 affiliated organizations:

## AFFILIATE

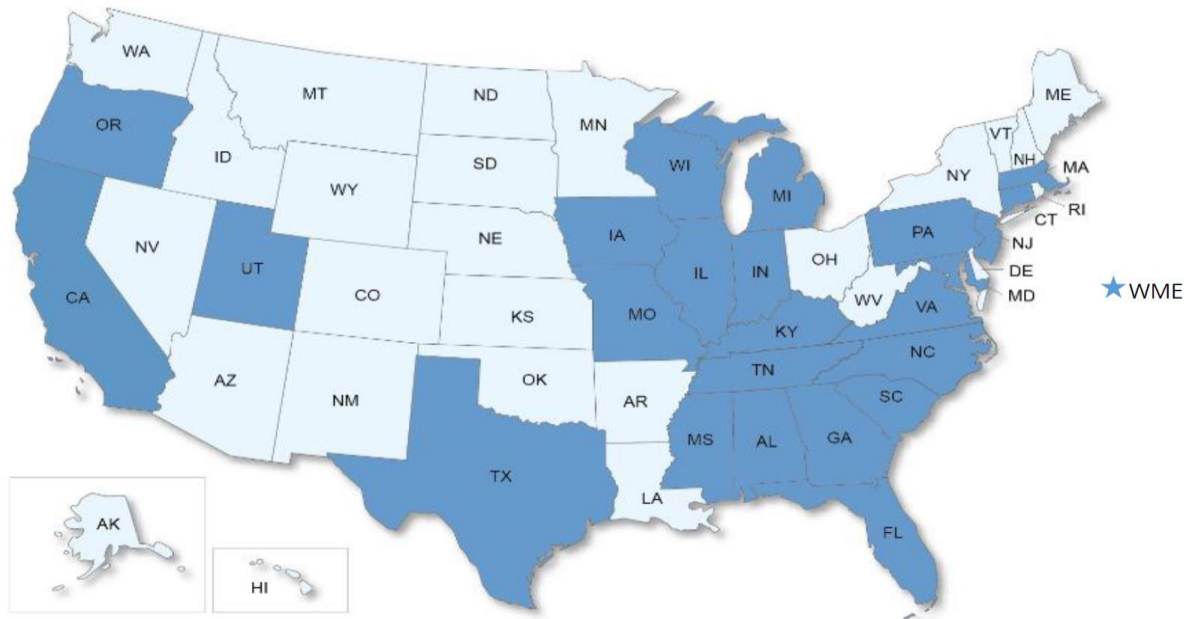
Illinois Mathematics Teacher Educators  
 Utah Association of Mathematics Teacher Educators  
 Florida Association of Mathematics Teacher Educators  
 California Association of Mathematics Teacher Educators  
 Association of Mathematics Teacher Educators of Connecticut  
 Georgia Association of Mathematics Teacher Educators  
 Pennsylvania Association of Mathematics Teacher Educators  
 Tennessee Association of Mathematics Teacher Educators  
 Massachusetts Mathematics Association of Teacher Educators  
 South Carolina Association of Mathematics Teacher Educators  
 New Jersey Association of Mathematics Teacher Educators  
 Association of Mathematics Teacher Educators of Alabama  
 Teachers of Teachers of Mathematics, Oregon  
 Association of Mathematics Teacher Educators in Texas  
 Mississippi Association of Mathematics Teacher Educators  
 Missouri Mathematics Association for Advancement of Teacher Training  
 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  
 Virginia Association of Mathematics Teacher Educators  
 Kentucky Association of Mathematics Teacher Educators  
 Wisconsin Association of Mathematics Teacher Educators  
 Women and Mathematics Education

## ACRONYM

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

## LOCATION

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



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.

The work of AMTE is made possible by the efforts of its members through leadership roles, task forces, and committees. Please support the work of our committees by participating in conference sessions led by AMTE Committees. Information about those sessions are listed below and are designated throughout the program.

## **STAR PROGRAM COMMITTEE SESSION**

### **LEARN ABOUT THE AMTE STAR PROGRAM**

**Session 1 – Poster Session P15, Available beginning Thursday, February 11, 8:00 AM (EST)**

AMTE STaR Program Committee

We invite you to come learn about the AMTE Service, Teaching, and Research (STaR) program. STaR is an early-career induction program for faculty in the first or second year of their position.

## **TECHNOLOGY COMMITTEE SESSION**

### **TECHNOLOGY COMMITTEE: TECH SUPPORT FOR MATHEMATICS TEACHER EDUCATORS**

**Session 2, Friday, February 12, 11:00 AM – 12:00 PM (EST), Mark Spikell Room**

AMTE Technology Committee

In this session, the AMTE Technology Committee will address topics of interest identified by respondents from the 2020 AMTE Annual Meeting conference survey. In addition to an overview of challenges and topics for each of the strands, participants will have an opportunity to engage more deeply with topics of their choosing during breakouts within the session.

## **AFFILIATE CONNECTIONS COMMITTEE SESSION**

### **RECOGNIZING THE EVOLUTION OF AMTE AFFILIATES: FROM OVERLOOKED OPPORTUNITIES TO OBSTACLES OVERCOME**

**Session 93, Friday, February 19, 11:00 AM – 12:00 PM (EST), Mark Spikell Room**

AMTE Affiliate Connections Committee

Joined by a number of founding, past, and current presidents of AMTE state affiliates, we will share and learn from their institutional memories and experiences the original, positional, and directional objectives of professional networks of mathematics teacher educators.

## **AMTE PUBLICATIONS DIVISION SESSION**

### **PUBLICATIONS: TRANSFORMING AN IDEA INTO AN AMTE PUBLICATION: GETTING FEEDBACK**

**Session 168, Saturday, February 20, 1:30 PM – 3:30 PM (EST), Christine Thomas Room**

AMTE Publications Division

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

The AMTE Board of Directors has established awards to recognize outstanding work in mathematics teacher education. Look for the call for nominations later this spring. For more information about AMTE awards or to nominate a colleague, visit our website at [www.amte.net](http://www.amte.net).

## EARLY CAREER AWARD

The purpose of the Early Career award is to recognize a mathematics teacher educator who, while early in their career, has made distinguished contributions and shows exceptional potential for leadership in one or more areas of teaching, service, and/or scholarship. The AMTE Early Career Award is awarded annually.

### 2020 EARLY CAREER AWARD WINNER

Zandra de Araujo, University of Missouri

**Session Title:** *Which Box(es)? Examining the Complexities of Identity*

**Location:** Session 12, Mark Spikell Room

**Time:** Friday, February 12, 12:15 PM – 1:15 PM (EST)



### 2021 EARLY CAREER AWARD WINNER

Lynsey Gibbons, Boston University

Lynsey has been invited to speak at the 2022 AMTE Annual Conference in Las Vegas, NV.



## KAREN D. KING EXCELLENCE IN ADVOCACY AWARD

The **Karen D. King Excellence in Advocacy Award** is intended to recognize a colleague for a unique contribution in advocacy that has made a significant and lasting contribution to mathematics teacher education, directly and indirectly. We define advocacy as the process of publicly supporting ideas or plans and/or influencing decisions. The next Karen D. King Excellence in Advocacy Award will be awarded in 2025.

### 2021 KAREN D. KING EXCELLENCE IN ADVOCACY AWARD WINNER

Dorothy Y. White, University of Georgia

**Session Title:** *Each One, Reach One: Embracing Advocacy Work in Mathematics Education*

**Location:** Session 52, Silver Auditorium

**Time:** Saturday, February 13, 11:00 AM – 12:00 PM (EST)



## EXCELLENCE IN TEACHING IN MATHEMATICS TEACHER EDUCATION AWARD

The Excellence in Teaching in Mathematics Teacher Education Award is intended to recognize a colleague for a unique contribution in teaching that has made a significant and lasting contribution to the pedagogy of mathematics teacher education. The next Excellence in Teaching in Mathematics Teacher Education Award will be awarded in 2024.

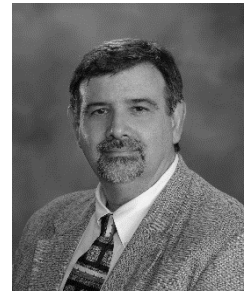
### 2021 EXCELLENCE IN TEACHING IN MATHEMATICS TEACHER EDUCATION AWARD WINNER

Gary Martin, Auburn University

**Session Title:** *Mathematics Teacher Preparation: Putting Students at the Center*

**Location:** Session 53, Mark Spikell Room

**Time:** Saturday, February 13, 12:15 PM – 1:15 PM (EST)



## 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.ace.org/awards/awards-ntli.htm](http://site.ace.org/awards/awards-ntli.htm). Thanks to Texas Instruments for their ongoing support of this award. Look in the 2022 Call for Proposals for information on how to submit a paper for the 2022 AMTE NTLI Award.

### 2021 AMTE NTLI AWARD WINNERS

Nina G. Bailey, University of North Carolina at Charlotte

Allison W. McCulloch, University of North Carolina at Charlotte

Lara Kristen Dick, Bucknell University

Jennifer Nickell Lovett, Middle Tennessee State University

Demet Yalmon Ozen, Middle Tennessee State University

Charity Cayton, East Carolina University

**Session Title:** *Using a Framework to Teach Preservice Mathematics Teachers How to Professionally Notice Within Technology Mediated Environments*

**Location:** Session 63, Mark Spikell Room

**Time:** Saturday, February 13, 1:30 PM – 2:30 PM (EST)

## EXCELLENCE IN SCHOLARSHIP AWARD

The **Excellence in Scholarship Award** is intended to recognize a colleague for a unique contribution in scholarship that has made a significant and lasting contribution to mathematics teacher education, directly and indirectly. The next Excellence in Scholarship Award will be awarded in 2023.

### 2020 EXCELLENCE IN SCHOLARSHIP AWARD WINNER

AnnaMarie Conner, University of Georgia



## NADINE BEZUK EXCELLENCE IN LEADERSHIP & SERVICE AWARD

The Nadine Bezuk Excellence in Leadership and Service Award is intended to recognize a colleague for a unique contribution in service that has made a significant and lasting contribution to mathematics teacher education, directly and indirectly. The next Nadine Bezuk Excellence in Leadership & Service Award will be awarded in 2022.

### 2019 NADINE BEZUK EXCELLENCE IN LEADERSHIP AND SERVICE AWARD WINNER

Samuel Otten, University of Missouri



## MTE OUTSTANDING REVIEWER AWARD

The purpose of the *Mathematics Teacher Educator* Outstanding Reviewer Award is to recognize a colleague who, through their service as a reviewer for *Mathematics Teacher Educator* journal, provided exemplary reviews of the highest quality and value for editorial review of submitted scholarly manuscripts.

### 2021 MTE OUTSTANDING REVIEWER AWARD WINNER

Allyson Hallman-Thrasher, Ohio University





## SCHOLARSHIPS FOR ELEMENTARY MATHEMATICS SPECIALISTS

The purpose of this Elementary Mathematics Specialist (EMS) 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 2020 EMS SCHOLARSHIP RECIPIENTS!

Nicole Williams, Liberty Corner, New Jersey  
Dana Hartzell, Pendleton, Indiana  
Jessica Jung, Rhinelander, Wisconsin

Check [amte.net/about/ems](http://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:*



## SUSAN GAY GRADUATE STUDENT CONFERENCE TRAVEL SCHOLARSHIP

The Susan Gay Graduate Student Conference Travel Scholarship was established to provide financial support to graduate students to attend the AMTE annual conference. This scholarship is named after Susan Gay in honor of her extraordinary service to AMTE over many years as conference director, president, secretary, and board member-at-large. To qualify for the scholarship, one must be a doctoral student making steady progress toward completion of a degree. Applications will be screened initially based on the content of the application and then placed into a lottery based on geographic location.

Emily Garrido, Georgia State University  
Fardowsa Mahdi, University of North Texas  
Paula Santana, University of Central Florida  
Phi Nguyen, University of Missouri  
Ayse Ozturk, The Ohio State University  
Biyao Liang, University of Georgia  
Stacy Jones, University of Texas at Austin  
Andrea Alt, University of Northern Colorado  
Demet Yalman Ozen, Middle Tennessee State University  
Sean Freeland, West Virginia University  
Amy (Amber) Brass, Penn State University  
Maddy Ahearn, University of Oregon  
John Elia, Penn State University  
Sidney Jennings, University of Wisconsin-Madison  
Yency Choque, University of Puerto Rico, Río Piedras Campus  
Corinne Thatcher Day, Montana State University

Siddhi Desai, University of Central Florida  
Daniel Edelen, University of Central Florida  
Sheila Orr, Michigan State University  
Keri Richburg, Auburn University  
Ash Kizer, Auburn University  
Matthew O'Brien, University of South Florida  
Pavneet Kaur Bharaj, Indiana University-Bloomington  
Emily Elrod, North Carolina State University  
Frederique Yova, North Carolina State University  
Brandi Dailey, Auburn University  
Josh Karr, West Virginia University  
Hector I. Nieves, Boston University  
Bismark Akoto, University of Minnesota  
Simon Byeonguk Han, Portland State University  
Jinqing Liu, Indiana University

# ACKNOWLEDGEMENTS

The Twenty-Fifth 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:

- All of the speakers who have contributed their time and expertise to make this conference a success;
- All of the AMTE members who volunteered to serve as proposal reviewers, moderators, Manuscript Review Group mentors, and Community Circles facilitators;
- The many individuals who make up the AMTE infrastructure – the AMTE Board of Directors, Executive Director, Program Committee, Conferences Committee, Conference App Team, and Headquarters staff for providing the time and effort necessary to organize all facets of the conference;
- Steve Rhine, AVP for Communications, and Tony Nguyen, AMTE Graphic Designer, for their dedicated work on the conference program and materials; and
- Rachel Harlow, Administrative Assistant for AMTE Conferences Committee, for all of her hard work with organizing logistics and details for this year's conference.

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 the 2021 conference.

## SPONSORS

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

### CPM EDUCATIONAL PROGRAM

### GOLD SPONSOR

CPM Educational Program ([www.cpm.org](http://www.cpm.org)) is a California nonprofit 501(c)(3) serving the secondary mathematics education community with curriculum, professional development, and leadership. CPM envisions a world where mathematics is viewed as intriguing and useful, and is appreciated by all; where powerful mathematical thinking is an essential, universal, and desirable trait; and where people are empowered by mathematical problem-solving and reasoning to solve the world's problems.

CPM Educational Program is pleased to support AMTE and its STaR program by matching AMTE funds for STaR fellows. The STaR program aligns with CPM's mission to empower mathematics students and foster expertise in teachers as it provides professional development for new math education faculty targeted to help them inspire the next wave of math teachers across the country.

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### NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS SILVER SPONSOR

The National Council of Teachers of Mathematics is the public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for all students. NCTM members belong to the largest community of mathematics educators committed to ensuring each and every student has access to the highest quality mathematics teaching and learning. Membership opens doors to classroom resources, professional development opportunities, advocacy, peer-reviewed journals and publications, and an extensive network of teachers and mentors. Learn more about NCTM and the benefits of membership at [NCTM.org](http://NCTM.org).

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# Maier Math Foundation

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**Our mission is to empower individuals  
to develop their mathematical  
confidence and ability.**





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#### Research in Mathematics Education Series

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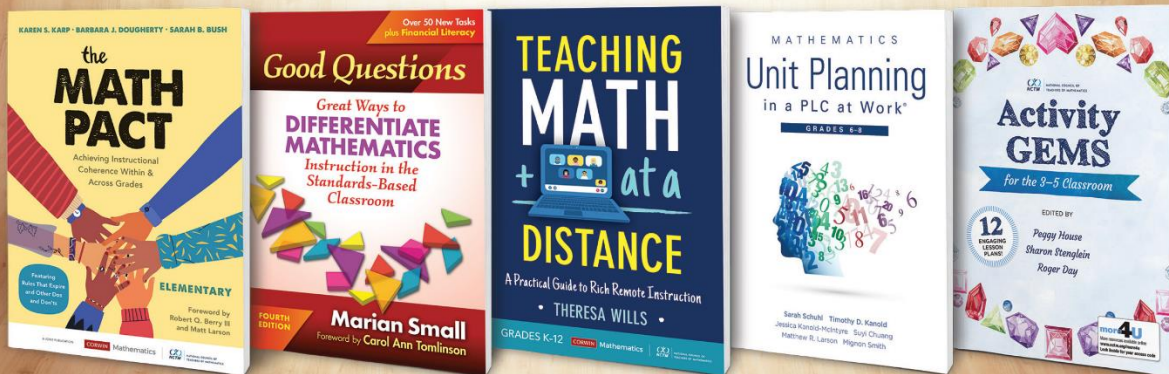
|  |  |   |
|--|--|---|
| <p><b>Researching Pedagogy and Practice with Canadian Mathematics Teachers</b><br/>Edited by: David A Reid, <i>Université d'Agder</i>; Christine Suurtamm, <i>University of Ottawa</i>; Annie Savard, <i>McGill University</i>; Elaine Simmt, <i>University of Alberta</i>; Dominic Manuel, <i>University of Alberta</i>; Lisa Lunney Borden, <i>St. Francis Xavier University</i>; Richard Barwell, <i>University of Ottawa</i></p> | <p><b>Standards for Preparing Teachers of Mathematics</b><br/>By: Association of Mathematics Teacher Educators (AMTE)</p>  | <p><b>The Mathematics Teacher Education Partnership: The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation</b><br/>Edited by: W. Gary Martin, <i>Auburn University</i>; Brian R. Lawler, <i>Kennesaw State University</i>; Alyson E. Lischka, <i>Middle Tennessee State University</i>; Wendy M. Smith, <i>University of Nebraska - Lincoln</i></p> |
| <p><b>Algebra for the Middle Grades</b><br/>By: Francis Gardella, <i>Hunter College-CUNY</i>; Maria DeLucia, <i>Middlesex County College</i></p>   | <p><b>Learning Mathematics Successfully: Raising Self-Efficacy in Students, Teachers and Parents</b><br/>By: Clark J Hickman; and Helene J. Sherman</p>  | <p><b>Equity in Mathematics Education: Addressing a Changing World</b><br/>Edited by: Constantinos Xenofontos, <i>University of Stirling, UK</i></p>  |
| <p><b>The Inspirational Untold Stories of Secondary Mathematics Teachers</b><br/>Edited by: Alice F. Artzt, <i>Queens College of the City University of New York</i>; Frances R. Curcio, <i>Queens College of the City University of New York</i></p>  | <p><b>Using Classification and Regression Trees: A Practical Primer</b><br/>By: Xin Ma, <i>University of Kentucky</i></p>  | <p><b>Problems in Algebra for Teachers</b><br/>By: Alexander Karp, <i>Teachers College, Columbia University</i>; Julia Viro, <i>Stony Brook University</i></p>  |
| <p><b>A Quiet Revolution: One District's Story of Radical Curricular Change in High School Mathematics</b><br/>By: Michael D. Steele, <i>University of Wisconsin-Milwaukee</i>; Craig Huhn, <i>Holt (MI) High School</i></p>   | <p><b>Write On! Math: Note Taking Strategies That Increase Understanding and Achievement 3rd Edition</b><br/>By: Robert Gerver</p>   | <p><b>How Students Think When Doing Algebra</b><br/>By: Steve Rhine, <i>Pacific University</i>; Rachel Harrington, <i>Western Oregon University</i>; Colin Starr, <i>Willamette University</i></p>  |
| <p><b>International Perspectives on Mathematics Curriculum</b><br/>Edited by: Denisse R Thompson, <i>University of South Florida</i>; Mary Ann Huntley, <i>Cornell University</i>; Christine Suurtamm, <i>University of Ottawa</i></p>   | <p><b>Building Support for Scholarly Practices in Mathematics Methods</b><br/>Edited by: Signe E. Kastberg, <i>Purdue University</i>; Andrew M. Tyminski, <i>Clemson University</i>; Alyson E. Lischka, <i>Middle Tennessee State University</i>; Wendy B. Sanchez, <i>Kennesaw State University</i></p> | <p><b>Out-of-School-Time STEM Programs for Females: Implications for Research and Practice Volume I: Longer-Term Programs</b><br/>Edited by: Lynda R. Wiest, <i>University of Nevada</i>; Jafeth E. Sanchez, <i>University of Nevada</i>; Heather Glynn Crawford-Ferre, <i>University of Nevada</i></p>   |

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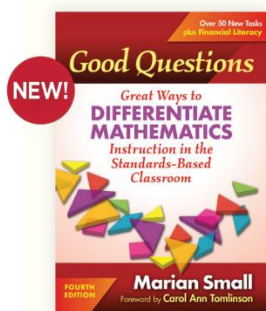


### **NEW!** Activity GEMS for the 3–5 Classroom

By Peggy House, Sharon Stenglein,  
and Roger Day

Stock #: 15754; List price: **\$36.95**

The 12 Activity Gems in this volume are a selected and adapted set of lessons from NCTM's Navigations series, with particular emphasis given to incorporating the Mathematics Teaching Practices in NCTM's *Principles to Actions: Ensuring Mathematical Success for All*. Teachers of students in grades 3–5 can use these lessons to help their students build on the foundation of their earlier instruction, expand their mathematical thinking into new areas, and advance in understanding and confidence.



### **NEW!** Good Questions: Great Ways to Differentiate Mathematics Instruction in the Standards- Based Classroom, 4th ed.

By Marian Small

Stock #: 16054; List price: **\$34.95**

With more than 50 new questions and a new chapter on financial literacy, the book shows teachers how to get started and become expert at using two powerful and universal strategies: open questions and parallel tasks. This edition includes direct links to Common Core Content Standards and Standards for Mathematical Practice. Parallel tasks and question examples are provided at each grade band: K–2, 3–5, and 6–8.

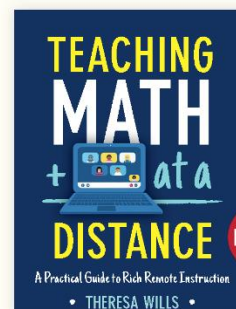
### **NEW!** Teaching Math at a Distance, Grades K–12: A Practical Guide to Rich Remote Instruction

By Theresa Wills

Stock #: 16067; List price: **\$34.95**

This powerful guide equips K–12 math teachers to translate research-based, equitable, rigorous, face-to-face mathematics instruction into an online venue. You will learn how to do the following:

- Build students' agency, identity, and strong math communities
- Promote mathematical thinking, collaboration, and discourse
- Incorporate rich mathematics tasks and assign meaningful homework and practice
- Facilitate engaging online math instruction using virtual manipulatives and other concrete learning tools
- Recognize and address equity and inclusion challenges associated with distance learning
- Assess mathematics learning from a distance







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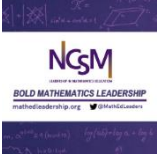

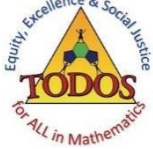


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AMTE expresses our appreciation to this year's Vendors for providing support for our conference. Please take an opportunity to thank them for their contributions to AMTE during the dedicated Sponsor and Vendor times.

| VENDOR  | ABOUT THE VENDOR   |
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|  <p>CPM EDUCATIONAL PROGRAM</p>            | <p>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 preservice teacher candidates, mathematics teacher educators, and mathematics curriculum reviewers and researchers. Please visit <a href="http://booth.cpm.org">booth.cpm.org</a> to learn more about CPM Educational Program and <a href="http://cpm.org/university">cpm.org/university</a> to request complimentary access to CPM materials.</p>  |
|  <p>GREAT MINDS – EUREKA MATH</p>          | <p>Great Minds PBC provides exemplary curricula to schools and districts nationwide, inspiring joy in teaching and learning. Eureka Math®, originally EngageNY Math, builds conceptual understanding of the “why” behind math. By contributing cohesive knowledge, Eureka Math instills persistence in problem solving and prepares students to grasp advanced math and apply it in the real world. Eureka Math is a complete solution—a comprehensive PK–12 curriculum, professional development, print materials, digital tools, and support. Eureka Math in Sync™ adapts the curriculum for virtual or hybrid use. Eureka Math has earned top ratings from independent EdReports.org. Learn more at <a href="http://gm.greatminds.org/amte2021">http://gm.greatminds.org/amte2021</a>.</p>  |
|  <p>INFORMATION AGE PUBLISHING – IAP</p> | <p>Information Age Publishing – IAP is a social science publisher of academic and scholarly book series, monographs, handbooks and journals. IAP's goal is to develop a comprehensive program of content that breaks down and defines specific niches in high-level research, in the fields of Education, Psychology, Management, Leadership, Mathematics, Educational Technology, and Black Studies. AMTE is proud of our partnership with IAP as they continue to develop new books within the Association of Mathematics Teacher Educators (AMTE) Professional Book Series. IAP has also republished seven (7) monographs that were a part of the AMTE monograph series, as well as the AMTE Standards. They have an extensive list of products in the field of mathematics and look forward to adding yours to their program. Please <a href="#">click this link to visit their virtual bookstore</a> and to browse their current mathematics publications as well as the AMTE monographs.</p> |
|  <p>KENDALL HUNT PUBLISHING COMPANY</p>  | <p>Kendall Hunt develops digital and print mathematics curriculum for grades PreK-12. Offering both complete grade-level and supplemental programs, we focus on helping all students become mathematically proficient and college- and career-ready.</p>   |

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|  <p>MAIER MATH<br/>FOUNDATION</p>                            | <p>The Maier Math Foundation was created by the <a href="#">Math Learning Center</a>, a non-profit with a shared mission to empower individuals to develop their mathematical confidence and ability. The foundation is named in honor of Math Learning Center co-founder, Professor Gene Maier, whose novel ideas, love for teaching, and engaging approach to math education inspired countless teachers and students as they embarked upon their life-long math journeys. With a focus on visual math models and inquiry-based, learner-focused educational practices, the Maier Math Foundation facilitates collaboration with researchers and other nonprofit organizations to pursue common objectives, including collaboration with AMTE on a <a href="#">Math Ed Scholarships program</a> and <a href="#">Math at Home</a>.</p>   |
|  <p>NCSM – LEADERSHIP<br/>IN MATHEMATICS<br/>EDUCATION</p>   | <p>NCSM – Leadership in Mathematics Education 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, our publications, and resources to support mathematics leaders.</p>   |
|  <p>NATIONAL COUNCIL<br/>OF TEACHERS OF<br/>MATHEMATICS</p> | <p>The National Council of Teachers of Mathematics supports teachers at all levels and places on their journey towards equitable mathematics learning of the highest quality for each and every student. NCTM members are a community committed to supporting and uplifting each other as we work towards this shared goal in a wide range of settings. Visit <a href="http://www.nctm.org">www.nctm.org</a>.</p> <p>NCTM also collaborates with CAEP to support the development and analysis of teacher education programs for middle and secondary mathematics teachers. NCTM launched new standards, with influence from AMTE's <i>Standards for Preparing Teachers of Mathematics</i> and NCTM's <i>Principles to Actions</i> and <i>Catalyzing Change</i> publications. Learn more about these standards at the NCTM Virtual Exhibitor Session - <b>Preparing Beginning Mathematics Teachers for the Future: NCTM 2020 Program Standards</b></p> |
|  <p>TODOS –<br/>MATHEMATICS FOR<br/>ALL!</p>               | <p>TODOS: Mathematics for ALL is an international professional organization that advocates for equity and excellence in mathematics education for ALL students - in particular, Latina/o students. As articulated in the mission and goals, TODOS advances educators' knowledge, develops and supports education leaders, generates and disseminates knowledge, informs the public, influences educational policies, and informs families about education policies and learning strategies. The recent TODOS 2020 Position Statement, <i>The Mo(ve)ment to Prioritize Antiracist Mathematics: Planning for This and Every School Year</i>, and the four commentaries that accompany the position statement are a response to the twin pandemics, COVID-19 and racism, that has made visible the inequities and injustices in the United States. TODOS continues to advocate for a dual focus on social justice and excellence in mathematics.</p>     |

**Session 1**  
**AMTE Poster Session**

**Posters**

**P01. Ally Identities in Mathematics Teacher Professional Development**

Brent Jackson, *Michigan State University*  
Tonya Bartell, *Michigan State University*  
Mary Q. Foote, *Queens College, CUNY*

We examine two teachers' identities as allies to students of color within a professional development designed to engage mathematics teachers in understanding their positionalities within systems of oppression. We analyze the activities and contexts that prompted statements of ally identity.

**P02. A Mutually Beneficial Partnership: A Multi-Year Project to Improve Mathematical Teaching Practices**

Ryan Flessner, *Butler University*  
Courtney Flessner, *Indiana University*

This poster details a multi-year partnership between two teacher educators and one district's math leadership team. Math leaders became confident mathematicians and practitioners; teacher educators saw power in practicing vulnerability; and everyone honed skills in providing professional development to others.

**P03. Analyzing the Benefits of Micro-Teaching as a Learning Tool in Mathematics Content and Methods Courses**

Zareen Gul Rahman, *James Madison University*  
Sayonita Ghosh Hajra, *California State University, Sacramento*

The presentation describes the use of micro-teaching as a teaching tool for mathematics preservice teachers. Two mathematics teacher educators employed micro-teaching in a mathematics content course and a mathematics methods course. The presentation deconstructs the use of micro-teaching.

**P04. Comparing Preservice Teachers' Perceptions of Math and Literacy Methods**

Carolyn Mitten, *Westmont College*

This poster session will present the findings from a study on preservice teachers' perceptions of the similarities and differences between research-based teaching practices promoted in mathematics and literacy methods courses.

**P05. Comparing the Quality of Paid vs. Free Elementary Mathematics Activities Found Online**

Amanda Gantt Sawyer, *James Madison University*

In this poster, we discuss the breadth and quality of resources teachers are most likely to download from the popular website TeachersPayTeachers.com. Analysis shows inconsistencies across grade level, common core domain, type of pictures, and level of cognitive demand.

**P06. Connecting Prospective Elementary Teachers' Mathematical Dispositions to their Classroom Level Instructional Decisions**

James Beyers, *The College of New Jersey*  
Courtney Smith, *The College of New Jersey*  
Dylan Gurgurich, *The College of New Jersey*

This project is an investigation of whether teacher candidates' assessed dispositional profiles are related to their instructional choices provided in a series of lesson plans. Results suggest their dispositions are related to the ways they structured their mathematics lessons.

**P07. Developing Mathematics Teacher Educators as Facilitators of Preservice Teachers' Argumentation Through Small-Group Discussions**

Gwendolyn Lloyd, *Pennsylvania State University*  
P. Karen Murphy, *Pennsylvania State University*  
Sara Elizabeth Baszczewski, *Pennsylvania State University*  
Rachel Croninger, *Pennsylvania State University*

This poster presents results from a project that aims to support mathematics teacher educators in facilitating small-group discussions that enhance preservice teachers' learning about mathematical argumentation and its role in fostering student understanding.

**P08. Don't Turn Down Girls' Opportunity in Mathematics**

Lili Zhou, *Purdue University*

This study uses narrative inquiry to unpack an individual's experiences with mathematics which sheds light on gender (in)equity in mathematics education.



**P09. Elementary Preservice Teachers' Ability to Notice Students' Mathematical Thinking with Different Media Representations**

Kaitlyn Michelle Sorochka, *Monmouth University*  
Vecihi Serbay Zambak, *Monmouth University*

In our poster, we will examine elementary preservice teachers' noticing skills (i.e., interpreting and responding) regarding K-6 students' mathematical thinking with three media representations. The session will present key findings and foster dialogue among mathematics teacher educators for future research programs.

**P10. Exploring Prospective Teachers' Beliefs about Mathematics: Myths about Memory, Mindset, and Creativity**

Christine M. Phelps-Gregory, *Central Michigan University*  
Martha L. Frank, *Central Michigan University*  
Sandy Spitzer, *Towson University*

This poster describes a qualitative study of prospective teachers' beliefs about mathematics, with implications for teacher education. Participants viewed mathematics as rules to be memorized, with some room for creativity. Many also reported a belief in a fixed mindset.

**P11. Identifying Opportunities to Engage in Literacy Practices: A Framework for Analyzing Curriculum Materials**

Ethan Smith, *University of Delaware*

This poster includes an exploratory framework for how opportunities of reading, writing, speaking, and listening can be structured in mathematics curriculum materials to promote learning of content. This framework is then applied to grade 7 curriculum materials from Illustrative Mathematics.

**P12. Impact of a Professional Development Course: Teachers' Views of Using Collective Argumentation to Teach Coding**

Claire Miller, *University of Georgia*

A collaborative team of STEM educators engaged elementary school teachers in professional development to support them in implementing collective argumentation in mathematics, science, and coding. Attendees will consider the feasibility of integrating coding and argumentation across multiple disciplines.

**P13. Influence of Informal Experiences: Change in Mathematics Teaching Efficacy of Preservice Teachers**

Dittika Gupta, *Midwestern State University*  
Suzanne F. Lindt, *Midwestern State University*

The presentation discusses the impact of facilitating mathematics instruction during a week-long summer camp on college students' self-efficacy of teaching mathematics and their mathematics anxiety.

**P14. Investigating Teachers' Enacted Knowledge Through the Lens of Decision Making and Collective Mathematical Activity**

Melissa Troudt, *University of Wisconsin-Eau Claire*  
Lindsay Reiten, *University of Northern Colorado*  
Jodie Novak, *University of Northern Colorado*

We discuss how teachers' enacted knowing involved engaging in collective mathematical activity with their students in ways that promoted their targeted content learning goals to emerge in discourse. We seek dialogue about developing such ways of knowing in preservice teachers.

**P15. Learn About the AMTE STaR Program**

AMTE STaR Program Committee

We invite you to come learn about the AMTE Service, Teaching, and Research (STaR) program. STaR is an early-career induction program for faculty in the first or second year of their position.

**P16. Learning to Teach with Robots in a Mathematics Methods Course**

Shelli L. Casler-Failing, *Georgia Southern University*

Robotics instruction incorporated into a mathematics methods course improved preservice teachers' TPack. The findings suggest instruction of educational technology tools should be presented over a longer duration of time, and in depth, to better support the development of preservice teachers' TPack.

**P17. Mathematics Instructors' Attention to Instructional Interactions in Rehearsals**

Sally Ahrens, *University of Nebraska-Lincoln*  
Lindsay Czap, *Middle Tennessee State University*  
Yvonne Lai, *University of Nebraska-Lincoln*

This presentation will share insights from a rehearsal model year-long PD designed for instructors of content courses for preservice secondary mathematics teachers as part of the MODULE(S<sup>2</sup>) Project.

**P18. Modeling Standards-Based Grading for Preservice K-12 Mathematics Teachers**

Corinne Thatcher Day, *Montana State University, Billings*

This poster presentation will share proficiency scales developed for use in content and pedagogy courses for preservice K-12 mathematics teachers. The proficiency scales are used for formative and summative evaluation purposes to model standards-based grading for preservice educators.

**P19. Mathematics Teacher Educators' Use of New Whiteboard Room Technology: Integrating the Cloud in Math Education Courses**

Heather Gallivan, *University of Northern Iowa*  
Samuel L. Eskelson, *University of Northern Iowa*  
Chepina Rumsey, *University of Northern Iowa*

New whiteboard room technology has the potential to support MTEs in improving their teaching of mathematics education courses. The results of this study suggest that using the whiteboards impacted the MTEs' instruction of mathematics education courses in a positive way.

**P20. Preservice Teacher Pedagogical Content Knowledge Gains in a Special Education Supplemented Methods Course: A Case Study**

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

Special education and classroom management issues are the most common reasons for teacher burnout. This mixed methods case study reports on how a secondary methods class used the Response to Intervention framework to increase preservice teachers' knowledge for teaching special needs students.

**P21. Preservice Teachers' Finding Trigonometric Parameters**

Kristi Martin, *North Carolina State University*

Research shows trigonometry is difficult for preservice teachers. This research examines how seven preservice secondary mathematics teachers find the values for the parameters of a trigonometric equation for real-life data given on a graph.

**P22. Preservice Teachers Perspectives on Manipulatives: Using Algebra Tiles to Perform Polynomial Operations**

Bridget Parker, *Central Michigan University*

My case study interviewed participants on their experiences with and perspectives on manipulatives and used algebra tiles to multiply, divide, and factor polynomials. While participants began with a generally positive view, after completing the interview, they provided more in-depth reasoning.

**P23. Relationship Between Preservice Teachers' Perceptions of Instructional Approaches and Their Content Knowledge**

Brian Bowen, *West Chester University*

This study examined the connection between the content knowledge and perceptions of instructional routines held by K-8 preservice teachers.

**P24. Scaffolding and Cognitive Demand in a Three-Dimensional Geometry Lesson**

Julien Corven, *University of Delaware*

This study examined a teacher's scaffolding moves and their impact on cognitive demand during a lesson on three-dimensional figures. Asking students to imagine themselves in a concrete situation emerged as a potentially productive scaffolding move for this content area.

**P25. Scrimmaging Online: Creating Authentic Opportunities for Practice in a Synchronous Online Mathematics Methods Course**

Shannon Dillard, *Elms College*

We will explore instructional strategies that allow preservice teachers to engage in approximations of practice through teaching rehearsals. Practical tools and examples of instructional tasks will be provided, along with a brief video of students engaging in an online scrimmage cycle.

**P26. The New Skew: Secondary Teachers Adapting Their Practice in the Midst of the Coronavirus Pandemic**

Andrea Alt, *University of Northern Colorado*

The poster provides a summary of a study involving inservice teachers suddenly asked to teach online because of the shelter-in-place policies of spring 2020. Analysis found the teachers facing "a new skew" as their practice altered in significant ways.



**P27. Using Professional Development to Affect Preservice Teachers' Mindset and Persistence**

Amanda Meiners, *Northwest Missouri State University*

This study incorporated a mindset intervention and challenging mathematics tasks using multiple strategies during preservice teacher professional development opportunities. Results indicated that after attending professional development sessions, preservice teachers' mindset and persistence could be shifted to a higher category.

**P28. Weaving Past the Fluff: Preservice Teachers and the Nature of Mathematics**

Lucy Watson, *Belmont University*

Jeremy Strayer, *Middle Tennessee State University*

In this session, we propose a list of characteristics of the nature of mathematics, preservice teachers' reflections on the nature of mathematics, and how to incorporate nature of mathematics ideas into already existing classroom activities.

**THURSDAY, FEBRUARY 11, 2021**

**12:00 PM - 5:00 PM(EST)**

**AMTE**



**The Mathematics Teacher Education Partnership (MTEP) Pre-Conference**

Dana Franz, *Mississippi State University*

Brian Lawler, *Kennesaw State University*

W. Gary Martin, *Auburn University*

Margaret Mohr-Schroeder, *University of Kentucky*

Wendy M. Smith, *University of Nebraska-Lincoln*

Marilyn Strutchens, *Auburn University*

Fred Uy, *California State University*

Alyson E. Lischka, *Middle Tennessee State University*

The Mathematics Teacher Education Partnership (MTEP) is a national coalition of universities and their school partners with a common goal of transforming secondary mathematics teacher preparation--see [www.mtep.info](http://www.mtep.info). The recently-launched "MTEP 2.0" network supports secondary mathematics teacher preparation programs as they work to align their programs with the AMTE Standards using a networked improvement community (NIC) design. This pre-conference will be of interest to those: (a) wanting to learn more about MTEP 2.0 and the NIC design; (b) interested in beginning the process of forming a local program NIC and joining the MTEP 2.0 community; and (c) already participating in an MTEP 2.0 program NIC. The pre-conference will include a series of break-out sessions to address each of these audiences and for all participants to explore major areas of challenge in secondary mathematics teacher preparation. More information and the link to register are provided at: [www.mtep.info/2021preconference](http://www.mtep.info/2021preconference)

**While there is no registration fee, we are requesting that you register to enable us to better plan the event and provide you with links to participate.**

AMTE

25<sup>TH</sup> CONFERENCE**OPENING SESSION – Silver Auditorium****2020. PERFECT VISION? PERFECT HINDSIGHT?  
ARE WE READY TO REIMAGINE MATHEMATICS TEACHER EDUCATION?**

Naomi Jessup, *Georgia State University*

Joel Amidon, *University of Mississippi*

Sandra Crespo, *Michigan State University*

Moderator: Marrielle Myers, *Kennesaw State University*

2020... wasn't it supposed to be the year of perfect vision? Yet this year has made us even more aware of the serious challenges to the promises and ideals of a public education system that is constantly underfunded and under attack, especially for schools that serve historically marginalized communities. How have the events of 2020 challenged us to rethink our practice? What can this mean to us as mathematics teacher educators? What has changed and what needs to change, in regard to mathematics teacher education? What inequities, barriers, and shortcomings have been illuminated, what spaces have been disrupted, and what opportunities have emerged this year? How can we leverage lessons learned to reimagine mathematics education and mathematics teacher education? The panelists will explore these questions and challenge us, as individuals and as an AMTE community, to consider ways to use this opportunity to bridge and support students, families, teachers, mathematics teacher educators, schools, school systems, and communities. Panelists will discuss structures that have been barriers in the past and structures that need to be in place in order to support the important work of preparing teachers and students within an educational and political landscape that is constantly changing. Over the rest of the conference, we hope participants will continue to discuss issues raised during this session and develop concrete steps they can take as individuals and that our organization might take in rethinking mathematics teacher education.

The opening plenary session is designed to engage conference attendees in collective reflection.



## OVERVIEW OF FRIDAY, FEBRUARY 12, 2021

|                                | 11:00 AM – 12:00 PM (EST)  | 12:15 PM – 1:15 PM (EST)   | 1:30 PM – 2:30 PM (EST)  |
|--------------------------------|--|--|--|
| <b>Mark Spikell Room</b>       | 2. <i>Tech Support for Mathematics Teacher Educators – AMTE Technology Committee</i>   | 12. <i>Which Box(es)? Examining the Complexities of Identity - de Araujo</i>   | 22. <i>University Support Program Offers Free CPM Curriculum and Virtual Professional Development to Mathematics Teacher Educators and Their Students - Jasien, Rendon &amp; Amick</i> |
| <b>Hank Kepner Room</b>        | 3. <i>Brief Report Session: Assessment</i>   | 13. <i>Brief Report Session: Approximations of Practice</i>  | 23. <i>Brief Report Session: Utilizing Video as a Tool for Teacher Education</i>   |
| <b>Judith Jacobs Room</b>      | 4. <i>Becoming Mathematics Teacher Educator Parentscholar Activists: Making Visible Our Strengths and Navigating the Challenges - Ward, Raygoza, Baker, Smith, Jessup &amp; Koestler</i> | 14. <i>Learning to Lead: Developing Novice Instructional Leaders' Capacity to Lead "Experience" PDs - Goldsmith-Markey</i>   | 24. <i>Brief Report Session: Developing Teacher Leaders</i>  |
| <b>Nadine Bezuk Room</b>       | 5. <i>Reaffirming Solidarity and Resistance: Constructing Counter-Spaces for Mathematics Teacher Educators of Color - Gomez, Jones, Yeh, Safi, Thanheiser &amp; White</i>                | 15. <i>Supporting Teachers to Instantiate Ambitious Teaching Practices through Virtual Video Peer Coaching - Suh, Capen &amp; Gallagher</i>                          | 25. <i>Implementing Rich Tasks and Math Discussions in Synchronous Online Classrooms - Wills</i>   |
| <b>Susan Gay Room</b>          | 6. <i>Supporting Elementary Preservice Teachers as Modelers - Wickstrom &amp; Jung</i>   | 16. <i>Comparing Online and Face-to-face Environments when Prospective Teachers Conceive of Fractions as Measures - Moss, Bertolone-Smith, Boyce &amp; MacDonald</i> | 26. <i>Scripting Tasks as Approximations of Practice in Secondary Methods Courses - Baldinger, Campbell, Freeland &amp; Karr</i>   |
| <b>Skip Fennell Room</b>       | 7. <i>Preservice Teachers' Experiences with a Simulator in an Elementary Math Methods Class - Liebars &amp; Howell</i>   | 17. <i>Mathematical Reasoning and Proving in Secondary Classrooms: Instructional Modules for Prospective Teachers - Buchbinder &amp; McCrone</i>                     | 27. <i>Assessing Mathematical Authority in Teaching Episodes - Sullivan &amp; Livers</i>   |
| <b>Karen Karp Room</b>         | 8. <i>Teaming Up for Critical Collegueship: The Value of Collaborative Norms and Structures - Donaldson</i>  | 18. <i>Enhancing Elementary Teachers' Mathematical Knowledge: From Peer Review to Inter-Institutional Conversations - Ozgun-Koca, Zopf &amp; Nazelli</i>             | 28. <i>It's Not a Magic Pill: How Context and Identity Shape the Development of Political Conocimiento - Myers, Kokka &amp; Gutierrez</i>  |
| <b>Sid Rachlin Room</b>        | 9. <i>How Do Number Talks Support Beginning Teachers' Ambitious and Equitable Instruction? - Cavanna, Pak &amp; Jackson</i>  | 19. <i>A Guide for Categorizing Tasks in Mathematics Education Courses - Powers &amp; King</i>   | 29. <i>Understanding Preservice Teachers' Attention to Professional Obligations Through Management of Classroom Dilemmas - Luczak, Orr &amp; Cirillo</i>                               |
| <b>Jenny Bay-Williams Room</b> | 10. <i>The Mathematics Teacher Education Partnership: Transforming Secondary Teacher Preparation Toward the AMTE Standards - Smith, Martin, Strutchens, Franz &amp; Uy</i>               | 20. <i>Academic Motherhood and Mathematics Teacher Education: Breaking the Silence and Shifting the Discourse - Vomvori-Ivanovic &amp; van Ingen Lauer</i>           | 30. <i>Preparing to Teach Math in a Data-Rich World - Casey, Lee, Mojica, Hudson &amp; Casillas</i>  |
| <b>Barbara Reys Room</b>       | 11. <i>Supporting Elementary Teachers' Responsiveness around Facilitating Argumentation - Ghousseini, Kazemi, Cordero-Siy, Prough &amp; McVicar</i>                                      | 21. <i>Deepening Prospective Teachers' Understandings by Focusing on Reflective Analysis Within Task Design - Tobias, Bajwa, Olanoff &amp; Welder</i>                | 31. <i>I Am New to Mathematics Teacher Education: Realities of Teaching, Scholarship, and Service - Polojac-Chenoweth, DeLeeuw, Hughes, Bolyard &amp; Ellis</i>                        |

## OVERVIEW OF FRIDAY, FEBRUARY 12, 2021

|                                | 3:00 PM – 3:45 PM (EST)   | 4:00 PM – 5:00 PM (EST)  |
|--------------------------------|---|--|
| <b>Mark Spikell Room</b>       | 32. <i>Alerta! Blogging for Acknowledgement, Action, Accountability in Mathematics: The TODOS Blog</i> - LopezLeiva & Gerardo                           | 42. <i>Preparing Beginning Mathematics Teachers for the Future: NCTM 2020 Program Standards</i> - Cruz-White, Rasch & Bay-Williams   |
| <b>Hank Kepner Room</b>        | 33. <i>Profiles of Elementary Teachers' Number Choice Use in Problem Posing</i> - Land & Tyminski   | 43. <i>Brief Report Session: Identity &amp; Mathematics Teacher Education</i>  |
| <b>Judith Jacobs Room</b>      | 34. <i>A Unit on Prime Numbers and Relevant Ideas for Preservice Elementary Teachers</i> - Moon   | 44. <i>Strategies to Facilitate an Understanding of a Mathematical Practice: A Case Study of Imposing Structure</i> - Gruver & Hawthorne   |
| <b>Nadine Bezuk Room</b>       | 35. <i>What School-Based Teacher Leaders Learn Through the Use of Rehearsals</i> - Nickerson  | 45. <i>Transforming Math Teacher Preparation Program Design for Successful Teacher Candidate Licensure Examinations</i> - Zelkowski  |
| <b>Susan Gay Room</b>          | 36. <i>Supporting Prospective Elementary Teachers in Analyzing Evidence of Conceptual, Procedural, and Reasoning-Based Knowledge</i> - Phaijah & Keazer | 46. <i>Supporting Mathematics Teacher Educators to Develop Mathematical Knowledge for Teaching in Content Courses for Prospective Secondary Teachers</i> - Lai, Lischka, Casey, Kohler, Lockwood, Noblitt & Sullivan |
| <b>Skip Fennell Room</b>       | 37. <i>Identifying and Supporting Teachers' Robust Understanding of Proportional Reasoning</i> - Glassmeyer, Brakonietcki & Amador                      | 47. <i>Elementary Teachers' Videos of Instruction: Using Argumentation in Teaching Mathematics, Science, and Coding</i> - Menke, Zhuang, Gillespie-Schneider, Miller, Conner & Foutz                                 |
| <b>Karen Karp Room</b>         | 38. <i>District-Wide Lesson Study to Select and Implement a New Elementary Mathematics Curriculum Program</i> - McDuffie, Blake & Graham                | 48. <i>Critical Care Theory in Mathematics: How Relationships Influence Learning for Marginalized Populations</i> - Whipple  |
| <b>Sid Rachlin Room</b>        | 39. <i>Developing Prospective Secondary Teachers' Knowledge of and Ability to Design Summative Classroom Assessments</i> - Edenfield & Menke            | 49. <i>Learning Mathematical Knowledge for Teaching in and from Simulations</i> - Boerst, Shaughnessy & Pynes  |
| <b>Jenny Bay-Williams Room</b> | 40. <i>The Prevalence of Teacher Tracking in High School Mathematics Departments</i> - Boyd & Nirode  | 50. <i>What Remains When the Virus Goes?</i> - Rhine, Harrington & Driskell  |
| <b>Barbara Reys Room</b>       | 41. <i>A Complex Partnership: Narratives of Successes and Failures of Collaborative Mathematics Professional Development</i> - Powell & Salem           | 51. <i>What Does (and Doesn't) Cognitively Guided Instruction Look Like in the Classroom?</i> - Riddell, Bray & Schoen   |

**Session 2**

Mark Spikell Room

**AMTE Committee Session*****Tech Support for Mathematics Teacher Educators***

AMTE Technology Committee

In this session, the AMTE Technology Committee will address topics of interest identified by respondents from the 2020 AMTE Annual Meeting conference survey. In addition to an overview of challenges and topics for each of the strands, participants will have an opportunity to engage more deeply with topics of their choosing during breakouts within the session.

**Session 3**

Hank Kepner Room

***Brief Report Session: Assessment******Assessing Preservice Teachers' Awareness and Understanding of Effective Mathematics Teaching Practices***

Emily Mainzer, *Pennsylvania State University*  
 Amy Brass, *Pennsylvania State University*  
 Gwendolyn Lloyd, *Pennsylvania State University*

We will share rubrics we developed to assess preservice teachers' written work for awareness and understanding of the eight *Principles to Action* (NCTM, 2014) mathematics teaching practices. These rubrics are a potential tool for researchers and teacher educators.

***Portfolios in Mathematics Education: Assessment for a Growth Mindset***

Audrey Bullock, *Austin Peay State University*  
 Mary Lucille Dalton, *Austin Peay State University*

This presentation will be a summary of a pilot study using student-created portfolios as the primary method of assessment in a mathematics content course for preservice elementary teachers. Lessons learned and sample portfolio submissions will be shared.

***Shifts in Prospective Teachers' Practices: Assessing Students' Mathematical Reasoning***

Hyejin Park, *James Madison University*  
 Marta T. Magiera, *Marquette University*

We present a tool designed to help prospective elementary teachers examine students' arguments for evidence of mathematical reasoning. We share classroom activities used in a mathematics content course and prospective teachers' assessment of student reasoning with and without the tool.

**Session 4**

Judith Jacobs Room

**Development of Mathematics Teacher Educators Discussion Session*****Becoming Mathematics Teacher Educator Parentscholar Activists: Making Visible Our Strengths and Navigating the Challenges***

Jennifer Ward, *Kennesaw State University*  
 Mary Candace Raygoza, *Saint Mary's College of California*  
 Katherine Baker, *Elon University*  
 Erin Smith, *The University of Southern Mississippi*  
 Naomi Jessup, *Georgia State University*  
 Courtney Koestler, *Ohio University*

This discussion aims to bring conversations on being both parents and MTEs to the foreground. We will collectively discuss strengths and challenges of these roles, how they inform our work, and how we might advocate for our unique needs.

**Session 5**

Nadine Bezuk Room

**Mathematics Education Policy and Program Issues Symposium*****Reaffirming Solidarity and Resistance: Constructing Counter-Spaces for Mathematics Teacher Educators of Color***

Carlos Nicolas Gomez, *University of Texas at Austin*  
 Stacy Jones, *Clemson University*  
 Cathery Yeh, *Chapman University*  
 Farshid Safi, *University of Central Florida*  
 Eva Thanheiser, *Portland State University*  
 Dorothy Y. White, *University of Georgia*

Scholars of colors need a space in national organizations to reaffirm their identities and take action interrogating whiteness in academia. Our symposium will be a catalyst for AMTE to take action in the co-construction of counter-spaces for scholars of color.

**Session 6** **Susan Gay Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Supporting Elementary Preservice Teachers as Modelers***

Megan Wickstrom, *Montana State University*  
Hyunyi Jung, *University of Florida*

Mathematical modeling is of growing importance in mathematics education, but few preservice teachers have engaged in modeling first-hand. In this working group we will explore how to develop curricular resources that support K-8 preservice teachers' understanding of this important practice.

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**Session 7** **Skip Fennell Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Preservice Teachers' Experiences with a Simulator in an Elementary Math Methods Class***

Cathy S. Liebars, *The College of New Jersey*  
Heather Howell, *Educational Testing Service*

The presenters will share findings from interviews with preservice teachers taking an elementary mathematics methods course that integrated technology supported simulated classroom teaching. Participants will discuss how this could be utilized to improve and support reflection on preservice teachers' teaching practices.

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**Session 8** **Karen Karp Room**  
**Professional Development**  
**Individual Session**

***Teaming Up for Critical Collegueship: The Value of Collaborative Norms and Structures***

Sara Donaldson, *Wheaton College (MA)*

This workshop will focus on critical colleagueship development as a vehicle for professional learning and agency. Through both an examination of case study findings and interactive activities, participants will explore collaboration tools and structures that promote interdependence and collective growth.

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**Session 9** **Sid Rachlin Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***How Do Number Talks Support Beginning Teachers' Ambitious and Equitable Instruction?***

Jillian M. Cavanna, *University of Hartford*  
Byungeun Pak, *Dixie State University*  
Brent Jackson, *Michigan State University*

Number talks support students to build number sense and to take ownership of their reasoning. We engage participants in discussions of what makes number talks more or less ambitious and equitable. Data from 21 beginning teachers' number talks are presented.

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**Session 10** **Jenny Bay-Williams Room**  
**Collaborations and Partnerships**  
**Featured MTEP Individual Session**

***The Mathematics Teacher Education Partnership: Transforming Secondary Teacher Preparation Toward the AMTE Standards***

Wendy Smith, *University of Nebraska*  
W. Gary Martin, *Auburn University*  
Marilyn E. Strutchens, *Auburn University*  
Dana Pomykal Franz, *Mississippi State University*  
Frederick L. Uy, *California State University*

The purpose of this interactive panel session is to engage participants in focused discussion about the challenging work of transforming secondary mathematics teacher preparation programs using school-university partnerships to more closely align with AMTE Standards.

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**Session 11** **Barbara Reys Room**  
**Professional Development**  
**Individual Session**

***Supporting Elementary Teachers' Responsiveness around Facilitating Argumentation***

Hala Ghouseini, *University of Wisconsin-Madison*  
Elham Kazemi, *University of Washington*  
Eric Cordero-Siy, *University of Wisconsin-Madison*  
Sam Prough, *University of Wisconsin-Madison*  
Elzena McVicar, *University of Washington, Seattle*

We will share how an adaptive, practice-based PD model supported inservice elementary teachers to be responsive to students as they facilitated mathematical argumentation. Attendees will engage in conversations around key ideas and findings from our PD.

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**Session 12****Mark Spikell Room****AMTE Award Winner  
Early Career Award*****Which Box(es)? Examining the Complexities of Identity***Zandra de Araujo, *University of Missouri*

I will share my experiences learning, teaching, and researching mathematics to highlight the complexity involved in defining our identities. We will investigate shifting identities and identities imposed upon us in the hopes of developing more supportive structures in the field.

**Session 13****Hank Kepner Room*****Brief Report Session: Approximations of Practice******A Systematic Literature Review on Approximations of Practice***Bima Kumari Sapkota, *Purdue University*

We present the findings from the synthesis of the extant literature on the notion of Approximations of Practice. In addition, we engage the conference participants on the discussion about the opportunities and challenges associated with Approximations of Practices.

***Prospective Elementary Teachers' Decisions and Practices Within the University and School-Based Clinical Setting***Anne Estapa, *University of Iowa*

We focus on responsive decisions and practices prospective teachers made across the university and school settings. We highlight that most responsive decisions were made within the university context while more specific pedagogical decisions were implemented within the classroom context.

***Transition Is Hard: Understanding the Challenges Teacher Educators Face in Implementing Mediated Field Experiences***Jennifer Heckathorn, *Syracuse University*

In this session, we report findings from a qualitative analysis of challenges teacher educators describe when substituting Mediated Field Experiences for preservice teachers' traditional field placements, including challenges for their own learning and needs for institutional and collegial supports.

**Session 14****Judith Jacobs Room****Development of Mathematics Teacher Educators  
Individual Session*****Learning to Lead: Developing Novice Instructional Leaders' Capacity to Lead "Experience" PDs***Lindsay T. Goldsmith-Markey, *University of Pennsylvania*

Learn to use practice-based approaches to support novice instructional leaders in developing the adaptive expertise needed to engage teachers in solving open-ended mathematics problems and then reflecting on that experience in order to make responsive teaching practices visible and explicit.

**Session 15****Nadine Bezuk Room****Teaching and Learning with Technology  
Individual Session*****Supporting Teachers to Instantiate Ambitious Teaching Practices through Virtual Video Peer Coaching***

Jennifer M. Suh, *George Mason University*  
Laurie M. Capen, *George Mason University*  
Melissa Gallagher, *University of Houston*

This session highlights a blended professional development model that leveraged technology to offer a series of virtual video peer coaching experiences aligned to the elements of high-quality PD to support teachers instantiate ambitious teaching practices in their mathematics classrooms.

**Session 16****Susan Gay Room****Mathematics Content and Curriculum  
Discussion Session*****Comparing Online and Face-to-face Environments when Prospective Teachers Conceive of Fractions as Measures***

Diana Moss, *University of Nevada, Reno*  
Claudia Marie Bertolone-Smith, *California State University, Chico*  
Steven Boyce, *Portland State University*  
Beth L. MacDonald, *Utah State University*

We will discuss a study comparing an instructional learning sequence for unitizing, iterating, and partitioning in a measurement representation of fractions in both an online mathematics methods course and a face-to-face course. Results and implications for teaching will be presented.

**Session 17** **Skip Fennell Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Mathematical Reasoning and Proving in Secondary Classrooms: Instructional Modules for Prospective Teachers***

Orly Buchbinder, *University of New Hampshire*  
Sharon M. McCrone, *University of New Hampshire*

We present four instructional modules for enhancing content and pedagogical knowledge aimed at integrating reasoning and proof in teaching mathematics. We share data from a three-year design-based study, focusing on one module: Quantification and the Role of Examples in Proving.

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**Session 18** **Karen Karp Room**  
**Collaborations and Partnerships**  
**Individual Session**

***Enhancing Elementary Teachers' Mathematical Knowledge: From Peer Review to Inter-Institutional Conversations***

S. Asli Ozgun-Koca, *Wayne State University*  
Deborah Zopf, *Henry Ford College*  
Christopher Dennis Nazelli, *Wayne State University*

Communicating mathematics empowers learners as they reflect and externalize their thought processes. In this presentation, we share efforts reforming Mathematics for Elementary Teachers courses at partnering institutions where journal writing and exchanges became integral parts of the courses.

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**Session 19** **Sid Rachlin Room**  
**Mathematics Pedagogy**  
**Discussion Session**

***A Guide for Categorizing Tasks in Mathematics Education Courses***

Robert Powers, *University of Northern Colorado*  
Michelle King, *Western Colorado University*

Participants will discuss a guide for classifying tasks used in mathematics education courses. Developers were inspired by the Math Task Guide and based the framework on classifying tasks in methods courses of several mathematics teacher educators.

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**Session 20** **Jenny Bay-Williams Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***Academic Motherhood and Mathematics Teacher Education: Breaking the Silence and Shifting the Discourse***

Eugenia Vomvoridi-Ivanovic, *University of South Florida*  
Sarah van Ingen Lauer, *University of South Florida*

We discuss academic motherhood as a neglected equity issue in mathematics teacher education, present findings from a relevant collaborative self-study, and argue for a shift to asset-based discourse on academic motherhood in our field.

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**Session 21** **Barbara Reys Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Deepening Prospective Teachers' Understandings by Focusing on Reflective Analysis Within Task Design***

Jennifer M. Tobias, *Illinois State University*  
Neet Priya Bajwa, *Illinois State University*  
Dana Olanoff, *Widener University*  
Rachael M. Welder, *Texas A&M University*

In this session, we will discuss how we used reflective analysis in the task design process for a sequence of tasks for prospective teachers on whole number multiplication and share what we learned from task implementation.

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**Session 22****Mark Spikell Room****AMTE Sponsor Session  
CPM Educational Program*****University Support Program Offers Free CPM Curriculum and Virtual Professional Development to Mathematics Teacher Educators and Their Students***

Lara Jasien, *CPM Educational Program*  
 Sharon Rendon, *CPM Educational Program*  
 Lisa Amick, *University of Kentucky*

CPM is a non-profit curriculum development organization with a mission to improve 6-12 mathematics education. To this end, CPM offers all of its materials free of charge to MTEs and their undergraduate and graduate students. This session will overview the design features of CPM — including supports for collaboration, problem solving, practice over time, and curricular coherence across the grade-bands — so that MTEs can decide if CPM is a good fit for their content, methods, and other courses. In addition, participants will gain access to CPM eBooks so that they can explore the curriculum in small groups during the session and on their own after the session. Time will be made for questions and answers as needed, with the format of the session being highly responsive to participants' needs. If you would like to make requests for the session ahead of time, please fill out this form

<https://forms.gle/o21WDfw9uJd5xTMs7>. For more information about CPM's University Support Program, please visit: <https://cpm.org/university>.

**Session 23****Hank Kepner Room*****Brief Report Session: Utilizing Video as a Tool for Teacher Education******Mathematics' Coaches Use of Video Annotations to Support Teachers in Coaching Cycles***

Cynthia D. Carson, *University of Rochester*  
 Stephanie Martin, *University of Rochester*  
 Cynthia H. Callard, *University of Rochester*

In this session, we will share what we have learned from mathematics coaches annotating video of classroom instruction for the purpose of teacher learning, then discuss the implications, affordances, and constraints for developing mathematics teacher educators' use of video annotations.

***Video Tagging Tools: A Promising Support for Video Club Facilitators***

Margaret Walton, *University of Maryland*  
 Janet Dawn Walkoe, *University of Maryland*

We piloted a video club using the video tagging tool Anotemos that we hope could support facilitators to recognize more video club participants' insights and encourage teachers to notice a greater diversity of student thinking.

***Video to Support Mathematics Teacher Educator Learning and Development***

Lynsey Gibbons, *University of Delaware*  
 Rachel Starks, *Boston University*

In this brief report, we present an analysis of how video clips of experienced mathematics teacher educators supported MTEs in preparing and enacting lessons from the Elementary Mathematics Project, which were designed for content courses for prospective elementary teachers.

**Session 24****Judith Jacobs Room****Brief Report Session: Developing Teacher Leaders*****A Mixed Methods Study of Prospective Elementary Mathematics Specialists' Instructional Practices during a Preparation Program***

Emily Garrido, *Georgia State University*  
 Susan Swars Auslander, *Georgia State University*  
 Latisha Jones, *Georgia State University*

This report focuses on the elements of a preparation program for Elementary Mathematics Specialists and related research. Classroom observational data (N=72) show most were enacting learned instructional practices in meaningful ways, with variability evident related to specific classroom events.

***Learning to Learn Together: (Re)framing Coaching to Support Ambitious and Equitable Teacher Learning***

Evra Baldinger, *San Francisco State University*

This session reports on research that supports understandings of coaching success and failure that are situated, cultural, and actionable. Results suggest that attending to frames for coaching and to teacher's opportunities for participation can powerfully support teacher learning for equity.

***What Do Mathematics Teacher Leaders Have the Opportunity to Learn Through Rehearsals?***

Nicole Rigelman, *Portland State University*  
 Courtney Baker, *George Mason University*  
 Melinda Knapp, *Oregon State University-Cascades*

Building on existing rehearsal-focused research, these mathematics teacher leader (MTL) teacher educators design, enact, and analyze the learning potential of MTL rehearsals. We will share our learning about rehearsals as a vehicle to support and assess MTL learning and development.

**Session 25****Nadine Bezuk Room****Teaching and Learning with Technology  
Individual Session*****Implementing Rich Tasks and Math Discussions in Synchronous Online Classrooms***

Theresa E. Wills, *George Mason University*

Engage in a rich task and productive mathematics discussion through interactive slides from a synchronous online classroom. Increase your technological knowledge to elicit multiple student representations and conduct a dynamic math-talk.

**Session 26****Susan Gay Room****Practice-Based Experiences for Prospective Teachers  
Individual Session*****Scripting Tasks as Approximations of Practice in Secondary Methods Courses***

Erin E. Baldinger, *University of Minnesota*  
 Matthew P. Campbell, *West Virginia University*  
 Sean Freeland, *West Virginia University*  
 Josh Karr, *West Virginia University*

Scripting tasks function as approximations of practice that support teacher candidates' development across various aspects of teacher learning. We explore how the use of multiple scripting tasks provide focused opportunities on the practice of responding to errors in mathematics discussions.

**Session 27****Skip Fennell Room****Professional Development  
Individual Session*****Assessing Mathematical Authority in Teaching Episodes***

Patrick Lane Sullivan, *Missouri State University*  
 Stefanie D. Livers, *Missouri State University*

High quality discourse challenges teachers to share mathematical authority with their students. In this session we will share a set of "Look Fors" and a continuum for assessing the nature of mathematical authority in teaching episodes.

**Session 28****Karen Karp Room****Equity, Social Justice, and Mathematics Teacher  
Education  
Individual Session*****It's Not a Magic Pill: How Context and Identity Shape the Development of Political Conocimiento***

Marrielle Myers, *Kennesaw State University*  
 Kari Kokka, *University of Pittsburgh*  
 Rochelle Gutierrez, *University of Illinois at Urbana-Champaign*

Political knowledge in practice is not universal; it is impacted by teacher educators' identities and contexts. This session provides participants with the opportunity to explore these dimensions as it pertains to their work developing preservice teachers' political knowledge in mathematics teaching.

**Session 29** **Sid Rachlin Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Understanding Preservice Teachers' Attention to Professional Obligations Through Management of Classroom Dilemmas***

Rileigh Luczak, *Michigan State University*  
Sheila Orr, *Michigan State University*  
Michelle Cirillo, *University of Delaware*

We analyzed how preservice teachers attended to the four obligations of a mathematics teacher (Herbst & Chazen, 2012) in early field experiences and invite participants to think about strategies to help preservice teachers manage the multiple, often competing, obligations of teaching.

**Session 30** **Jenny Bay-Williams Room**  
**Mathematics Content and Curriculum**  
**Symposium**

***Preparing to Teach Math in a Data-Rich World***

Stephanie Casey, *Eastern Michigan University*  
Hollylynne Lee, *North Carolina State University*  
Gemma Foust Mojica, *North Carolina State University*  
Rick A. Hudson, *University of Southern Indiana*  
Monica Ann Casillas, *University of California, Los Angeles*

Mathematics teachers need to prepare students for the modern, data-rich world. Preservice and inservice teacher preparation efforts from four projects across statistics and data science education will be shared in this panel discussion.

**Session 31** **Barbara Reys Room**  
**Development of Mathematics Teacher Educators**  
**Symposium**

***I Am New to Mathematics Teacher Education: Realities of Teaching, Scholarship, and Service***

Denise Polojac-Chenoweth, *University of South Florida*  
William DeLeeuw, *Valdosta State University*  
Elizabeth K. Hughes, *University of Northern Iowa*  
Johnna Bolyard, *West Virginia University*  
Ruby LaTeshia Ellis, *University of Missouri*

This session is designed to provide opportunity for novice mathematics teacher educators to interact with experienced mathematics teacher educators. The roundtable structure of the session allows small groups to discuss topics of interest around research, teaching, and service.

**FRIDAY, FEBRUARY 12, 2021**

**2:30 PM - 3:00 PM (EST)**

**AMTE**



**Vendor Break – Exhibitor Room**

Visit with our sponsors and vendors. Each sponsor visit qualifies you to enter your name into a drawing for prizes. To participate, visit with a vendor, scan their QR Code, and you'll be included in the drawing.



**Session 32** **Mark Spikell Room**  
**TODOS President Exchange Session**

***Alerta! Blogging for Acknowledgement, Action, Accountability in Mathematics: The TODOS Blog***

Carlos LopezLeiva, *University of New Mexico*  
 Juan M. Gerardo, *University of Illinois at Urbana-Champaign*

In this interactive session, the audience will become familiar with and analyze the TODOS Blog content through the NCSM/TODOS Position Statement's lenses. In collaboration with the authors, the audience will discuss current and future topics of the blog.

**Session 33** **Hank Kepner Room**  
**Professional Development**  
**Individual Session**

***Profiles of Elementary Teachers' Number Choice Use in Problem Posing***

Andrew Tyminski, *Clemson University*  
 Tonia Jo Land, *Drake University*

In this session, we share insights and outcomes from our study of teachers' number choice use. Specifically, we identified number choice structures that were more and less accessible to teachers and generated four categories of Number Choice Profiles.

**Session 34** **Judith Jacobs Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***A Unit on Prime Numbers and Relevant Ideas for Preservice Elementary Teachers***

Kyunghee Moon, *University of West Georgia*

In this presentation, I will share how I worked with preservice elementary teachers on the concept of prime numbers and invite other mathematics teacher educators to discuss how they incorporate algebra or number theory in the courses for preservice elementary teachers.

**Session 35** **Nadine Bezuk Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***What School-Based Teacher Leaders Learn Through the Use of Rehearsals***

Susan Nickerson, *San Diego State University*

We explore teacher educators' use of rehearsals with practicing secondary teacher leaders and share analysis of what the rehearsals reveal about teacher leaders' perspective on supporting colleagues with ambitious teaching and evidence for individual learning.

**Session 36** **Susan Gay Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Supporting Prospective Elementary Teachers in Analyzing Evidence of Conceptual, Procedural, and Reasoning-Based Knowledge***

Jennifer Phaiah, *Sacred Heart University*  
 Lindsay Keazer, *Sacred Heart University*

This presentation will share tasks and lessons learned from methods course interventions designed to support prospective teachers in assessing conceptual, procedural, and reasoning-based knowledge. We describe growth in what prospective teachers counted as evidence of knowledge, and frequent pitfalls and misunderstandings.

**Session 37** **Skip Fennell Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Identifying and Supporting Teachers' Robust Understanding of Proportional Reasoning***

David Glassmeyer, *Kennesaw State University*  
 Aaron Brakoniecki, *Boston University*  
 Julie Amador, *University of Idaho*

We present a study using the Framework for Teachers' Robust Understanding of Proportional Reasoning for Teaching to characterize how mathematics teachers solved a proportions problem. We detail teachers' knowledge resources, problematic statements, and impacts on mathematics teacher educators and researchers.



**Session 38** **Karen Karp Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***District-Wide Lesson Study to Select and Implement a New Elementary Mathematics Curriculum Program***

Amy Roth McDuffie, *Washington State University*  
Nicole Blake, *Richland School District*  
Melissa Graham, *Eastern Washington University*

We planned and studied a district's process of selecting an elementary mathematics curriculum program (CP). The district aimed to select a CP that would support equitable and problem-based instruction. Lesson study supported teachers' learning and decisions while selecting a CP.

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**Session 39** **Sid Rachlin Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Developing Prospective Secondary Teachers' Knowledge of and Ability to Design Summative Classroom Assessments***

Kelly W. Edenfield, *University of Georgia*  
Jenna Menke, *University of Georgia*

Traditional assessments remain a reality of the classroom, but what do teacher candidates know about designing them? In this session, attendees will engage with and critique a module designed to prepare teacher candidates to analyze and revise summative assessments.

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**Session 40** **Jenny Bay-Williams Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***The Prevalence of Teacher Tracking in High School Mathematics Departments***

Brian Boyd, *Wright State University*  
Wayne Nirode, *Miami University*

This session presents the results from research on the prevalence of teacher tracking in high school mathematics departments. Participants will discuss implications of the research to their work with teachers and other mathematics education stakeholders.

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**Session 41** **Barbara Reys Room**  
**Collaborations and Partnerships**  
**Individual Session**

***A Complex Partnership: Narratives of Successes and Failures of Collaborative Mathematics Professional Development***

Angiline Powell, *University of Memphis*  
Wesam Salem, *University of Memphis*

The paper highlights the successes and failures of a partnership between an urban university and urban school district surrounding mathematics professional development for elementary mathematics teachers. The results were garnered through interviews with faculty and administrators.

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**Session 42****Mark Spikell Room****AMTE Sponsor Session  
NCTM*****Preparing Beginning Mathematics Teachers for the Future: NCTM 2020 Program Standards***

Irma Cruz-White, *Chipola College*  
 Katharine Rasch, *Maryville University*  
 Jennifer Bay-Williams, *University of Louisville*

NCTM's 2020 Standards for Middle Level and Secondary Mathematics Education programs, formerly CAEP Standards, started with AMTE's Standards for Preparing Teachers of Mathematics. This session will provide guidelines to help faculty conceptualize ways in which programs can review their curriculum and assessments to make them responsive to the new standards.

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**Session 43****Hank Kepner Room*****Brief Report Session: Identity & Mathematics Teacher Education******Becoming Best Friends Forever: An Elementary Prospective Teacher's Negotiation of a Positive Mathematical Identity***

Jessica S. Allen, *University of South Carolina*  
 Kristin E. Harbour, *University of South Carolina*

Teachers' mathematical identities influence their pedagogical practice; therefore, as mathematics teacher educators, providing opportunities for critical examination is key. We present findings and implications from the journey of one of our prospective teachers as she negotiated her relationship with mathematics.

***Fostering Identity Development: Secondary Mathematics Teachers as Mathematicians***

Dana Grosser-Clarkson, *University of Maryland*  
 Francesca Henderson, *University of Maryland*

We will present activities aimed to support identity development in a mathematics content course for future secondary teachers. These activities explore who gets seen as a mathematician, how representation matters, and unsolved mathematical problems.

***"How Do We Achieve Credibility?": Examining International Teacher Educators Navigating Their Professional Identities***

Dionne Cross Francis, *University of North Carolina*  
 Pavneet Kaur Bharaj, *Indiana University*  
 Jinqing Liu, *Indiana University*

In this paper, we take a narrative approach to understanding how both experienced and new teacher educators, all with an international background, come to make sense of their professional identity through preparing teachers to teach math and science for a U.S. context.

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**Session 44** **Judith Jacobs Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Strategies to Facilitate an Understanding of a Mathematical Practice: A Case Study of Imposing Structure***

John Gruver, *Michigan Technological University*  
Casey Hawthorne, *Furman University*

As the result of a case study, we identified three categories of teaching practices that support students' understanding of mathematical practices. Participants in our session will have opportunities to reflect on these findings in the context of their own work.

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**Session 45** **Nadine Bezuk Room**  
**Mathematics Education Policy and Program Issues**  
**Featured MTE-P Individual Session**

***Transforming Math Teacher Preparation Program Design for Successful Teacher Candidate Licensure Examinations***

Jeremy Zelkowski, *The University of Alabama*

We share empirical results of a six-year study with large effect sizes and high power on licensure exams. We present program design and engage participants in effective measures with predictive validity for erasing roadblocks and producing well-prepared secondary teacher candidates.

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**Session 46** **Susan Gay Room**  
**Development of Mathematics Teacher Educators**  
**Featured MTEP Symposium**

***Supporting Mathematics Teacher Educators to Develop Mathematical Knowledge for Teaching in Content Courses for Prospective Secondary Teachers***

Yvonne Lai, *University of Nebraska-Lincoln*  
Alyson E. Lischka, *Middle Tennessee State University*  
Stephanie Casey, *Eastern Michigan University*  
Brynja Kohler, *Utah State University*  
Elise Lockwood, *Oregon State University*  
Bethany Noblitt, *Northern Kentucky University*  
Patrick Lane Sullivan, *Missouri State University*

Meeting the needs of preservice secondary mathematics teachers in upper-level content courses can be accomplished through innovative curriculum and pedagogy. MODULE(S2) Project curriculum authors and implementers in College Geometry, Algebra, Modeling, and Statistics courses will share their experiences in this panel discussion.

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**Session 47** **Skip Fennell Room**  
**Collaborations and Partnerships**  
**Individual Session**

***Elementary Teachers' Videos of Instruction: Using Argumentation in Teaching Mathematics, Science, and Coding***

Jenna Menke, *University of Georgia*  
Yuling Zhuang, *University of Georgia*  
Anna Gillespie-Schneider, *University of Georgia*  
Claire Miller, *University of Georgia*  
AnnaMarie Conner, *University of Georgia*  
Tim Foutz, *University of Georgia*

A collaborative team of STEM educators engaged teachers in sharing videos of their instruction focused on using argumentation and coding across disciplines. Attendees will extend their understandings of argumentation and consider how teacher-selected videos provide insight into teachers' thinking.

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**Session 48** **Karen Karp Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***Critical Care Theory in Mathematics: How Relationships Influence Learning for Marginalized Populations***

Kyle Stephen Whipple, *University of Wisconsin-Eau Claire*

This research project is focused on the connection between critical care theory and achievement gaps in mathematics learning for marginalized populations.

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**Session 49** **Sid Rachlin Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Learning Mathematical Knowledge for Teaching in and from Simulations***

Timothy Boerst, *University of Michigan*  
Meghan Shaughnessy, *University of Michigan*  
D'Anna Pynes, *University of Michigan*

Practice-based teacher education relies on the selection and development of settings, such as simulations, that support preservice teachers in learning from engagement in teaching. We will explore design features of simulations and their impact on preservice teachers' learning of MKT.

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**Session 50** **Jenny Bay-Williams Room**  
**Teaching and Learning with Technology**  
**Discussion Session**

***What Remains When the Virus Goes?***

Steve Rhine, *Pacific University*

Rachel A. Harrington, *Western Oregon University*

Shannon Driskell, *University of Dayton*

Join us to discuss the implications of COVID-19 on teacher preparation, including our approaches to the limitations and opportunities brought by world events. Participants will discuss changes they have made, what has worked, and what we hope to sustain.

**Session 51** **Barbara Reys Room**  
**Mathematics Pedagogy**  
**Individual Session**

***What Does (and Doesn't) Cognitively Guided Instruction Look Like in the Classroom?***

Claire Riddell, *Florida State University*

Wendy S. Bray, *Florida State University*

Robert Schoen, *Florida State University*

This interactive session will explore ways to conceptualize and measure facets of instruction consistent with Cognitively Guided Instruction. Presenters will share and seek feedback on efforts to develop and field-test observation rubrics for use in large-scale research.

**FRIDAY, FEBRUARY 12, 2021**

**5:30 PM - 7:00 PM (EST)**

**AMTE**

**25<sup>TH</sup> CONFERENCE**

**AMTE Business Meeting & Happy Hour – Silver Auditorium**

Please join us for organizational updates and official AMTE proceedings. The 2021 Business Meeting Agenda can be found on page 97. The minutes from the 2020 Business Meeting can be found on page 98.



**AMTE 25th Anniversary Trivia Game**

Join us for an interactive Kahoot! filled with AMTE facts and figures. Join the competition to see how much you know about the organization.



**AMTE**

**25<sup>TH</sup> V CONFERENCE**

**Karen D. King Advocacy Award Talk – Silver Auditorium**

Session 52

Dorothy Y. White, University of Georgia

In this presentation, I share my experiences engaging in advocacy work with students, teachers, parents, and graduate students to improve the mathematics education of minoritized students.

I share the challenges and possibilities inherent in this work to inspire other Mathematics Teacher Educators.



## OVERVIEW OF SATURDAY, FEBRUARY 13, 2021

|                                | 12:15 PM – 1:15 PM (EST)  | 1:30 PM – 2:30 PM (EST)  |
|--------------------------------|---|--|
| <b>Mark Spikell Room</b>       | 53. <i>Mathematics Teacher Preparation: Putting Students at the Center</i> - Martin   | 63. <i>Using a Framework to Teach Preservice Mathematics Teachers How to Professionally Notice Within Technology Mediated Environments</i> - Bailey, McCulloch, Dick, Lovett, Yalman Ozen & Cayton |
| <b>Hank Kepner Room</b>        | 54. <i>Brief Report Session: Investigating Inservice Teachers</i>   | 64. <i>Brief Report Session: Statistics Teacher Education</i>  |
| <b>Judith Jacobs Room</b>      | 55. <i>Brief Report Session: Teaching for Social Justice</i>  | 65. <i>Brief Report Session: Equity as a Focus of Research and Practice</i>  |
| <b>Nadine Bezuk Room</b>       | 56. <i>Using Discourse to Help Students Develop Multiple Ways of Subtracting Fractions</i> - Litster & MacDonald                                      | 66. <i>Partnerships and Program Transformation Efforts: Improving First-Year Mathematics to Strengthen Future Teacher Preparation</i> - Smith  |
| <b>Susan Gay Room</b>          | 57. <i>Using Mursion Simulated Teaching Experiences with K-12 Preservice Mathematics Educators</i> - Ferguson & Grant                                 | 67. <i>Virtual Rehearsals: Using a Virtual Classroom to Improve Mathematics Teaching Efficacy and Practice</i> - Bondurant & Amidon  |
| <b>Skip Fennell Room</b>       | 58. <i>Desmos Activity Builder at the Intersection of Content and Practice</i> - Harper & Cox   | 68. <i>Using Classroom Observation Data to Develop a Statewide Mathematics Coaching Community</i> - Larsen, Tobey & McCormick  |
| <b>Karen Karp Room</b>         | 59. <i>Designing Observational Learning Experiences That Impact Teaching Practice</i> - Garcia, Mortimer, Robinson & Ball                             | 69. <i>International Perspectives on Issues and Challenges in Mathematics Teacher Education</i> - Suurtamm, Thompson & Huntley   |
| <b>Sid Rachlin Room</b>        | 60. <i>Using Cases to Prepare Mathematics Teacher Educators to Address and Disrupt Inequities in Mathematics Education</i> - DuCloux, White & Nielsen | 70. <i>Integrating Mathematical Modeling into Content Courses for Elementary Teachers</i> - Tidwell  |
| <b>Jenny Bay-Williams Room</b> | 61. <i>A Professional Development Conundrum: When Addressing Race &amp; Power is Antithetical to Caring</i> - Bartell & Foote                         | 71. <i>Exploring Mathematical Identities of Emerging and Practicing Teachers</i> - Bay-Williams, Johnson & Morris  |
| <b>Barbara Reys Room</b>       | 62. <i>A Collective Journey on Mental Health: Entering, Surviving &amp; Thriving in the Academy</i> - Lee, Zelkowski & Jackson                        | 72. <i>Too Much to Teach in Too Little Time: Sharing Strategies for Elementary Math Methods</i> - Garner, Krause, Saclarides & Munson  |



## OVERVIEW OF SATURDAY, FEBRUARY 13, 2021

|                                | 3:00 PM – 3:45 PM (EST)  | 4:00 PM – 5:00 PM (EST)   |
|--------------------------------|--|---|
| <b>Mark Spikell Room</b>       | 73. <i>Closing the Opportunity Gap: A Call for Detracking Mathematics</i> - Toncheff   | 83. <i>Multiple Perspectives on Equity in Mathematics Education and AMTE's Actions</i> - LopezLeiva, Fernandes, Kalinec-Craig & Suazo-Flores                                |
| <b>Hank Kepner Room</b>        | 74. <i>Leveraging Teacher Candidates' Knowledge and Professional Community Experiences Through Lesson Study</i> - Gonzalez, Villafañe-Cepeda & Hernández-Rodríguez | 84. <i>Brief Report Session: Practices and Programs for All Learners</i>  |
| <b>Judith Jacobs Room</b>      | 75. <i>Establishing Student Mathematical Thinking as an Object of Class Discussion</i> - Peterson, Stockero, Van Zoest & Leatham                                   | 85. <i>An Investigation of Instructional Practices in Upper Elementary Classrooms: Fractions versus Decimals</i> - Walkowiak & Yova   |
| <b>Nadine Bezuk Room</b>       | 76. <i>Applying Multi-Perspective 360 Video in Noticing Assignments</i> - Zolfaghari & Kosko   | 86. <i>Teaching Moves and Rationales of Prospective Elementary Teachers Engaging in Problem Solving Interviews</i> - Smithey  |
| <b>Susan Gay Room</b>          | 77. <i>Writing Activities in Preservice Elementary Content Courses and How We Use Student Responses</i> - Gay & Lucas  | 87. <i>Continuing to Share Our Way Out of Isolation</i> - Candela & de Araujo   |
| <b>Skip Fennell Room</b>       | 78. <i>Enhancing Formative Assessment with Learning Trajectories in the Primary Grades</i> - Ebby  | 88. <i>Connecting Lesson Planning to Practice: Engaging Mentor Teachers in Productive Interactions with Teacher Candidates</i> - Waller                                     |
| <b>Karen Karp Room</b>         | 79. <i>Preservice Teachers' Self Efficacy for, Knowledge of, and Skills in Teaching with Technology for Remote Learning</i> - Fernandez, Fatima, Forde & Park      | 89. <i>The PrimeD Framework in Mathematics Teacher Preparation: Networked Improvement Communities and Plan-Do-Study-Act Cycles</i> - Rakes, Bush, Mohr-Schroeder & Ronau    |
| <b>Sid Rachlin Room</b>        | 80. <i>Lessons to Facilitate Mathematics Learning and Communication for Emergent Multilingual Learners: Impact Study Findings</i> - Nikula & Neumayer DePiper      | 90. <i>Deconstructing African American Preservice Teachers Mathematics Entering Identities and Visions of Mathematics Teaching for Equity</i> - Webb                        |
| <b>Jenny Bay-Williams Room</b> | 81. <i>Getting In: How Mathematics Coaches Negotiate Gaining Access to Classrooms for Coaching</i> - Saclarides & Munson   | 91. <i>Developing Relationships Between the Area Model, Multiplication, and Conceptions of Area</i> - Ghosh Hajra & Wickstrom   |
| <b>Barbara Reys Room</b>       | 82. <i>Focusing on Place in Appalachia: Supporting Elementary Preservice Teachers' Development of a Critical Equity Lens</i> - Bolyard & Valentine                 | 92. <i>Learning to Teach Mathematics with Technology Through Engaging with Video Artifacts of Secondary Students' Work</i> - McCulloch, Lovett, Bailey, Yalman Ozen & Sanei |

**Session 53****Mark Spikell Room****AMTE Award Winner****AMTE Excellence in Teaching in Mathematics Education Award*****Mathematics Teacher Preparation: Putting Students at the Center***W. Gary Martin, *Auburn University*

We want teacher candidates to place students at the center of their instruction in equitable and empowering ways. In like manner, teacher candidates should be at the center of our instruction. We will discuss how to accomplish this goal.

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**Session 54****Hank Kepner Room*****Brief Report Session: Investigating Inservice Teachers******Effective Instructional Practices Among Grades 6-8 Teachers of Mathematics***Angela R. Crawford, *Boise State University*Ann Wheeler, *Texas Woman's University*Michele Carney, *Boise State University*Joe Champion, *Boise State University*

Drawing on surveys and video-recorded lessons, we describe beliefs about, and implementation of, instructional practices aligned with explicit attention to concepts and student opportunity to struggle within a teacher-researcher alliance investigating instructional routines for promoting Grades 6-8 mathematics learning.

***Increasing Explicit Focus on Affective Development in Mathematics Instruction and Assessment***Catherine Paolucci, *University of Florida*Richard Bex, *University of Florida*Darnell Boursiquot, *University of Florida*

This session will share findings from a study aimed at determining whether explicit focus on affective development in mathematics instruction and assessment can improve students' affect and achievement in mathematics. Participants will engage with research tools and professional development content.

***Task Analysis as a Means of Investigating Mathematics Knowledge for Teaching***Michelle King, *Western Colorado University*Adam Ruff, *University of Northern Colorado*Jodie Novak, *University of Northern Colorado*Robert Powers, *University of Northern Colorado*Alees Lee, *Weber State University*

This brief report presents a case study to investigate the MKT of two teachers who engaged in task analysis. Their focus on the mathematics of the task revealed their specialized content knowledge. We will discuss implications to teacher preparation.

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**Session 55****Judith Jacobs Room****Brief Report Session: Teaching for Social Justice*****Dreaming Differently During a Pandemic: A Critical Inquiry Group of Social Justice-Driven Mathematics Teachers***Mary Candace Raygoza, *Saint Mary's College of California*

How will the coronavirus pandemic intensify inequities in mathematics education? How can we (continue to) dream differently for equity in mathematics education? This presentation highlights the voices of social justice-driven mathematics teachers and invites participants to share their visions.

***Investigating Social Justice Mathematics Teaching Practices Through Three-Act Mathematical Modeling Instruction***Ayse Ozturk, *The Ohio State University*

This session illustrates how the social justice mathematics framework can be adopted to analyze teaching practices in using a three-act task mathematical modeling instruction.

***Knowing the World Through Mathematics: A Social Justice-Focused Course for Preservice Teachers***Michael Lolkus, *Purdue University*Jill Newton, *Purdue University*

We outline the development of Knowing the World Through Mathematics, a Quantitative Reasoning course for preservice teachers that utilizes social justice-oriented mathematical tasks and explores domestic and global issues as outlined by the United Nations 2030 Agenda for Sustainable Development.

**Session 56****Nadine Bezuk Room****Mathematics Content and Curriculum Discussion Session*****Using Discourse to Help Students Develop Multiple Ways of Subtracting Fractions***Kristy Litster, *Valdosta State University*Beth L. MacDonald, *Utah State University*

This session focuses on three goals: 1) Evaluate multiple fraction subtraction strategies and benefits to prospective teachers; 2) Evaluate benefits and drawbacks of two small-group discourse practices (reflective/exploratory) relating to multiple strategies, equity, and accuracy; 3) Discuss implications for future practice.

**Session 57****Susan Gay Room****Practice-Based Experiences for Prospective Teachers Individual Session*****Using Mursion Simulated Teaching Experiences with K-12 Preservice Mathematics Educators***Sarah Ferguson, *Old Dominion University*Melva R. Grant, *Old Dominion University*

Mursion is a mixed reality simulation experience that enables teaching experiences without the use of live teaching environments. This session looks at three risk-free Mursion teaching experience that were incorporated into various teacher training courses for aspiring K-12 mathematics educators.

**Session 58****Skip Fennell Room****Practice-Based Experiences for Prospective Teachers Individual Session*****Desmos Activity Builder at the Intersection of Content and Practice***Suzanne Harper, *Miami University*Dana C. Cox, *Miami University*

We will report on the ways in which remote delivery created new opportunities to connect with K-12 mathematics educators and provide content-driven practice-based experiences for our prospective mathematics teachers through collaborative curriculum development and the Desmos Activity Builder.

**Session 59****Karen Karp Room****Professional Development Individual Session*****Designing Observational Learning Experiences That Impact Teaching Practice***Nicole Garcia, *University of Michigan*Jillian Peterson Mortimer, *University of Michigan*Darrius Robinson, *University of Michigan*Deborah Loewenberg Ball, *University of Michigan*

In this session, we examine a framework and design principles used to support the learning of teachers during observation of live instruction. We consider together how these frameworks and principles can be more broadly applied to professional development and teacher education.

**Session 60** **Sid Rachlin Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***Using Cases to Prepare Mathematics Teacher Educators to Address and Disrupt Inequities in Mathematics Education***

Kanita K. DuCloux, *Western Kentucky University*  
Dorothy Y. White, *University of Georgia*  
Leslie E. J. Nielsen, *Puget Sound Educational Service District*

In this session, MTEs will engage in an equity case analysis and discussion. We will also share how we used the Cases book as a resource to engage prospective and practicing educators in courageous conversations about inequities in mathematics classrooms.

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**Session 61** **Jenny Bay-Williams Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Discussion Session**

***A Professional Development Conundrum: When Addressing Race & Power is Antithetical to Caring***

Tonya Bartell, *Michigan State University*  
Mary Q. Foote, *Queens College, CUNY*

We examine one teacher's nuanced response to equity-focused PD through a lens of the tension between caring and caring with awareness. The teacher strove to serve all students yet was perceived by facilitators as resistant to PD aims.

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**Session 62** **Barbara Reys Room**  
**Development of Mathematics Teacher Educators**  
**Discussion Session**

***A Collective Journey on Mental Health: Entering, Surviving & Thriving in the Academy***

Jean Sangmin Lee, *University of Indianapolis*  
Jeremy Zelkowski, *The University of Alabama*  
Christa Jackson, *Iowa State University*

In this session, we open up a conversation on restoring vitality and address mental health. We share strategies to succeed around three topics: imposter phenomenon, burnout, and engagement. Resources are shared with the AMTE community.

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**Session 63****Mark Spikell Room****AMTE Award Winner  
NTLI Award*****Using a Framework to Teach Preservice Mathematics Teachers How to Professionally Notice Within Technology Mediated Environments***Nina G. Bailey, *University of North Carolina at Charlotte*Allison W. McCulloch, *University of North Carolina at Charlotte*Lara K. Dick, *Bucknell University*Jennifer Lovett, *Middle Tennessee State University*Demet Yalman Ozen, *Middle Tennessee State University*Charity Cayton, *East Carolina University*

We will introduce a framework for noticing students' mathematical thinking in a technology-mediated environment. We will share preliminary results from prospective secondary mathematics teachers pre- and post-noticing assessment on a technological task in which secondary students explore vertical asymptotes.

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**Session 64****Hank Kepner Room*****Brief Report Session: Statistics Teacher Education******Curriculum Critique in the Preparation of Statistics Teachers***Megan Parise, *University of Minnesota*

Participants will analyze exemplars used to prepare statistics teachers in order to critique how these documents develop statistics pedagogy but also maintain hegemonic power structures and marginalize student identities. Alternative approaches to preparing statistics teachers will be discussed.

***Moving a Unit on Statistics for Preservice Elementary Teachers from Face-to-Face to Online***Travis Weiland, *University of Houston*John Sevier, *Appalachian State University*

In this brief report, we discuss the advantages and disadvantages of moving a face-to-face statistics instruction online for preservice teachers. We also discuss the impact such a transition had on students' understanding of the content, types of interaction, and access.

***Secondary Preservice Teachers' Statistical Analysis of Imagined Classroom Assessment Results***Karoline Smucker, *The Ohio State University*

This presentation reports the initial results of a preliminary study with secondary preservice mathematics teachers. Imagined classroom assessment results were presented as a tool for discussing both statistics content and the use of assessment data in planning and instruction.

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**Session 65****Judith Jacobs Room****Brief Report Session: Equity as a Focus of Research and Practice*****An Intersectional Look at the Math Autobiographies of Elementary Preservice Teachers***Karisma Morton, *University of North Texas*Fardowsa Mahdi, *University of North Texas*

We explore the mathematics learning experiences of 4 elementary preservice teachers from groups traditionally marginalized in mathematics classrooms using intersectionality and discuss the implications of those experiences on their learning in a math methods course and their future teaching.

***Mathematics Education Research in Urban Education Journals: A 30-Year Content Analysis***Jamaal Rashad Young, *Texas A&M University*

An exploratory content analysis of mathematics education research published in 3 major urban education journals was conducted. This content analysis will provide a foundation upon which recommendations for research, theoretical development, and instructional praxis will be made.

***Advancing Mathematics Teachers' Intercultural Sensitivity Both Abroad and at Home***Blair Izard, *University of Northern Iowa*Megan Staples, *University of Connecticut*

We report on a math-focused education abroad experience that supported the development of preservice teachers' cultural identity. We share program details and outcomes, the underlying conceptual framework and design, and discuss elements that can be applied to a U.S.-based setting.

**Session 66****Nadine Bezuk Room****Collaborations and Partnerships  
Featured MTEP Discussion Session*****Partnerships and Program Transformation Efforts: Improving First-Year Mathematics to Strengthen Future Teacher Preparation***Wendy Smith, *University of Nebraska*

Participants will engage in discussing how partnerships among colleges of education, mathematics departments, and school districts can collaborate through program transformation efforts to improve student engagement in first-year mathematics courses, resulting in better recruitment and retention to teacher preparation programs.

**Session 67****Susan Gay Room****Practice-Based Experiences for Prospective Teachers  
Individual Session*****Virtual Rehearsals: Using a Virtual Classroom to Improve Mathematics Teaching Efficacy and Practice***Liza Bondurant, *Delta State University*Joel Amidon, *University of Mississippi*

Discussion of the impact of repeated virtual rehearsals on preservice math teachers' teaching efficacy and practices. Preservice math teachers were evaluated using rubrics and surveys. Learn how preservice math teachers can practice complex instructional skills in a safe, simulated environment.

**Session 68****Skip Fennell Room****Development of Mathematics Teacher Educators  
Individual Session*****Using Classroom Observation Data to Develop a Statewide Mathematics Coaching Community***Shannon Larsen, *University of Maine at Farmington*Cheryl Tobey, *Maine Mathematics and Science Alliance*Kelly McCormick, *University of Southern Maine*

Two parallel projects designed to collect data about changes in teacher practice provided rich professional learning for coaches conducting classroom observations. We share our tools, allow participants to use them, present results, and discuss next steps for our work.



**Session 69** **Karen Karp Room**  
**Mathematics Education Policy and Program Issues**  
**Symposium**

***International Perspectives on Issues and Challenges in Mathematics Teacher Education***

Christine Suurtamm, *University of Ottawa*  
Denisse R. Thompson, *University of South Florida*  
Mary Ann Huntley, *Cornell University*

This session draws on the expertise of mathematics teacher educators from various countries, who describe issues and challenges in the preparation of teachers, including the development of culturally responsive pedagogies, partnerships and collaborations, mathematics knowledge, and teacher flexibility and responsiveness.

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**Session 70** **Sid Rachlin Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Integrating Mathematical Modeling into Content Courses for Elementary Teachers***

Will Tidwell, *Utah State University*

To what extent does mathematical modeling belong in content courses for preservice elementary teachers? In this session, we discuss the exigency for the inclusion of extensive mathematical modeling experiences into content courses for elementary teachers.

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**Session 71** **Jenny Bay-Williams Room**  
**Equity, Social Justice, and Mathematics Teacher**  
**Education**  
**Individual Session**

***Exploring Mathematical Identities of Emerging and Practicing Teachers***

Jennifer Bay-Williams, *University of Louisville*  
Cheryll Crowe Johnson, *Asbury University*  
Samantha Morris, *University of Louisville*

With a focus on Standard C.4.2, we created and implemented an Identity Investigation across mathematics content, mathematics methods, and advanced teacher education courses. We will explore the tool, share lessons learned, and discuss other ways to cultivate positive mathematical identities.

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**Session 72** **Barbara Reys Room**  
**Mathematics Pedagogy**  
**Discussion Session**

***Too Much to Teach in Too Little Time: Sharing Strategies for Elementary Math Methods***

Brette Garner, *University of Denver*  
Gladys Krause, *College of William and Mary*  
Evthokia Stephanie Saclarides, *University of Cincinnati*  
Jen Munson, *Northwestern University*

In elementary methods courses, there's often too much to teach and not enough time. Participants will discuss tensions that arise in methods courses, like balancing math content and pedagogy, and share strategies for addressing these tensions.

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**Session 73** **Mark Spikell Room**  
**NCSM President Exchange Session**

***Closing the Opportunity Gap: A Call for Detracking Mathematics***

Mona Toncheff, *National Council of Supervisors of Mathematics: Leadership in Mathematics Education*

All students deserve equitable access to high-quality mathematics. While we know there are many factors that hinder access, NCSM calls for the cessation of the practice of tracking. This session will explore the essential actions needed to detrack mathematics.

**Session 74** **Hank Kepner Room**  
**Practice-Based Experiences for Prospective Teachers Individual Session**

***Leveraging Teacher Candidates' Knowledge and Professional Community Experiences Through Lesson Study***

Gloriana Gonzalez, *University of Illinois at Urbana-Champaign*

Wanda Villafañe-Cepeda, *University of Puerto Rico*

Omar Hernández-Rodríguez, *University of Puerto Rico*

We examine a lesson study innovation that bridges a methods course and clinical experiences. Our case study describes learning opportunities for teacher candidates to develop their knowledge for teaching, build a professional community, and create technology-based lessons.

**Session 75** **Judith Jacobs Room**  
**Mathematics Pedagogy Individual Session**

***Establishing Student Mathematical Thinking as an Object of Class Discussion***

Blake E. Peterson, *Brigham Young University*

Shari L. Stockero, *Michigan Technological University*

Laura R. Van Zoest, *Western Michigan University*

Keith Rigby Leatham, *Brigham Young University*

To productively use student mathematical thinking, it must be 1) made clear and 2) established as the object of discussion. The nuances of these two aspects of the teaching subpractice, Make Precise, will be discussed through examples from the data.

**Session 76** **Nadine Bezuk Room**  
**Practice-Based Experiences for Prospective Teachers Individual Session**

***Applying Multi-Perspective 360 Video in Noticing Assignments***

Maryam Zolfaghari, *Kent State University*

Karl W. Kosko, *Kent State University*

We introduce teachers noticing assignments using multi-perspective 360 video. We describe how preservice teachers attend to students' mathematical thinking while using this technology. This technology can improve facilitation of professional noticing for teacher educators, and preservice teachers accompanied reflections upon practice.

**Session 77** **Susan Gay Room**  
**Mathematics Content and Curriculum Individual Session**

***Writing Activities in Preservice Elementary Content Courses and How We Use Student Responses***

Susan Gay, *University of Kansas*

Carol Lucas, *University of Central Oklahoma*

Our writing activities target development of specialized content knowledge for teaching. We will share four activities, ways we use student responses, and achievement results. Participants will explore student work and feedback then reflect on how similar tasks could be useful.

**Session 78** **Skip Fennell Room**  
**Professional Development Individual Session**

***Enhancing Formative Assessment with Learning Trajectories in the Primary Grades***

Caroline B. Ebby, *University of Pennsylvania*

This session will focus on how teachers make sense of learning trajectories to inform instruction, challenges in supporting teachers to adopt a formative lens on student learning and assessment, and implications for professional development and teacher education.

**Session 79** **Karen Karp Room**  
**Teaching and Learning with Technology**  
**Individual Session**

***Preservice Teachers' Self Efficacy for, Knowledge of, and Skills in Teaching with Technology for Remote Learning***

Maria Lorelei Fernandez, *Florida International University*  
Shemail Fatima, *Florida International University*  
Elizabeth Forde, *Florida International University*  
Jeehyun Park, *Florida International University*

Participants will discuss remote learning (synchronous-asynchronous) methods courses for elementary and secondary preservice teachers, including online technologies and assignments for preservice teachers' implementation of microteaching active learning mathematics/science lessons and findings about preservice teachers' self-efficacy and TPACK for teaching remotely with technology.

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**Session 80** **Sid Rachlin Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Lessons to Facilitate Mathematics Learning and Communication for Emergent Multilingual Learners: Impact Study Findings***

Johannah Nikula, *Education Development Center*  
Jill Neumayer DePiper, *Education Development Center*

This session will present findings from a study of fraction division lessons with built-in supports for emergent multilingual students. Participants will explore lesson design features; findings from student assessments, student interviews, and lesson observations; and implications for supporting mathematics teachers.

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**Session 81** **Jenny Bay-Williams Room**  
**Professional Development**  
**Individual Session**

***Getting In: How Mathematics Coaches Negotiate Gaining Access to Classrooms for Coaching***

Evthokia Stephanie Saclarides, *University of Cincinnati*  
Jen Munson, *Northwestern University*

How coaches gain entry to support teaching and learning is often taken for granted and poorly understood. We present six types of access-granting strategies mathematics coaches leverage to gain entry to classrooms, and an emergent model depicting coaches' strategy coordination.

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**Session 82** **Barbara Reys Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Focusing on Place in Appalachia: Supporting Elementary Preservice Teachers' Development of a Critical Equity Lens***

Johnna Bolyard, *West Virginia University*  
Keri Valentine, *West Virginia University*

This session shares our efforts as mathematics teacher educators to support our elementary preservice teachers to take up critical dimensions of place and equity in their practice. Participants will engage in sharing, questioning, and discussing ideas for their own contexts.

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**Session 83****Mark Spikell Room****Equity, Social Justice, and Mathematics Teacher Education Symposium*****Multiple Perspectives on Equity in Mathematics Education and AMTE's Actions***Carlos LopezLeiva, *University of New Mexico*Anthony M.A. Fernandes, *University of North Carolina at Charlotte*Crystal Kalinec-Craig, *University of Texas at San Antonio*Elizabeth Suazo-Flores, *Purdue University*

As a conversation starter, the Equity Committee is presenting initial results from the 2019 survey on Equity Perspectives that AMTE members completed. Participants in small groups will actively discuss implications of the survey results for AMTE collective and individual efforts.

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**Session 84****Hank Kepner Room*****Brief Report Session: Practices and Programs for All Learners******A Tool for Reflection: Mathematics Teacher Educators Growing Their Culturally Responsive Pedagogies***Lindsay Keazer, *Sacred Heart University*Kathleen Nolan, *University of Regina*

We offer a guiding framework for mathematics teacher educators' (MTEs) self-study of their culturally responsive pedagogies. We describe the framework development, offer examples of how it fosters growth as MTEs, and engage participants in discussion on how to improve it.

***Mining for Gold: An Anti-Bias Framework for Interpreting Student Thinking***Jessica Jensen, *California Polytechnic State University*Melissa Ann Gallagher, *University of Houston*

Interpreting student thinking is a challenging practice and may be influenced by teachers' implicit biases and MKT. This paper proposes a framework for how teachers interpret student thinking which teacher educators can use to support the development of this skill.

***Looking at Success in an Undergraduate Noyce Mathematics Teacher Scholarship Program***Judith Quander, *University of Houston - Downtown*

We discuss our successes in producing preservice secondary mathematics teachers through an NSF/ Noyce grant. Our program graduated 30 preservice teachers with the majority currently teaching in urban schools. We describe programmatic characteristics and our continued support of graduates.

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**Session 85** **Judith Jacobs Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***An Investigation of Instructional Practices in Upper Elementary Classrooms: Fractions versus Decimals***

Temple A. Walkowiak, *North Carolina State University*  
Frederique Yova, *North Carolina State University*

We will present the results of a quantitative study comparing fraction lessons to decimal lessons in fourth and fifth-grade classrooms; describe specific examples from lessons to highlight the differences; and engage participants in discussion about implications for mathematics teacher educators.

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**Session 86** **Nadine Bezuk Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Teaching Moves and Rationales of Prospective Elementary Teachers Engaging in Problem Solving Interviews***

Montana Smithey, *Georgia Southern University*

Prior to explicit instruction, preservice teachers enacted a range of teaching moves during 1:1 problem solving interviews with children. Stimulated-recall interviews retrospectively elicited preservice teachers' rationales for enactment of teaching moves and relationships between them explored. Implications contribute to literature on responsive teaching.

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**Session 87** **Susan Gay Room**  
**Development of Mathematics Teacher Educators**  
**Discussion Session**

***Continuing to Share Our Way Out of Isolation***

Amber Grace Candela, *University of Missouri - St. Louis*  
Zandra de Araujo, *University of Missouri*

This session will serve as a space for mathematics teacher educators to share resources and best practices. Attendees will build upon the online, collaborative community we created in 2020 as we further develop the repository of lessons, activities, and resources.

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**Session 88** **Skip Fennell Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Featured MTEP Individual Session**

***Connecting Lesson Planning to Practice: Engaging Mentor Teachers in Productive Interactions with Teacher Candidates***

Patrice Parker Waller, *California State University, Fullerton*

Learning to effectively plan a lesson is a major component of the teacher preparation process. The goal of this session is to focus on ambitious lesson planning and to engage mentor teachers in productive interactions.

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**Session 89** **Karen Karp Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***The PrimeD Framework in Mathematics Teacher Preparation: Networked Improvement Communities and Plan-Do-Study-Act Cycles***

Christopher Rakes, *University of Maryland, Baltimore County*  
Sarah B. Bush, *University of Central Florida*  
Margaret J. Mohr-Schroeder, *University of Kentucky*  
Robert Ronau, *Johns Hopkins University*

This session will describe how networked improvement communities and Plan-Do-Study-Act cycles provided a foundational structure for PrimeD framework implementation in a teacher preparation program. Discussions will focus on how PrimeD improved the program and can be incorporated into other programs.

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**Session 90** **Sid Rachlin Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***Deconstructing African American Preservice Teachers Mathematics Entering Identities and Visions of Mathematics Teaching for Equity***

Jared Webb, *North Carolina A&T State University*

In this session, we share data examining the entering mathematics identities and visions of mathematics teaching of African American preservice teachers and provide preliminary design principles to guide the development of mathematics and mathematics education coursework toward liberatory mathematics education.

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**Session 91** **Jenny Bay-Williams Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Developing Relationships Between the Area Model, Multiplication, and Conceptions of Area***

Sayonita Ghosh Hajra, *California State University, Sacramento*

Megan Wickstrom, *Montana State University*

The goals of this presentation support AMTE's mission by providing mathematics teacher educators with tools to support preservice teachers in developing a deep understanding of area measurements and its use as a visual model.

**Session 92** **Barbara Reys Room**  
**Teaching and Learning with Technology**  
**Individual Session**

***Learning to Teach Mathematics with Technology Through Engaging with Video Artifacts of Secondary Students' Work***

Allison W. McCulloch, *University of North Carolina at Charlotte*

Jennifer Lovett, *Middle Tennessee State University*

Nina G. Bailey, *University of North Carolina at Charlotte*

Demet Yalman Ozen, *Middle Tennessee State University*

Hamid R. Sanei, *North Carolina State University*

Engage with materials designed to support prospective secondary mathematics teachers learning to teach mathematics with technology. The materials develop prospective secondary mathematics teachers' pedagogical skills (e.g., noticing students' mathematical thinking, selecting & sequencing) through engaging with video artifacts of secondary students' work.

**SATURDAY, FEBRUARY 13, 2021**

**5:15 PM - 7:00 PM (EST)**

**AMTE**

**25<sup>TH</sup> CONFERENCE**

### **Manuscript Review Groups**

The goal of the Manuscript Review Group (MRG) program is to support early career AMTE members by providing a safe and encouraging environment to receive feedback on a manuscript. The MRGs are limited to those who applied to participate in advance of the conference.



### **Community Circles**

The purpose of a Community Circle (C<sup>2</sup>) is to allow attendees to chat informally with colleagues who share something in common professionally (e.g., interest, context), while also getting to know each other a little better. We hope these Community Circles will further build and nurture our professional community. A list of Community Circle topics and links is available in the conference app.



**Two interactive sessions of MRG and C<sup>2</sup> will take place during this time to allow more opportunity for engagement and networking. See the Guidebook App for more details.**



AMTE

25<sup>TH</sup>

CONFERENCE

## Networking & Social Hour

### Riddle Me This – Susan Gay Room

Do you enjoy a good brain teaser? Join us as we put our heads together to solve these perplexing puzzles. Participants will be placed in random breakout rooms to work together to solve each riddle.



### Math Education Pictionary – Skip Fennell Room

Calling all artists, sketchers, and really good guessers. Join us in a fun, interactive game of Pictionary. No artistic skills required!



### AMTE Speed Networking – Karen Karp Room

Having trouble meeting new people in this virtual world? Join us as we randomly breakout into small groups, meet other conference attendees, swap contact information, and plant the seeds for new and continuing collaborations. New random groups will be generated every 10-15 minutes.



### Hobby Hour – Sid Rachlin Room

Do you enjoy crafts, reading, or cooking? Perhaps you are more of a fan of photography, movies, or nature trails. Join us as we take time to get to know a little more about the non-academic side of our AMTE colleagues and share some insights on common hobbies and interests. Breakout groups will be created for several interests. Participants will be able to self-select the group they want to join.



## AMTE

25<sup>TH</sup> CONFERENCE**Judith E. Jacobs Lecture – Silver Auditorium****What Does It Mean to Be a Mathematics Teacher Educator?**

Marta Civil, The University of Arizona

In this presentation I reflect on sources of inspiration as a mathematics teacher educator, while addressing dilemmas in combining research and practice. For example, how does my research with parents and mathematics inform my practice as a teacher educator?



## AMTE

25<sup>TH</sup> CONFERENCE**AMTE Listening Session – Marilyn Strutchens Room**

Join members of the AMTE Board of Directors for an informal discussion about the future of our organization and your needs and goals as members. With the release of AMTE's 2020-2024 Long Term Goals document, we are interested in hearing from members about how AMTE might meet these ambitious goals. We look forward to hearing your voice to help the Board of Directors shape the coming year's work.



## OVERVIEW OF FRIDAY, FEBRUARY 19, 2021

|                                | 11:00 AM – 12:00 PM (EST)   | 12:15 PM – 1:15 PM (EST)   | 1:30 PM – 2:30 PM (EST)  |
|--------------------------------|---|--|--|
| <b>Mark Spikell Room</b>       | 93. <i>Recognizing the Evolution of AMTE Affiliates: From Overlooked Opportunities to Obstacles Overcome</i> – AMTE Affiliate Connections Committee         | 103. <i>Catalyzing Change in Mathematics: Initiating Critical Conversations and Broadening Partnerships to Support Mathematics Teacher Education</i> – Wilkerson | 113. <i>Supporting Elementary Student Understanding and Discourse in an Online Learning Environment</i> – Vennebush & Rigelman                             |
| <b>Hank Kepner Room</b>        | 94. <i>Brief Report Session: Online Professional Development</i>  | 104. <i>Brief Report Session: Mathematical Argumentation</i>   | 114. <i>Brief Report Session: Teaching Practices</i>   |
| <b>Judith Jacobs Room</b>      | 95. <i>Brief Report Session: Mathematics Content and Curriculum</i>   | 105. <i>Brief Report Session: Collaborations &amp; Partnerships</i>  | 115. <i>Using CueThink to Support Collaborative Mathematical Content Development</i> – Reinsburrow & Klein   |
| <b>Nadine Bezuk Room</b>       | 96. <i>Including Inside Perspectives: Preservice Teachers as Research Partners</i> – Bertolone-Smith, Puliatte, Vantassel, Unigarro & Sommers               | 106. <i>Professional Development Materials to Support Using a Data Investigation Process</i> – Mojica, Lee & Thrasher  | 116. <i>Advancing Equity and Strengthening Teaching Through Elementary Mathematical Modeling</i> – Turner, Suh & Carlson                                   |
| <b>Marilyn Strutchens Room</b> | 97. <i>Gearing Up for Culturally Responsive Mathematics Teaching: Preparation Through an Inner-City Immersion Program</i> – Woodward, Fife-Demski & Robbins | 107. <i>Mathematics Pathways from High School to Postsecondary: The Role of Mathematics Teacher Preparation</i> – Martin & Strutchens                            | 117. <i>Preparation of Doctorates in Mathematics Education: A National Conference to Address Some Issues and Challenges</i> – Shih                         |
| <b>Fran Arbaugh Room</b>       | 98. <i>Preservice Teachers' Responses to Inequities in the Field of Mathematics Education</i> – Brass, McCloskey & Marshall                                 | 108. <i>The UTE Model for Early Field Experiences: Perspectives of Multiple Stakeholders</i> – Arbaugh, Cirillo, Do & Bieda                                      | 118. <i>Preservice Teachers' Reasoning at the Intersection of Conditional Statements, Converses, and Diagrams</i> – Nirode & Keiser                        |
| <b>Christine Thomas Room</b>   | 99. <i>Examining Teachers' Reasoning for Their Instructional Decisions</i> – Nielsen & Teuscher   | 109. <i>A Human Experience for K-8 Preservice Teachers and Mathematics Teacher Educators</i> – Naresh, Eddy & Morton   | 119. <i>Analyzing Argumentation to Understand How Preservice Mathematics Teachers' Develop Political Knowledge</i> – Gutierrez, Cervantes & Dobbs          |
| <b>Randy Philipp Room</b>      | 100. <i>Using a Public Record to Anchor Whole-Class Mathematical Discussions</i> – Van Zoest, Madis, Peterson, Leatham & Stockero                           | 110. <i>Experiences with and Considerations for Coached Rehearsals in Secondary Mathematics Methods Courses</i> – Karr, Baldinger, Campbell, Freeland & Graif    | 120. <i>Discursive Moves of Mathematics Teacher Educators: How Coaches Talk with Teachers</i> – Gillespie, Amador & Carson                                 |
| <b>Mike Steele Room</b>        | 101. <i>Supporting Shifts Towards Professionalizing Discourse in Virtual PD</i> – Jasien & Rendon   | 111. <i>Video Analysis: Developing Prospective Elementary Teachers' Noticing Skills</i> – Poling, Bondurant & Moss   | 121. <i>Mathematics Knowledge for Teaching Early College Mathematics: Tacit and Explicit Assumptions</i> – Murawska, Steele & Nabb                         |
| <b>Megan Burton Room</b>       | 102. <i>Using Number Talks to Improve Student Number Sense and Advance Restorative Justice</i> – Kirkland   | 112. <i>Using Integrated STEM as a Context to Teach Mathematics: Expanding Prospective Elementary Teachers' Dispositions</i> – Benken & Maiorca                  | 122. <i>Doing Right by Our Preservice Teachers of Color: Reflections by Mathematics Teacher Educators of Color</i> – Anderson, Maldonado Rodriguez & Silva |

## OVERVIEW OF FRIDAY, FEBRUARY 19, 2021

|                                | 3:00 PM – 3:45 PM (EST)   | 4:00 PM – 5:00 PM (EST)  |
|--------------------------------|---|--|
| <b>Mark Spikell Room</b>       | 123. <i>Using AMATYC Position Statements to Make a Change</i> - Kozak   | 133. <i>Integrating Research on Effective Instructional Practices into K-12 Mathematics Professional Development</i> - Champion, Carney & Crawford                       |
| <b>Hank Kepner Room</b>        | 124. <i>Influence of a Measurement Perspective on Preservice Teachers' Reasoning about Fractions</i> - Alqahtani & Webster                      | 134. <i>Brief Report Session: Supporting Each and Every Student</i>  |
| <b>Judith Jacobs Room</b>      | 125. <i>Crossing the Divide: Elementary Mathematics Teachers' Opportunities to Learn During and After Teacher Preparation</i> – Drake & Cavanna | 135. <i>Conceptualizing Opportunities for Computational Thinking Practices to Solve Mathematics Tasks in Mathematics Methods Courses</i> - Elliott & Lockwood            |
| <b>Nadine Bezuk Room</b>       | 126. <i>Virtual, Research-Based Mathematics Education Professional Development for Rural Educators: An ECHO Model</i> - Joswick                 | 136. <i>Teachers Cannot Improve What They Do Not See: A Large-Scale Survey of Mathematics Teachers' Noticing</i> - CopurGencturk & Rodrigues                             |
| <b>Marilyn Strutchens Room</b> | 127. <i>Recruiting Quality Candidates while Promoting Teacher Education</i> - Ordorica, Barrett & Franz   | 137. <i>A Longitudinal Inquiry into an Informal STEM Club for Girls</i> - Mbewe, Zhou, Newton & Richardson   |
| <b>Fran Arbaugh Room</b>       | 128. <i>Mathematics Studio: An Adaptation of Lesson Study That Centralizes Teachers' Current Problems of Practice</i> - Lesseig & Hoppe         | 138. <i>Interrogating Mathematics Teacher Educators' Practice: Clarifying What Equitable Mathematics Pedagogy Looks Like for Prospective Teachers</i> - Livers & Willey  |
| <b>Christine Thomas Room</b>   | 129. <i>Fostering Positive Student Participation by Supporting Teachers' Discursive Tactics</i> - Nieves, Dietiker, Riling & Singh              | 139. <i>Exploring Multicultural Practices in Posing Mathematics Word Problems</i> - Williams, Welder & Foran   |
| <b>Randy Philipp Room</b>      | 130. <i>That's Not Valid, Josie: How Do Prospective Teachers Respond to the Linearity Error?</i> - Foster                                       | 140. <i>Using the Gift of Students' Mathematical Thinking to Highlight New and Beautiful Mathematics for Teaching</i> - Siegfried & Philipp                              |
| <b>Mike Steele Room</b>        | 131. <i>Navigating Microaggressions from School Partners as Researchers of Color</i> - Kokka, Ramos, Ferrer, Rodriguez & Zaragoza               | 141. <i>Online Teaching Labs: Using Video to Facilitate Lesson Analysis in Synchronous Sessions</i> - Callard, Gillespie & Kruger  |
| <b>Megan Burton Room</b>       | 132. <i>"The Best Way to Grow an Intern": Co-Planning in Internship Experiences</i> - Grady & Cayton  | 142. <i>Advancing Mathematics Teacher Education Community Through Uncertain Times: Doctoral Student Research Review Group Workshop</i> - Litke, Hertel, Weiland & Amidon |

**Session 93****Mark Spikell Room****AMTE Committee Session*****Recognizing the Evolution of AMTE Affiliates: From Overlooked Opportunities to Obstacles Overcome***

AMTE Affiliate Connections Committee

Joined by a number of founding, past, and current presidents of AMTE state affiliates, we will share and learn from their institutional memories and experiences the original, positional, and directional objectives of professional networks of mathematics teacher educators.

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**Session 94****Hank Kepner Room*****Brief Report Session: Online Professional Development******Bridging the Distance: Supporting Rural Math Teachers Through Virtual PLCs***Brette Garner, *University of Denver*Christine Elizabeth Hood, *University of Denver*

We report on a professional development project aiming to support rural math teachers through virtual PLCs. We offer design principles for supporting teacher learning in remote settings, as well as initial findings, successes, and challenges from this university-practitioner partnership.

***Noticing and Wondering and Beyond: Explicating Mathematics Teachers' Social Knowledge Construction in Professional Development***Melinda Sebastian, *Syracuse University*Anthony Matranga, *California State University, San Marcos*Valerie Klein, *Drexel University*

This study reports on our ongoing work examining how the discourse practice of noticing and wondering supports generative collaboration for social knowledge construction in teachers' PD workgroups. Findings indicate that "wonderings," in particular, support implicit critique and negotiation.

***Supporting Equitable and Inclusive Online PD with Evidence-Based Noticing and Wondering: A Social Network Perspective***Anthony Matranga, *California State University, San Marcos*Jason Silverman, *Drexel University*

We compared two iterations of online, content-focused collaborative PD for teachers, one scaffolded by technologically supported Evidence-Based Noticing and Wondering and the other by discussion boards. Findings suggest that Evidence-Based Noticing and Wondering supported teachers' increased access to and engagement with intellectual resources.

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**Session 95****Judith Jacobs Room****Brief Report Session: Mathematics Content and Curriculum*****Building Equitable Practices Through University Partnerships: Transforming Practice and Pedagogy in Content and Methods Courses***Sean Nank, *California State University, San Marcos*

Incorporating equality of student voice in math courses for future teachers is essential for embracing multiple ways of knowing mathematics. Come discuss the results of a multi-university partnership to transform practice via Mathematical Instructional Routines to foster access and success.

***Preservice Teachers' Use of Supplemental Educative Features to Evaluate and Modify Mathematics Curriculum Materials***Sarah Quebec Fuentes, *Texas Christian University*Chelsey Hayward, *Texas Christian University*John M. Switzer, *Texas Christian University*

This presentation reports on findings of action research conducted in an elementary mathematics methods course. Through analysis of responses, an assignment designed to promote preservice teachers' use of supplemental educative features to critique and adapt curriculum materials was iteratively modified.

***Multiple Ways of Understanding Geometric Formulas via Covariational Reasoning***Irma Emma Stevens, *University of Michigan*

By considering dynamic geometric contexts used in two teaching experiments with preservice teachers, we will (i) explore this context collectively (ii) explicitly define the preservice teachers' multiple ways of understanding, and (iii) discuss implications for curriculum and preservice teachers.

**Session 96****Nadine Bezuk Room****Equity, Social Justice, and Mathematics Teacher Education Discussion Session*****Including Inside Perspectives: Preservice Teachers as Research Partners***Claudia Marie Bertolone-Smith, *California State University, Chico*Alison Puliatte, *SUNY Plattsburgh*Danielle Vantassel, *SUNY Plattsburgh*Michelle Katherine Unigarro, *SUNY Plattsburgh*Samantha Nicole Sommers, *SUNY Plattsburgh*

This discussion shares the experience of including three preservice teachers as research partners in a mathematics identity study. Perspectives from faculty and preservice teacher researchers will be given and discussion will focus on the opportunities afforded when including inside perspectives in research.

**Session 97****Marilyn Strutchens Room****Practice-Based Experiences for Prospective Teachers Individual Session*****Gearing Up for Culturally Responsive Mathematics Teaching: Preparation Through an Inner-City Immersion Program***Jerry Woodward, *Ball State University*Veronica M. Fife-Demski, *Ball State University*Kirsten Rose Robbins, *Ball State University*

Our immersive program focuses on preparing prospective elementary teachers to educate diverse students in an urban K-6 school through culturally responsive mathematics teaching. We discuss the program's effects on the mathematics teaching and student teaching experience of our students.

**Session 98** **Fran Arbaugh Room**  
**Equity, Social Justice, and Mathematics Teacher**  
**Education**  
**Individual Session**

***Preservice Teachers' Responses to Inequities in the Field of Mathematics Education***

Amy Brass, *Pennsylvania State University*  
Andrea McCloskey, *Pennsylvania State University*  
Anne Marie Marshall, *Lehman College, CUNY*

We will share findings from interviews with nine preservice teachers focused on equity-related scenarios that might arise in mathematics teaching contexts. Participants will engage with the scenarios and the distinct perceptions held by preservice teachers about inequities in mathematics teaching.

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**Session 99** **Christine Thomas Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Examining Teachers' Reasoning for Their Instructional Decisions***

Porter P. Nielsen, *Brigham Young University*  
Dawn Teuscher, *Brigham Young University*

Teachers' instructional decisions are important to students' mathematics learning as they determine the learning opportunities for all students. We will discuss 8th-grade teachers' reasoning for their instructional decisions in the context of geometric reflections and orientation of figures.

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**Session 100** **Randy Philipp Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Using a Public Record to Anchor Whole-Class Mathematical Discussions***

Laura R. Van Zoest, *Western Michigan University*  
Carlee E. Madis, *Western Michigan University*  
Blake E. Peterson, *Brigham Young University*  
Keith Rigby Leatham, *Brigham Young University*  
Shari L. Stockero, *Michigan Technological University*

We share our research on uses of a public record to support whole-class discussions, show examples of revising a public record in real time to support the discussion, and consider how this information can be used in developing well-prepared beginning teachers.

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**Session 101** **Mike Steele Room**  
**Teaching and Learning with Technology**  
**Individual Session**

***Supporting Shifts Towards Professionalizing Discourse in Virtual PD***

Sharon Rendon, *CPM Educational Program*  
Lara Jasien, *CPM Educational Program*

Presenters will engage participants in analyzing shifts towards professionalizing discourse during virtual PD by sharing data, design decisions, and facilitating collective discussion towards an evidence-based framework with explanatory power for epistemological questions relevant to designs for virtual teacher learning.

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**Session 102** **Megan Burton Room**  
**Collaborations and Partnerships**  
**Individual Session**

***Using Number Talks to Improve Student Number Sense and Advance Restorative Justice***

Patrick Kirkland, *University of Notre Dame*

Participants will learn about a school/university partnership designed to help teachers incorporate restorative justice practices in their mathematics classrooms. We will discuss how teachers used Number Talks in a talking circle format to reinforce restorative practices in their mathematics classrooms.

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## Session 103

Mark Spikell Room

## NCTM President Exchange Session

***Catalyzing Change in Mathematics: Initiating Critical Conversations and Broadening Partnerships to Support Mathematics Teacher Education***

Trena L. Wilkerson, *National Council of Teachers of Mathematics and Baylor University*

Let's explore ways of broadening our partnerships as MTEs to address challenges and opportunities in PK-12 mathematics education guided by the four key recommendations from the National Council of Teachers of Mathematics' Catalyzing Change series.

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## Session 104

Hank Kepner Room

***Brief Report Session: Mathematical Argumentation******Problem-Posing: Window into Prospective Teachers' Views of Tasks that Promote Student Engagement in Mathematical Argumentation***

Marta T. Magiera, *Marquette University*

We present how prospective elementary teachers interpret tasks that engage students in mathematical argumentation. We discuss characteristics of tasks prospective teachers pose to engage students in argumentation and activities of argumentation they envision students experience while working on their tasks.

***Supporting Argumentation: "But Now I Have Realized That It's Way More than That"***

Jonathan Kyle Foster, *University of Georgia*

Hyejin Park, *James Madison University*

Laura M. Singletary, *Lee University*

AnnaMarie Conner, *University of Georgia*

Supporting students in making mathematical arguments is an important mathematical practice. We examine how a teacher comes to conceive of argumentation and her support for argumentation after a three-year professional development opportunity.

***The Use of Incorrect Answers to Support Argumentation in Mathematics Classrooms***

Yuling Zhuang, *University of Georgia*

This study displays three different ways that incorrect answers can be used to foster collective mathematical argumentation. It provides insights on how we could help prospective teachers to support student argumentation while managing an incorrect answer.

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**Brief Report Session: Collaborations & Partnerships*****Shared Epistemic Authority: Relocating Mathematics Teacher Educators' Knowledge Sources***

Jose Martinez Hinestroza, *Texas State University*

Focusing on the evolution of patterns in bids and requests for knowledge in a three-year teacher/MTE collaboration, this study describes mechanisms that MTEs may adopt and adapt to foster shared epistemic authority conducive to co-learning.

***Using Coplanning and Coteaching During Secondary Mathematics Clinical Experiences to Facilitate Equitable Opportunities* [Featured MTEP Brief Report]**

Ruthmae Sears, *University of South Florida*

Jamalee Stone, *Black Hills State University*

Pier A. Junor Clarke, *Georgia State University*

Cynthia Castro-Minnehan, *University of South Florida*

Jennifer Oloff-Lewis, *California State University, Chico*

Maureen M. Grady, *East Carolina University*

We will describe how a networked improvement community of mathematics teacher educators integrated co-planning and co-teaching in clinical experiences to attend to equity.

Subsequently, we will share teacher candidates' perspectives which highlights co-planning and co-teaching strategies that increased individualized learning opportunities.

***Collaborating with a Local Nonprofit to Prepare Preservice Teachers for Social Emotional Learning***

Todd Frauenholtz, *Bemidji State University*

Jenna Rae O'Dell, *Bemidji State University*

This brief report will share how we plan to maximize the benefits of collaboration with a local nonprofit to help prepare preservice mathematics teachers to teach all students, especially those from high need backgrounds that include trauma and toxic stress.

**Professional Development  
Individual Session*****Professional Development Materials to Support Using a Data Investigation Process***

Gemma Foust Mojica, *North Carolina State University*

Hollylynne Lee, *North Carolina State University*

Emily Thrasher, *North Carolina State University*

A process for engaging in data investigations that builds on the four-phase statistical investigation cycle (pose, collect, analyze, interpret) and incorporates data science processes will be introduced. Materials that engage teachers in making sense of data will be shared.

**Collaborations and Partnerships  
Discussion Session*****Mathematics Pathways from High School to Postsecondary: The Role of Mathematics Teacher Preparation***

W. Gary Martin, *Auburn University*

Marilyn E. Strutchens, *Auburn University*

Stakeholder groups have formed in many states to address disparities in students' progress from K-12 to postsecondary mathematics. The work of one state will motivate discussion of the critical role of mathematics teacher educators in addressing this multidimensional problem.

**Practice-Based Experiences for Prospective Teachers  
Individual Session*****The UTE Model for Early Field Experiences: Perspectives of Multiple Stakeholders***

Fran Arbaugh, *Pennsylvania State University*

Michelle Cirillo, *University of Delaware*

Seonmi Do, *Pennsylvania State University*

Kristen Bieda, *Michigan State University*

The University Teaching Experience (UTE) is a novel model of early field experience for secondary mathematics preservice teachers. In this session, we present findings from a study of multiple stakeholders' perspectives on their experiences with the model

**Session 109** **Christine Thomas Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Discussion Session**

***A Human Experience for K-8 Preservice Teachers and Mathematics Teacher Educators***

Nirmala Naresh, *University of North Texas*  
Colleen M. Eddy, *University of North Texas*  
Karisma Morton, *University of North Texas*

The goal of the session is to stimulate discussion and action for how we, as MTEs, rehumanize mathematics in K-8 content and methods courses. We draw from dimensions of Gutiérrez's (2018) framework that promote mathematics as a human activity.

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**Session 110** **Randy Philipp Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***Experiences with and Considerations for Coached Rehearsals in Secondary Mathematics Methods Courses***

Josh Karr, *West Virginia University*  
Erin E. Baldinger, *University of Minnesota*  
Matthew P. Campbell, *West Virginia University*  
Sean Freeland, *West Virginia University*  
Foster Graif, *University of Minnesota*

During this session, we highlight our efforts to implement coached rehearsals within methods courses. We will engage participants in considering the work of coaching rehearsals, sharing insights from our own coaching, and collectively considering implications.

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**Session 111** **Mike Steele Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Video Analysis: Developing Prospective Elementary Teachers' Noticing Skills***

Lisa Poling, *Appalachian State University*  
Liza Bondurant, *Delta State University*  
Diana Moss, *University of Nevada, Reno*

The research reported in this session examines prospective elementary mathematics teachers' implementation of the noticing framework through the use of videos displaying elementary students engaging in mathematical tasks.

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**Session 112** **Megan Burton Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Using Integrated STEM as a Context to Teach Mathematics: Expanding Prospective Elementary Teachers' Dispositions***

Babette M. Benken, *California State University, Long Beach*  
Cathrine Maiorca, *California State University, Long Beach*

In this session, we share activity details of (with participant engagement) and research findings for the impact of integrated STEM modules embedded in an elementary mathematics methods course on preservice teachers' dispositions toward teaching mathematics through integrated STEM lessons.

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**Session 113****Mark Spikell Room****AMTE Sponsor Session  
The Math Learning Center*****Supporting Elementary Student Understanding and Discourse in an Online Learning Environment***Patrick Vennebush, *The Math Learning Center*  
Nicole Rigelman, *Portland State University*

Learn about MLC's free resources that encourage meaningful interaction, elicit conceptual understanding, and support procedural fluency. We'll show how assessment screeners, problem-solving tasks, routines, and apps can be used to make mathematical thinking visible to others and increase discourse opportunities.

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**Session 114****Hank Kepner Room*****Brief Report Session: Teaching Practices******How Do We Facilitate Rehearsals of Teaching Practices in an Online Setting?***Mark Creager, *University of Southern Indiana*  
Christopher Parrish, *University of South Alabama*  
Rachel B. Snider, *The College of New Jersey*

Teaching has progressively moved to virtual settings, presenting challenges when teaching practice-based courses like a methods course. We discuss ways that we have adapted a practice-based unit around launching tasks to an online format in both synchronous and asynchronous settings.

***Understanding the Whole-Class Discussion Phase of Task Enactments***Joshua Michael Ruk, *Western Michigan University*

This presentation looks at the whole-class discussion following a task enactment, where underlying mathematical concepts of the task are uncovered. Patterns found during this discussion can help us better understand and prepare for this phase of future task enactments.

***Reconceptualizing Relationships Between Teacher's Practices and Goals: Means-Ends Analysis***Sheunghyun Yeo, *University of Missouri-Columbia*  
Corey M. Webel, *University of Missouri*  
Phi Nguyen, *University of Missouri*  
Wenmin Zhao, *University of Missouri*

In this session, we introduce an analytic framework that focuses on reciprocal relationships between teachers' instructional practices (means) and goals (ends) regarding three dimensions: contiguity, relevancy, and grounds. Each dimension and subcategories will be exemplified, and implications will be discussed.

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**Session 115** **Judith Jacobs Room**  
**Teaching and Learning with Technology**  
**Individual Session**

***Using CueThink to Support Collaborative Mathematical Content Development***

Amanda Reinsburrow, *Drexel University*  
Valerie Klein, *Drexel University*

The goal of this session is to share the ways that using CueThink, a platform for supporting preservice teachers to engage meaningfully in the problem solving process, supports teachers to develop a productive sense of collaboration in the math classroom.

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**Session 116** **Nadine Bezuk Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***Advancing Equity and Strengthening Teaching Through Elementary Mathematical Modeling***

Erin Turner, *University of Arizona*  
Jennifer M. Suh, *George Mason University*  
Mary Alice Carlson, *Montana State University*

This workshop focuses on the uses of tools, structures, and practices at pivotal spaces in the mathematical modeling process that advances equitable participation in problem posing and quantitative thinking while honoring students' diverse mathematical strategies and cultural funds of knowledge.

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**Session 117** **Marilyn Strutchens Room**  
**Mathematics Education Policy and Program Issues**  
**Individual Session**

***Preparation of Doctorates in Mathematics Education: A National Conference to Address Some Issues and Challenges***

Jeff Shih, *University of Nevada, Las Vegas*

This session will focus on an upcoming NSF funded national conference on doctoral programs in mathematics education. It will share some goals of the conference and solicit ideas/suggestions from participants about ways to strengthen doctoral preparation in mathematics education.

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**Session 118** **Fran Arbaugh Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Preservice Teachers' Reasoning at the Intersection of Conditional Statements, Converses, and Diagrams***

Wayne Nirode, *Miami University*  
Jane Marie Keiser, *Miami University*

This session shares the results of a research study about preservice teachers reasoning at the intersection of conditional statements, converses, and diagrams. Participants will discuss implications for the preparation of preservice teachers across all grade bands.

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**Session 119** **Christine Thomas Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Analyzing Argumentation to Understand How Preservice Mathematics Teachers' Develop Political Knowledge***

Rochelle Gutierrez, *University of Illinois at Urbana-Champaign*  
Alexandria Taylor Cervantes, *University of Illinois*  
Theresa Dobbs, *University of Illinois*

Using scenarios to support preservice teachers' political knowledge is becoming more popular. This session provides participants with the opportunity to analyze one tool and showcases discourse analysis as one way to investigate preservice teachers' understandings of the narratives that circulate in mathematics.

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**Session 120** **Randy Philipp Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***Discursive Moves of Mathematics Teacher Educators: How Coaches Talk with Teachers***

Ryan Gillespie, *University of Idaho*  
Julie Amador, *University of Idaho*  
Cynthia D. Carson, *University of Rochester*

The discursive moves mathematics teacher educators use can impact teachers' development. In this session, we will share our research on how coaches talk with teachers and will provide activities to consider the impact of these discursive moves on teachers.

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**Session 121** **Mike Steele Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Mathematics Knowledge for Teaching Early College Mathematics: Tacit and Explicit Assumptions***

Jackie Murawska, *Skokie/Morton Grove School District 69*  
Mike Steele, *University of Wisconsin-Milwaukee*  
Keith A. Nabb, *University of Wisconsin-River Falls*

Students enrolled in early college and developmental mathematics bring unique cognitive and socioemotional assets. After sharing unexamined assumptions in the conceptualization of MKT in certain contexts, participants will analyze potential mathematical and pedagogical decisions through this lens using classroom scenarios.

**Session 122** **Megan Burton Room**  
**Development of Mathematics Teacher Educators**  
**Symposium**

***Doing Right by Our Preservice Teachers of Color: Reflections by Mathematics Teacher Educators of Color***

Christian Anderson, *Morgan State University*  
Luz Angelica Maldonado Rodriguez, *Texas State University*  
Juanita Silva, *Texas State University*

Mathematics Teacher Educators of Color share insights from a recent study of preservice teachers of color. During this symposium, the panel participants will discuss the role of culture in the preparation of mathematics teachers and in their professional practice.

**FRIDAY, FEBRUARY 19, 2021**

**2:30 PM - 3:00 PM (EST)**

**AMTE**



**Vendor Break – Exhibitor Room**

Visit with our sponsors and vendors. Each sponsor visit qualifies you to enter your name into the drawing for prizes. To participate, visit with a vendor, scan their QR Code, and you'll be included in the drawing.



**Session 123** **Mark Spikell Room**  
**AMATYC President Exchange Session**

***Using AMATYC Position Statements to Make a Change***

Kathryn Kozak, *American Mathematical Association of Two-Year Colleges*

AMATYC has created many position statements to help faculty make changes in their departments and/or colleges. In November 2020, the AMATYC Delegate approved several new and revised position statements. The position statements are on issues such as equity and academic preparation of mathematics faculty. This session will look at the new statements that were approved and the vision of how faculty can use them to make changes in their classrooms, departments, and institutions.

**Session 124** **Hank Kepner Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Influence of a Measurement Perspective on Preservice Teachers' Reasoning about Fractions***

Muteb Alqahtani, *SUNY Cortland*  
 Victoria Rose Webster, *SUNY Cortland*

In this presentation, we report on a study that investigates how reexamining fractions theoretically from a measuring perspective influences how preservice teachers reason about fractions represented in continuous and discrete models.

**Session 125** **Judith Jacobs Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Crossing the Divide: Elementary Mathematics Teachers' Opportunities to Learn During and After Teacher Preparation***

Corey Drake, *Michigan State University*  
 Jillian M. Cavanna, *University of Hartford*

Teacher candidates have multiple opportunities to learn to teach mathematics across teacher preparation and novice teaching. In this session, we share patterns in sixteen novice teachers' descriptions of the consistency and relevance of their opportunities during and beyond teacher preparation.

**Session 126** **Nadine Bezuk Room**  
**Professional Development**  
**Individual Session**

***Virtual, Research-Based Mathematics Education Professional Development for Rural Educators: An ECHO Model***

Candace Joswick, *University of Texas at Arlington*

The ECHO Model of virtual professional development and the use of an ECHO for reaching rural early childhood educators and disseminating learning trajectories will be presented. Attendees will engage in a model session immersive experience.

**Session 127** **Marilyn Strutchens Room**  
**Mathematics Education Policy and Program Issues**  
**Featured MTEP Individual Session**

***Recruiting Quality Candidates while Promoting Teacher Education***

Cheryl Ordorica, *California State University, Chico*  
 Diane Barrett, *University of Hawaii at Hilo*  
 Dana Pomykal Franz, *Mississippi State University*

This proposal will engage participants in methods for developing positive, intentional recruitment strategies tailored to the needs of their home institution. Ways to leverage social media to help in reframing mathematics teaching will be demonstrated.

**Session 128** **Fran Arbaugh Room**  
**Professional Development**  
**Individual Session**

***Mathematics Studio: An Adaptation of Lesson Study That Centralizes Teachers' Current Problems of Practice***

Kristin Lesseig, *Washington State University, Vancouver*  
 Jessica Lynn Hoppe, *Washington State University*

Teacher-driven professional development has the potential to bridge the research-to-practice divide. Learn about features underlying the success of Mathematics Studio, a form of classroom-embedded professional learning. Findings and implications from a three-year study involving middle school teachers will be discussed.



**Session 129** **Christine Thomas Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Fostering Positive Student Participation by Supporting Teachers' Discursive Tactics***

Hector Ivan Nieves, *Boston University*  
Leslie Dietiker, *Boston University*  
Meghan Riling, *Boston University*  
Rashmi Singh, *Boston University*

To combat negative perceptions of mathematics among secondary students, we describe multiple discursive strategies ("tactics") used by six experienced high school mathematics teachers to elicit student interest, engagement, and agency as they implemented lessons designed to captivate students.

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**Session 130** **Randy Philipp Room**  
**Mathematics Pedagogy**  
**Individual Session**

***That's Not Valid, Josie: How Do Prospective Teachers Respond to the Linearity Error?***

Jonathan Kyle Foster, *University of Georgia*

Do you know how your prospective teachers respond to a student error? Is the response productive for student learning? Attendees will examine a pilot instrument used to understand the competencies prospective secondary teachers use to respond to a student's error.

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**Session 131** **Mike Steele Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Individual Session**

***Navigating Microaggressions from School Partners as Researchers of Color***

Kari Kokka, *University of Pittsburgh*  
Renata Almeida Ramos, *University of Pittsburgh*  
Nathaniel B. Ferrer, *University of Pittsburgh*  
Briana Rodriguez, *University of Pittsburgh*  
Marialexia Zaragoza, *University of Pittsburgh*

This session investigates the complex dynamic of a research team of all people of color, working with 15 white mathematics teachers in six Title I public secondary schools, where we experienced microaggressions and struggled to form strong relationships.

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**Session 132** **Megan Burton Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***"The Best Way to Grow an Intern": Co-Planning in Internship Experiences***

Maureen M. Grady, *East Carolina University*  
Charity Cayton, *East Carolina University*

We will describe six co-planning strategies and data from our clinical teachers and interns about the benefits and challenges of co-planning. Session participants will engage in discussion about implementing co-planning, ideas for training prospective teachers and mentors, and available resources.

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**Session 133****Mark Spikell Room****Professional Development  
Individual Session*****Integrating Research on Effective Instructional Practices  
into K-12 Mathematics Professional Development***Joe Champion, *Boise State University*Michele Carney, *Boise State University*Angela R. Crawford, *Boise State University*

Mathematics teachers often seek professional development in hopes of adapting their instruction to improve students' mathematics achievement. We share results from a multi-year effort to address this goal through connections to research on effective instructional practices.

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**Session 134****Hank Kepner Room*****Brief Report Session: Supporting Each and Every Student******Paging Dr. House: Using Differential Diagnosis to Prepare  
Special Educators to Design Remedial Mathematics  
Instruction***Jeremy Lynch, *Slippery Rock University*

Understanding students' strengths and areas of need is crucial when designing intensive interventions. This session provides an overview of a mathematics methods course for preservice special educators that uses the differential diagnosis model as an instructional planning tool.

***Attitudes and Noticing Skills of Elementary Preservice  
Teachers about Mathematical Reasoning of Diverse Learners***Vecihi Serbay Zambak, *Monmouth University*Chiu-Yin (Cathy) Wong, *Monmouth University*Ai Kamei, *Monmouth University*Kaitlyn Michelle Sorochna, *Monmouth University*

During our session, we will discuss elementary preservice teachers' attitudes about diverse learners' mathematical needs and their skills to notice (i.e. interpret and respond) mathematical thinking of K-6 students (i) with special needs and (ii) those that are English learners.

***Cultivating Conversations of Implicit Biases with Case-Based  
Instruction***Monica Lyn Gonzalez, *East Carolina University*Alesia Mickle Moldavan, *Fordham University*

This presentation examines how preservice teachers respond to case-based instruction that engages them in meaningful conversations about implicit biases in mathematics methods courses. Recommendations will be shared for using case-based instruction to address issues of equity in mathematics teacher preparation.

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**Session 135** **Judith Jacobs Room**  
**Mathematics Content and Curriculum**  
**Discussion Session**

***Conceptualizing Opportunities for Computational Thinking Practices to Solve Mathematics Tasks in Mathematics Methods Courses***

Rebekah Elliott, *Oregon State University*  
Elise Lockwood, *Oregon State University*

Featuring a multi-day module for secondary math teacher candidates to engage in computational thinking practices (CTPs) and mathematical practices using Python, participants discuss literature on CTPs, examine module designs, investigate vignette analysis of teacher candidates' participation, and consider resources and collaborations.

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**Session 136** **Nadine Bezuk Room**  
**Mathematics Pedagogy**  
**Individual Session**

***Teachers Cannot Improve What They Do Not See: A Large-Scale Survey of Mathematics Teachers' Noticing***

Yasemin Copur-Gencturk, *University of Southern California*  
Jessica Rodrigues, *University of Missouri*

Studying patterns of teacher noticing provides critical information for guiding and improving mathematics teacher education. This session will share trends in what a national sample of elementary mathematics teachers noticed naturally.

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**Session 137** **Marilyn Strutchens Room**  
**Collaborations and Partnerships**  
**Discussion Session**

***A Longitudinal Inquiry into an Informal STEM Club for Girls***

Rose Mbewe, *Purdue University*  
Lili Zhou, *Purdue University*  
Jill Newton, *Purdue University*  
Sue Ellen Richardson, *Purdue University*

We examine experiences of the original participants of a girls' STEM club for potential long-term impacts on their educational and professional experiences. Using insights from participant narratives, we discuss affordances of informal mathematics learning environments related to mathematics teacher education.

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**Session 138** **Fran Arbaugh Room**  
**Mathematics Pedagogy**  
**Discussion Session**

***Interrogating Mathematics Teacher Educators' Practice: Clarifying What Equitable Mathematics Pedagogy Looks Like for Prospective Teachers***

Stefanie D. Livers, *Missouri State University*  
Craig Willey, *Indiana University-Purdue University Indianapolis*

In order to prepare teachers to develop critical consciousness, MTEs must engage in critical interrogation of their own practice. We share the results from a three-year study and focus on journaling as a tool for structured reflection.

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**Session 139** **Christine Thomas Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Discussion Session**

***Exploring Multicultural Practices in Posing Mathematics Word Problems***

Ashley M. Williams, *Texas A&M University*  
Rachael M. Welder, *Texas A&M University*  
Alexandra Foran, *Texas A&M University*

The need for training in multiculturalism is essential in teacher education programs as the diversity of U.S. students increases. We will examine a task designed to discuss multiculturalism with prospective teachers in the context of posing culturally-sensitive word problems.

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**Session 140** **Randy Philipp Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Using the Gift of Students' Mathematical Thinking to Highlight New and Beautiful Mathematics for Teaching***

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

We consider the rich and unexpected mathematics that arises when we look more deeply at students' mathematical ideas. We highlight how the lens of students' mathematical thinking orients mathematics teacher educators and teachers toward surprising and more inclusive mathematics.

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**Session 141** **Mike Steele Room**  
**Teaching and Learning with Technology**  
**Individual Session**

***Online Teaching Labs: Using Video to Facilitate Lesson Analysis in Synchronous Sessions***

Cynthia H. Callard, *University of Rochester*  
Ryan Gillespie, *University of Idaho*  
Jennifer S. Kruger, *University of Rochester*

In this session, we will share our work designing and implementing synchronous "Online Teaching Labs" which incorporate the use of video and online platforms to create accessible learning experiences that engage practicing or prospective teachers in lesson observation and discussion.

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**Session 142** **Megan Burton Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***Advancing Mathematics Teacher Education Community Through Uncertain Times: Doctoral Student Research Review Group Workshop***

Erica G. Litke, *University of Delaware*  
Joshua Hertel, *University of Wisconsin-La Crosse*  
Travis Weiland, *University of Houston*  
Joel Amidon, *University of Mississippi*

Disruptions caused by COVID-19 acutely impacted graduate students. This workshop brings together doctoral students with mathematics education faculty to provide support to doctoral members of AMTE. Doctoral students will receive feedback on in-progress research and expand their existing mentoring networks.

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AMTE

25<sup>TH</sup>

CONFERENCE

**Fireside Chat with Judith E. Jacobs Lecturer – Fran Arbaugh Room**

An informal opportunity to discuss and debrief ideas shared by Judith E. Jacobs Lecturer Marta Civil. Discussion will be facilitated between speakers and attendees.

**Fireside Chat with Opening Session Presenters – Christine Thomas Room**

An informal opportunity to discuss and debrief ideas shared during the Opening Session by panelists Naomi Jessup, Joel Amidon, and Sandra Crespo. Discussion will be facilitated between speakers and attendees.

AMTE

25<sup>TH</sup>

CONFERENCE

**Community Circles Follow-Up**

We invite you to continue conversations with Community Circles that will further build and nurture our professional community. A list of Community Circle topics and links is available in the conference app.



## OVERVIEW OF SATURDAY, FEBRUARY 20, 2021

|                                | 11:00 AM – 12:00 PM (EST)  | 12:15 PM – 1:15 PM (EST)   |
|--------------------------------|--|--|
| <b>Mark Spikell Room</b>       | 143. <i>COVID-19 Distance Learning: The Advocacy, Equity, &amp; Research Division Addresses Unintended Consequences, Challenges, and Successes</i> - van Ingen Lauer         | 153. <i>Examining the Design of Secondary Mathematics Methods Courses through the Lens of Mathematics Teaching Practices</i> - Shelton           |
| <b>Hank Kepner Room</b>        | 144. <i>Brief Report Session: Mathematics Content &amp; Elementary Teachers</i>  | 154. <i>Brief Report Session: Discourse, Justification, &amp; Equity</i>   |
| <b>Judith Jacobs Room</b>      | 145. <i>Strengthening Educators' Practices for Engaging and Empowering Students with Disabilities and Difficulties as Mathematics Learners</i> - Storeygard, Brodesky & Hunt | 155. <i>Brief Report Session: Field-Based Experiences for Mathematics Teachers</i>   |
| <b>Nadine Bezuk Room</b>       | 146. <i>Lesson Study to Support Preservice Mathematics Teacher Learning about Equity</i> - Graham & McDuffie   | 156. <i>Using Real-World Problems in Mathematics Classes: Matching Type to Purpose for Effective Instruction</i> - Richman                       |
| <b>Marilyn Strutchens Room</b> | 147. <i>The Influence of Critical Texts: Exploring Mathematics Teacher Educators' Professional Growth</i> - Willey & Lolkus  | 157. <i>Improving Secondary Preservice Mathematics Teachers' Attention to Student Mathematical Thinking</i> - Teuscher & Switzer                 |
| <b>Fran Arbaugh Room</b>       | 148. <i>Engaging Preservice Teachers in Rough Draft Talk to Learn Mathematics Online</i> - Rathouz, Krebs & Cengiz-Phillips  | 158. <i>Toward Critical Mathematical Consciousness: Engaging in Mathematical Activity to Explore Identity and Ideology</i> - Zuniga Ruiz & Scott |
| <b>Christine Thomas Room</b>   | 149. <i>Culturally Responsive Teaching and Gender Norms in PK-12 Mathematics: Sharing Discomfort with Preservice Teachers</i> - Nabb & Murawska                              | 159. <i>Lessons Learned from Mathematics Teacher Educators' Migration to Online Teaching During COVID-19</i> - Driskell, Harrington & Rhine      |
| <b>Randy Philipp Room</b>      | 150. <i>Supporting Incremental Improvements in Algebra Teaching: A Professional Development Approach</i> - Litke & Sternberg   | 160. <i>Mathematics in Partnership with a Community-Based Organization and College Pathways Program</i> - Martinez                               |
| <b>Mike Steele Room</b>        | 151. <i>Assessment in Secondary Mathematics Methods: Toward Equitable Practice Promoting Reflection and Transfer of Power</i> - Lischka & Gerstenschlager                    | 161. <i>Examining Beliefs and Images Related to Teaching and Learning Mathematics</i> - Sweeny, Ruef & Willingham                                |
| <b>Megan Burton Room</b>       | 152. <i>Aren't You Curious?: Curiosity as an Avenue for Promoting Ambitious Teaching in Preservice Teachers</i> - Lee & Reiten   |  |

## OVERVIEW OF SATURDAY, FEBRUARY 20, 2021

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| <b>Hank Kepner Room</b>        | 163. Brief Report Session: Science, Technology, & Mathematics  |                         |
| <b>Judith Jacobs Room</b>      | 164. Building Capacity for Teaching Statistics: The Role of Simulation - Burrill   |                         |
| <b>Nadine Bezuk Room</b>       | 165. Mathematics Teacher Leader Programs: A Multi-Program Analysis - Yow, Criswell, Adams, Ahrens & Hutchinson   |                         |
| <b>Marilyn Strutchens Room</b> | 166. Seeing Strengths: Supporting Prospective Teachers in Asset-Based Mathematics Teaching - Baker, Ward, Smith, Jessup, Nitta & Gonzalez                    |                         |
| <b>Fran Arbaugh Room</b>       | 167. Rethinking Our Instruction in Light of COVID-19 - Skultety & Grosser-Clarkson   |                         |
| <b>Christine Thomas Room</b>   | 168. Transforming an Idea into an AMTE Publication: Getting Feedback – AMTE Publications Division  |                         |
| <b>Randy Philipp Room</b>      | 169. Extending the AMTE Online Learning Task Force: Broadening Conversations on Online Mathematics Teacher Education - Silverman, Chauvot, Pape, Dean & Fede |                         |
| <b>Mike Steele Room</b>        | 170. LGBTQ+ Safer Spaces Workshop: Essential in Mathematics Teacher Education Programs and Professional Development - Koestler & Whipple                     |                         |
| <b>Megan Burton Room</b>       | 171. Video Case Studies: PLCs develop TRU Knowledge for Teaching - Wilson  |                         |

NOTE: Sessions 168-171 are extended sessions.



**Session 143** **Mark Spikell Room**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Discussion Session**

***COVID-19 Distance Learning: The Advocacy, Equity, & Research Division Addresses Unintended Consequences, Challenges, and Successes***

Sarah van Ingen Lauer, *University of South Florida*

AMTE's AER Division put out a call for the membership to submit 3-minute videos to describe experiences in mathematics teacher education in distance learning. We present a selection of videos and discuss equity-related themes for students, teachers and teacher educators.

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**Session 144** **Hank Kepner Room**  
***Brief Report Session: Mathematics Content & Elementary Teachers***

***The Rehumanizing Potential of Alternate Bases: Reframing Prospective Elementary Teachers' Reluctant Engagement in Content Courses***

Alexa Lee-Hassan, *University of Illinois at Chicago*

This report explores the possibility that, as a result of math trauma and insecurity, some prospective elementary school teachers may perform confidence based on what they believe they are supposed to know rather than what they actually believe they know.

***Building Elementary Preservice Teachers' Understanding of Area Concepts***

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

We share results from a study of 39 preservice teachers' understanding of area. We consider pre/post-test growth of understanding, examine how preservice teachers articulate their understanding of the concept of area, and discuss implications for mathematics teacher educators.

***Multi-step Addition and Subtraction Problem Posing: Common Errors Made by Prospective K-8 Teachers***

Alexandra Foran, *Texas A&M University*  
 Ashley M. Williams, *Texas A&M University*

We will discuss nine error patterns identified in multi-step word problems posed by K-8 prospective teachers and how the emergent trends of conceptual difficulties helped us adapt tasks and strategies for more effectively helping prospective teachers develop problem posing skills.

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**Session 145** **Judith Jacobs Room**  
**Equity, Social Justice, and Mathematics Teacher**  
**Education**  
**Symposium**

***Strengthening Educators' Practices for Engaging and Empowering Students with Disabilities and Difficulties as Mathematics Learners***

Judith Storeygard, *TERC*  
Amy Brodesky, *Education Development Center*  
Jessica H. Hunt, *North Carolina State University*

How can PD support educators in bringing out students' voices and agency as mathematics learners? Delve into three examples of equity-focused professional development programs for different audiences (general educators, mathematics teachers, special educators, paraeducators) and discuss common approaches and challenges.

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**Session 146** **Nadine Bezuk Room**  
**Practice-Based Experiences for Prospective Teachers**  
**Individual Session**

***Lesson Study to Support Preservice Mathematics Teacher Learning about Equity***

Melissa Graham, *Eastern Washington University*  
Amy Roth McDuffie, *Washington State University*

We discuss findings from a study about preservice teacher learning through lesson study in a mathematics methods course. Lesson study goals focused on equity and teaching diverse populations. Course activities, preservice teachers' learning, and implications for other mathematics teacher educators will be discussed.

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**Session 147** **Marilyn Strutchens Room**  
**Development of Mathematics Teacher Educators**  
**Individual Session**

***The Influence of Critical Texts: Exploring Mathematics Teacher Educators' Professional Growth***

Craig Willey, *Indiana University-Purdue University Indianapolis*  
Michael Lolkus, *Purdue University*

Participants analyze critical texts through the lenses of reflective teaching and Whiteness studies to connect to current, systemic issues present in mathematics classrooms. Through group discussion and individual reflection, participants examine next steps for addressing issues of power and oppression.

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**Session 148** **Fran Arbaugh Room**  
**Mathematics Content and Curriculum**  
**Individual Session**

***Engaging Preservice Teachers in Rough Draft Talk to Learn Mathematics Online***

Margaret Rathouz, *University of Michigan-Dearborn*  
Angela Krebs, *University of Michigan-Dearborn*  
Nesrin Cengiz-Phillips, *University of Michigan-Dearborn*

In this interactive presentation, we share our experiences using equitable discourse practices while teaching remote synchronous mathematics courses. We will engage teacher educators in conversations about features of tasks, practices, and Zoom tools that promote broad participation in online courses.

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**Session 149** **Christine Thomas Room**  
**Equity, Social Justice, and Mathematics Teacher**  
**Education**  
**Individual Session**

***Culturally Responsive Teaching and Gender Norms in PK-12 Mathematics: Sharing Discomfort with Preservice Teachers***

Keith A. Nabb, *University of Wisconsin-River Falls*  
Jackie Murawska, *Skokie/Morton Grove School District 69*

Teachers encounter problems that make inequities visible. In this session, a problem that elicits feelings of exclusion regarding gender norms/sexual orientation is used to engage participants in exploring the cultural competence needed in daily teaching and critical examination of curricula.

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**Session 150** **Randy Philipp Room**  
**Professional Development**  
**Individual Session**

***Supporting Incremental Improvements in Algebra Teaching: A Professional Development Approach***

Erica G. Litke, *University of Delaware*  
Kateri Ann Sternberg, *University of Delaware*

In this session, we describe professional development grounded in an incremental improvement approach, building from existing practice to bridge toward more ambitious teaching. We report on a pilot PD that takes this approach, focusing on teaching algebraic procedures.

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**Session 151**  
**Mathematics Pedagogy**  
**Discussion Session**

**Mike Steele Room**

***Assessment in Secondary Mathematics Methods: Toward Equitable Practice Promoting Reflection and Transfer of Power***

Alyson E. Lischka, *Middle Tennessee State University*  
Natasha E. Gerstenschlager, *Western Kentucky University*

Classroom assessment, one piece of teaching pedagogy, can function to sort prospective teachers or support them in growing their practice. We present a discussion around alternative classroom assessment in teacher preparation to support prospective teachers' reflection and personal power.

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**Session 152**  
**Mathematics Pedagogy**  
**Discussion Session**

**Megan Burton Room**

***Aren't You Curious?: Curiosity as an Avenue for Promoting Ambitious Teaching in Preservice Teachers***

Alees Lee, *Weber State University*  
Lindsay Reiten, *University of Northern Colorado*

Stemming from student's mathematical curiosity (Knuth, 2002), we present a parallel disposition for teachers: mathematics education curiosity. We see this disposition as foundational for developing ambitious teachers of mathematics and invite you to join discussions around fostering curiosity in teachers.

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## Session 153

Mark Spikell Room

Mathematics Pedagogy  
Individual Session***Examining the Design of Secondary Mathematics  
Methods Courses through the Lens of Mathematics  
Teaching Practices***Ryann Shelton, *Baylor University*

This session will provide an overview of a study related to designing and planning for secondary mathematics methods courses through the lens of the Mathematics Teaching Practices (NCTM, 2014). Results from a multiple case study will be shared.

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## Session 154

Hank Kepner Room

***Brief Report Session: Discourse, Justification, & Equity******Connecting EQUIP Data and the Levels of Classroom  
Discourse Rubric: Building More Equitable Mathematics  
Communities***Susan Cannon, *Mercer University*Jami Cara Friedrich, *Mercer University*

I present practices implemented with elementary inservice mathematics teachers as they used the EQUIP app in concert with the Levels of Classroom Discourse rubric. The teachers made connections between the two tools to address inequities as they built mathematical community.

***Prospective Teachers' Ideas of Authority in a  
Justification Task***Brenda Rosencrans, *Portland State University*Eva Thanheiser, *Portland State University*

We present an analysis of prospective teachers' reflections about their experience in learning to justify. Prospective teachers completed two cycles of sharing an initial justification, reviewing and sharing feedback on their peers' work, and incorporating feedback into a revised justification.

***Elementary Teachers' Characteristics, Practices, and  
Their Students' Opportunities to Justify***Christopher Austin, *University of Southern Maine*

This session highlights findings from a mixed methods study that investigated relationships between elementary teachers' characteristics (e.g., knowledge, beliefs) and self-described teaching practices, and evidence of opportunities for their students to engage in mathematical justification gathered from classroom observations.

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**Session 155****Judith Jacobs Room****Brief Report Session: Field-Based Experiences for Mathematics Teachers****Examining Mathematics Teacher Educators' Learning Goals for Practice-Embedded Experiences**

Melinda Knapp, *Oregon State University-Cascades*  
 Lynsey Gibbons, *University of Delaware*

In this brief report, we examine how facilitators of "Math Labs" professional learning design identified learning goals for teachers, designed professional learning activities based on those goals, and enacted the professional learning activities to support teacher development.

**Teacher Noticing for Preservice Teachers in an Early Childhood Field Experience**

Sandi Cooper, *Baylor University*  
 Melissa Donham, *Baylor University*  
 Kenley Marie Bailey, *Baylor University*

This session reports on the development of preservice teacher noticing during a summer mathematics academy for early learners from low-socioeconomic populations. The authors share the analysis of data collected before, during, and after the varied field experience.

**Using Framing to Explain Preservice Teachers' Participatory Curriculum Use During Early Field Experiences**

Monica Anthony, *University of Maryland*

Exploration of how the theory of framing can be used to illuminate the participatory relationship between preservice teacher and instructional materials during an early field experience.

**Session 156****Nadine Bezuk Room****Mathematics Content and Curriculum Individual Session****Using Real-World Problems in Mathematics Classes: Matching Type to Purpose for Effective Instruction**

Andrew Stephen Richman, *Boston University*

In this session, we will use concrete examples from research to discuss how different types of real-world problems can be most effectively employed to support both mathematical and beyond-the-classroom goals.

**Session 157****Marilyn Strutchens Room****Practice-Based Experiences for Prospective Teachers Individual Session****Improving Secondary Preservice Mathematics Teachers' Attention to Student Mathematical Thinking**

Dawn Teuscher, *Brigham Young University*  
 John M. Switzer, *Texas Christian University*

The activities that teacher educators prepare for preservice teachers should be intentional in their purpose for improving teaching practices. We report on a video database activity that our preservice teachers engaged in and their improvement in attending to student mathematics.

**Session 158****Fran Arbaugh Room****Equity, Social Justice, and Mathematics Teacher Education Individual Session****Toward Critical Mathematical Consciousness: Engaging in Mathematical Activity to Explore Identity and Ideology**

Sandra Zuniga Ruiz, *University of California, Berkeley*  
 Mallika H. Scott, *California State University, Fullerton*

In this session, we explore doing mathematics as a productive site to illuminate on issues of identity and ideology. We will share findings from our ongoing studies and provide participants opportunities to reflect on how such issues can become visible.

**Session 159****Christine Thomas Room****Professional Development Individual Session****Lessons Learned from Mathematics Teacher Educators' Migration to Online Teaching During COVID-19**

Shannon Driskell, *University of Dayton*  
 Rachel A. Harrington, *Western Oregon University*  
 Steve Rhine, *Pacific University*

Researchers conducted a survey of AMTE members regarding changes in their instruction due to migration to online teaching during COVID-19. Participants will discuss findings regarding new strategies and tools for learning and implications for policy and professional development.

**Session 160**  
**Collaborations and Partnerships**  
**Individual Session**

**Randy Philipp Room**

***Mathematics in Partnership with a Community-Based Organization and College Pathways Program***

Ricardo Martinez, *Iowa State University*

This session will share insight from a ten-day mathematics and youth participatory action research summer program. The program was a partnership between a Latinx community-based organization and a university pathway program for underrepresented students in AgSTEM.

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**Session 161**  
**Mathematics Pedagogy**  
**Symposium**

**Mike Steele Room**

***Examining Beliefs and Images Related to Teaching and Learning Mathematics***

Shannon P. Sweeny, *Northern Arizona University*

Jennifer Ruef, *University of Oregon*

James C. Willingham, *James Madison University*

In this session, you will explore a set of three tasks designed to be used in mathematics methods courses to critically examine and discuss prospective teachers' beliefs and images related to teaching and learning mathematics.

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## Session 162

Mark Spikell Room

**Brief Report Session: Lesson Study*****Connecting Mathematics and Multicultural Literature: A Lesson Study to Foster Culturally Responsive Mathematics Teaching***Alesia Mickle Moldavan, *Fordham University*

This study examines prospective teachers using a lesson study to foster culturally responsive mathematics teaching by connecting elementary mathematics content to multicultural literature. Suggestions follow for practice-based experiences to elicit meaningful discussions of mathematical thinking, language, culture, and social justice.

***Continuous Improvement Lesson Study to Develop an Educative Lesson***Melissa Marie Soto, *San Diego State University*Lara K. Dick, *Bucknell University*Dittika Gupta, *Midwestern State University*Mollie Appelgate, *Iowa State University*

Early career MTEs used the Continuous Improvement Framework and lesson study to develop, through cycles of revised teaching, an educative lesson for elementary preservice teachers focused on teacher noticing and multiplication. We share benefits for students and our professional development.

***From Research to Practice: Narrative of a Kindergarten Teacher in Lesson Study***Mahtob Aqazade, *Purdue University*Laura Bofferding, *Purdue University*

Teachers' experiences influence the way they take research and use it in practice. Participants will gain insight into how one kindergarten teacher interpreted and applied our presented research to her narrow context during a lesson study cycle.

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## Session 163

Hank Kepner Room

***Brief Report Session: Science, Technology, & Mathematics******Conceptualizing a Mathematics Course for K-12 STEM Teachers***Leah M. Frazee, *Central Connecticut State University*

This brief report's purpose is to present a teaching idea for a mathematics course for inservice and preservice K-12 STEM teachers. The goals of the course include developing teachers' mathematical abilities and building connections between mathematics and other STEM disciplines.

***Situating Elementary Math Methods Within a Collaborative STEM Block***Matt Flores, *Nebraska Wesleyan University*Amanda Thomas, *University of Nebraska-Lincoln*

This session will engage mathematics teacher educators in the collaboration and partnership efforts made by faculty and staff to provide a common STEM learning experience for preservice teachers within an elementary education program.

***Supporting Secondary Preservice Mathematics Teachers Professional Judgment Around Technology Use***Charmaine Mangram, *University of Hawaii at Manoa*Kathy Sun, *Santa Clara University*

We report on research conducted on a task created for and implemented in secondary mathematics methods courses requiring preservice teachers to select and evaluate digital mathematics tools using the Common Core State Standards and the 5 Strands of Mathematical Proficiency.

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**Session 164** **Judith Jacobs Room**  
**Mathematics Content and Curriculum**  
**Symposium**

***Building Capacity for Teaching Statistics: The Role of Simulation***

Gail Burrill, *Michigan State University*

The Standards for Preparing Teachers of Mathematics call for a data-driven simulation-based approach to teaching statistics. Participants will engage in activities and discussion the potential of this approach in preparing teachers both to understand and to teach statistics.

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**Session 165** **Nadine Bezuk Room**  
**Professional Development**  
**Individual Session**

***Mathematics Teacher Leader Programs: A Multi-Program Analysis***

Jan Yow, *University of South Carolina*

Brett Criswell, *West Chester University*

Paula Adams, *Clemson University*

Sally Ahrens, *University of Nebraska-Lincoln*

Anna E. Hutchinson, *University of Cincinnati*

This presentation presents findings from a national study of seven Mathematics Teacher Leader programs across six states that explored how these programs were structured to develop and support mathematics teacher leadership identities and activities in diverse school contexts.

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**Session 166** **Marilyn Strutchens Room**  
**Mathematics Pedagogy**  
**Symposium**

***Seeing Strengths: Supporting Prospective Teachers in Asset-Based Mathematics Teaching***

Katherine Baker, *Elon University*

Jennifer Ward, *Kennesaw State University*

Erin Smith, *The University of Southern Mississippi*

Naomi Jessup, *Georgia State University*

Kathleen Nitta, *Gonzaga University*

Monica Lyn Gonzalez, *East Carolina University*

This symposium provides a space to learn about and collaboratively reflect upon how mathematics teacher educators can support elementary prospective teachers to see their students' mathematical strengths

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**Session 167** **Fran Arbaugh Room**  
**Development of Mathematics Teacher Educators**  
**Discussion Session**

***Rethinking Our Instruction in Light of COVID-19***

Lisa Skultety, *University of Central Arkansas*

Dana Grosser-Clarkson, *University of Maryland*

With COVID-19 interrupting courses and field experiences, many MTEs had to reprioritize course objectives. In this session, we discuss lessons learned, how priorities shifted during this transition, and how these choices may impact our future courses.

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**Session 168**  
**AMTE Division Session**

**Christine Thomas Room**

***Publications: Transforming an Idea into an AMTE Publication: Getting Feedback***

AMTE Publications Division

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

**Session 169**  
**Teaching and Learning with Technology**  
**Extended Session**

**Randy Philipp Room**

***Extending the AMTE Online Learning Task Force: Broadening Conversations on Online Mathematics Teacher Education***

Jason Silverman, *Drexel University*

Jennifer Chauvot, *University of Houston*

Stephen Pape, *Johns Hopkins University*

Chrystal Dean, *Appalachian State University*

Bryan Fede, *Marquette University*

Participants will engage in conversation about the design and implementation of online mathematics teacher education courses that model and use effective teaching practices and address relevant standards for mathematics education and teacher preparation. Opportunities for follow-up engagement will be cultivated.

**Session 170**  
**Equity, Social Justice, and Mathematics Teacher Education**  
**Extended Session**

**Mike Steele Room**

***LGBTQ+ Safer Spaces Workshop: Essential in Mathematics Teacher Education Programs and Professional Development***

Courtney Koestler, *Ohio University*

Kyle Stephen Whipple, *University of Wisconsin-Eau Claire*

In this 120-minute workshop, we will engage participants in a Safer Spaces type workshop, an essential aspect of PreK-12 mathematics teacher education that is often missing in teacher preparation programs and professional development opportunities for mathematics teachers.

**Session 171**  
**Professional Development**  
**Extended Session**

**Megan Burton Room**

***Video Case Studies: PLCs develop TRU Knowledge for Teaching***

David C. Wilson, *SUNY Buffalo State*

Engage with a PD model featuring Professional Learning Communities exploring Formative Assessment Lessons (FALs) using the Teaching for Robust Understanding (TRU) framework. Video case studies are used to study episodes of student's reasoning that took place while completing FALs.

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| DiNapoli, Joseph                 | <i>Montclair State University</i>                | Mallam, Winifred                  | <i>Texas Woman's University</i>                            |
| Drake, Corey                     | <i>Michigan State University</i>                 | Marin, Katherine Ariemma          | <i>Stonehill College</i>                                   |
| Eatmon, Cassandra Cook           | <i>George Mason University</i>                   | Martin, Leigh                     | <i>Clemson University</i>                                  |
| Eddy, Colleen M.                 | <i>University of North Texas</i>                 | Martinez Hinestroza, Jose         | <i>Texas State University</i>                              |
| Edenfield, Kelly W.              | <i>University of Georgia</i>                     | Martinez, Ricardo                 | <i>Iowa State University</i>                               |
| Elliott, Rebekah                 | <i>Oregon State University</i>                   | McCloskey, Andrea                 | <i>Pennsylvania State University</i>                       |
| Elrod, Emily C.                  | <i>North Carolina State University</i>           | McCulloch, Allison W.             | <i>University of North Carolina at Charlotte</i>           |
| Enderson, Mary C.                | <i>Old Dominion University</i>                   | Miller, Katherine                 | <i>University of Massachusetts, Lowell</i>                 |
| Ferguson, Sarah                  | <i>Old Dominion University</i>                   | Miller, Travis K.                 | <i>University of Indianapolis</i>                          |
| Fernandes, Anthony M.A.          | <i>University of North Carolina at Charlotte</i> | Moldavan, Alesia Mickle           | <i>Fordham University</i>                                  |
| Flessner, Ryan                   | <i>Butler University</i>                         | Morton, Karisma                   | <i>University of North Texas</i>                           |
| Foster, Jonathan Kyle            | <i>University of Georgia</i>                     | Myers, Marrielle                  | <i>Kennesaw State University</i>                           |
| Franz, Dana Pomykal              | <i>Mississippi State University</i>              | Naresh, Nirmala                   | <i>University of North Texas</i>                           |
| Frazee, Leah M.                  | <i>Central Connecticut State University</i>      |                                   |  |

|                            |  |                        |  |
|----------------------------|--|------------------------|--|
| Newton, Jill               | <i>Purdue University</i>                         | Stewart, Gail Patricia | <i>University of South Florida</i>                         |
| Nirode, Wayne              | <i>Miami University</i>                          | Strassfeld, Brenda     | <i>Touro College</i>                                       |
| Olanoff, Dana              | <i>Widener University</i>                        | Sullivan, Patrick Lane | <i>Missouri State University</i>                           |
| Orr, Sheila                | <i>Michigan State University</i>                 | Sweeny, Shannon P.     | <i>Northern Arizona University</i>                         |
| Ortiz, Enrique             | <i>University of Central Florida</i>             | Sztajn, Paola          | <i>North Carolina State University</i>                     |
| Ozturk, Ayse               | <i>The Ohio State University</i>                 | Taylor, Cynthia E.     | <i>Millersville University of Pennsylvania</i>             |
| Pape, Stephen              | <i>Johns Hopkins University</i>                  | Teuscher, Dawn         | <i>Brigham Young University</i>                            |
| Park, Hyejin               | <i>James Madison University</i>                  | Thrasher, Emily        | <i>North Carolina State University</i>                     |
| Pitvorec, Kathleen         | <i>University of Illinois, Chicago</i>           | Toreky, Carrie         | <i>University of South Florida</i>                         |
| Poling, Lisa               | <i>Appalachian State University</i>              | Trinter, Christine     | <i>University of Notre Dame</i>                            |
| Polly, Drew                | <i>University of North Carolina at Charlotte</i> | Tyminski, Andrew       | <i>Clemson University</i>                                  |
| Polojac-Chenoweth, Denise  | <i>University of South Florida</i>               | Uy, Frederick L.       | <i>California State University</i>                         |
| Powers, Robert             | <i>University of Northern Colorado</i>           | Vishnubhotla, Madhavi  | <i>Montclair State University</i>                          |
| Quan-Lorey, Stephanie      | <i>Holy Names University</i>                     | Wagner, Patty A.       | <i>University of North Georgia</i>                         |
| Rahman, Zareen Gul         | <i>James Madison University</i>                  | Walcott, Crystal       | <i>Indiana University - Purdue University<br/>Columbus</i> |
| Rakes, Christopher         | <i>University of Maryland, Baltimore County</i>  | Walters, C. David      | <i>Weber State University</i>                              |
| Raygoza, Mary Candace      | <i>Saint Mary's College of California</i>        | Walters, Kelsey        | <i>Purdue University</i>                                   |
| Reinke, Luke               | <i>University of North Carolina at Charlotte</i> | Wambua, Michelle M.    | <i>University of Missouri, Columbia</i>                    |
| Reiten, Lindsay            | <i>University of Northern Colorado</i>           | Ward, Jennifer         | <i>Kennesaw State University</i>                           |
| Rhodes, Sam                | <i>Georgia Southern University</i>               | Wasserman, Nicholas    | <i>Columbia University</i>                                 |
| Roller, Sarah A.           | <i>The University of Alabama in Huntsville</i>   | Watson, Lucy           | <i>Belmont University</i>                                  |
| Rothrock, Katrina Stullken | <i>University of Wisconsin, Eau Claire</i>       | Webb, Jared            | <i>North Carolina A&amp;T State University</i>             |
| Ruff, Adam                 | <i>University of Northern Colorado</i>           | Weiland, Travis        | <i>University of Houston</i>                               |
| Safi, Farshid              | <i>University of Central Florida</i>             | Whipple, Kyle Stephen  | <i>University of Wisconsin, Eau Claire</i>                 |
| Salem, Wesam               | <i>University of Memphis</i>                     | Whitehead, Ashley      | <i>Appalachian State University</i>                        |
| Shah, Meetal               | <i>North Carolina State University</i>           | Wilburne, Jane         | <i>Pennsylvania State University, Harrisburg</i>           |
| Shaughnessy, Meghan        | <i>University of Michigan</i>                    | Wilhelm, Anne Garrison | <i>Southern Methodist University</i>                       |
| Shelton, Ryann             | <i>Baylor University</i>                         | Woods, Dawn Marie      | <i>Oakland University</i>                                  |
| Simpson, Amber             | <i>Binghamton University</i>                     | Woodward, Jerry        | <i>Ball State University</i>                               |
| Skultety, Lisa             | <i>University of Central Arkansas</i>            | Yao, Xiangquan         | <i>Pennsylvania State University</i>                       |
| Smith, Wendy               | <i>University of Nebraska</i>                    | Yeo, Sheunghyun        | <i>University of Missouri, Columbia</i>                    |
| Sokoll Bauer, Amy          | <i>University of Nebraska, Lincoln</i>           | Zelkowski, Jeremy      | <i>The University of Alabama</i>                           |
| Somers, John               | <i>University of Indianapolis</i>                | Zhou, Lili             | <i>Purdue University</i>                                   |
| Steele, Mike               | <i>University of Wisconsin, Milwaukee</i>        |                        |  |

# 2021 AMTE BUSINESS MEETING AGENDA

*Friday, February 12, 2021*

## A. WELCOME

MIKE STEELE, *AMTE PRESIDENT*, PRESIDING

## B. APPROVAL OF THE MINUTES

CYNTHIA TAYLOR

## C. TREASURER AND MEMBERSHIP REPORT

SARAH QUEBEC FUENTES, SHARI STOCKERO

## D. CONFERENCE REPORT

COLLEEN EDDY

## E. DIVISION REPORTS AND RECOGNITIONS

Headquarters Division

Shari Stockero, Executive Director

Membership Division

Lisa Poling, Vice-President

Professional Learning Division

Jennifer Suh, Vice-President

Publications Division

Babette Benken, Vice-President

Advocacy, Equity, and Research Division

Sarah van Ingen Lauer, Vice-President

Communications and Outreach Division

Dustin Jones, Vice-President

## F. NEW BUSINESS

1. Strategic Plan

## G. INSTALLATION OF NEW BOARD MEMBERS

## H. ADJOURNMENT

# 2020 AMTE BUSINESS MEETING MINUTES

Saturday, February 8, 2020

11:45am – 1:15pm (MST)

Phoenix C Ballroom, Sheraton Phoenix Downtown Hotel, Arizona

Mike Steele, President, called the meeting to order at 12:07 pm (MST).

## I. Welcome

**Mike Steele, AMTE President, Presiding**

Mike Steele started by welcoming everyone to the meeting and announcing that today we assemble on the traditional territory of the O'odham, Yavapai, Akimel O'odham, and Hohokam peoples.

## II. Approval of The Minutes

**Sandi Cooper, Secretary**

Sandi Cooper presented the minutes from last year's business meeting from 2019 Conference. *Motion to accept the minutes as presented moved by Maggie McGatha and seconded by Babette Benken. Motion passed unanimously.*

## III. Treasurer and Membership Report

**Sarah Quebec Fuentes, Treasurer**

**Tim Hendrix, Executive**

### **Director**

Sarah Quebec Fuentes shared the 2019 fiscal year (FY) financial report. The 2019 FY income was \$162,189.33 and expenses were \$110,502.38. Bank accounts totaled \$365,270.38 as of June 30<sup>th</sup>, 2019. Subtracting the monies earmarked for specific purposes leaves \$89,127.46 in deep reserves. A goal for the organization over the subsequent years is to increase the amount in deep reserves. For 2020, the budget was restructured to represent the structure of the six divisions of the organization. Sarah noted that the goal of the budget was not to balance the budget within each division, but to balance the overall budget across all divisions. The budget, in its new form, represents all activities of the organization.

Tim Hendrix thanked and acknowledged the work that Sarah did this past year in realigning all of the accounting reorganization and budget restructuring.

Tim reported that current membership is 984, which is fairly consistent from last year (981 members last year on February 9, 2019) with little fluctuation. About two-thirds of our members (657) pre-registered for the 2020 conference. Currently, there are 140 graduate student members and 29 Emeritus members. Current members are from 49 states in the U.S., plus DC, Puerto Rico, and 4 Canadian provinces. In addition, there are members from Antigua and Barbuda, Australia, India, Liberia, Malaysia, South Africa, Sweden, and United Arab Emirates.

Tim asked everyone to complete the conference feedback survey by February 21, 2020 either on the conference app or via the survey link [tinyurl.com/amte2020survey](https://tinyurl.com/amte2020survey).

## IV. Conference Report

**Trena Wilkerson, Conference Director**

Trena Wilkerson, AVP for Conferences, Conference Director, offered thanks to the 2020 conference committee (Colleen Eddy, Suzanne Harper, Julie James, Lateefah Id-Deen, Raymond LaRoche, and Enrique Galindo) and introduced Colleen Eddy as the 2021 Conference Director. She also thanked AnnaMarie Conner, AVP for Conference Program and her committee for putting together a great program this year.

Colleen Eddy recognized the local arrangements committee, which included: Mi Yeon Lee, Terri Kurz, William Deleeuw, Kyeong Hah Roh, Carla Van De Sande, Surani Joshua, and Aubrey Neihaus. She also thanked those who brought projectors

this year for use in session rooms.

## V. Division Reports and Recognitions

Mike shared a visual representation of different activities that AMTE does throughout the year. Members were provided with a printed copy of the 2019 annual report and it is also available online for all members publicly [HERE](#). He encouraged AMTE members to share the 2019 Annual Report with colleagues, administrators, those who may be interested in volunteering on a committee as the report includes descriptions for each of the 19 committees.

a. **Headquarters Division**  
**Director**

**Tim Hendrix, Executive**

Tim recognized Toya Frank, outgoing AVP for Nominations & Elections and incoming AVP Jennifer Bay-Williams. He recognized outgoing AVP for Constitution & By-Laws, Megan Burton and incoming AVP Barbara Swartz. He welcomed Shari Stockero as the new Executive Director. (Report for this division can be found on pages 7-8 of the AMTE 2019 Annual Report.)

b. **Membership Division**

**Maggie McGatha, Vice-President**

Maggie McGatha encouraged AMTE members who do not have a state affiliate to go online and start an affiliate. She also encouraged members to nominate colleagues for awards. Maggie recognized the three AVPs for this division which includes: AVP for Affiliates: outgoing Michelle Stephan and incoming Ziv Feldman; AVP for Awards, Amanda Gantt Sawyer, who will continue in this role; AVP for Membership: outgoing Nicole Rigelman and incoming Temple Walkowiak. Maggie introduced the new AVP for Membership, Lisa Poling. (Report for this division can be found on pages 13-14 of the AMTE 2019 Annual Report.)

c. **Professional Learning Division**

**Lynn Breyfogle, Vice-President**

Lynn Breyfogle encouraged members to look at the annual report for highlights of the work committees did this past year and what the various committees do in the Professional Learning Division. Over 80 people volunteered to serve on an AMTE committee this past year. She encouraged members to volunteer again if they did not get contacted to serve for this coming year. AMTE is looking for a variety of people to volunteer (e.g., graduate students, AMTE members from various geographical regions and a variety of backgrounds, etc.). There were 160 volunteers that reviewed for the conference program this past year.

Lynn recognized the AVPs for this division which includes: AVP for Conference Committee: outgoing Trena Wilkerson and incoming Colleen Eddy; AVP for Program Committee: outgoing AnnaMarie Conner and incoming Rick Hudson; AVP for Professional Development: outgoing Sararose Lynch and incoming William DeLeeuw; AVP for STaR Committee: outgoing Keith Leatham and incoming Beth Herbel-Eisenmann and Marta Civil; and AVP for Technology Committee: Amanda Thomas who will continue in this role.

Lynn thanked the local arrangements co-chairs Mi Yeon Lee and Terri Kurz. She also welcomed Jennifer Suh, incoming VP for Professional Learning Division. (Report for this division can be found on pages 15-17 of the AMTE 2019 Annual Report.)

d. **Publications Division**

**Babette Benken, Vice-President**

Babette Benken announced that the fourth book of the Professional Learning Series titled *The Mathematics Teacher Educator Partnership: The Power of a Networked Improvement Community to Transform Secondary mathematics Teacher Preparation*, was recently published. She recognized AVPs of this division which includes: AVP for Connections! Newsletter: outgoing James Telese and incoming Susan Swars Auslander; AVP for CITE Journal, outgoing Beth Bos, Shannon Driskell who will continue in this role, and incoming Ann Wheeler; AVP for MTE Editors: Karen Hollebrands and Valerie Faulkner who will both continue in this role for 2020; and AVP for Publications Review: outgoing Louann Lovin and incoming Oscar Chavez. Please see the Annual Report for more information. (Report for this division can be found on pages 18-20 of the AMTE 2019 Annual Report.)

e. **Advocacy, Equity and Research Division**

**Sarah van Ingen, Vice-President**

Sarah van Ingen thanked the 2019 AVPs for the division all of who will continue to serve for 2020. AVPs of this division includes: AVP for Emerging Issues: Zandra de Araujo; AVP for Equity: Carlos López Leiva; and AVP for Research: Meghan Shaughnessy. (Report for this division can be found on pages 21-22 of the AMTE 2019 Annual Report.)

f. **Communications and Outreach Division**

**Dustin Jones, Vice-President**

Dustin Jones recognized AVPs for this division which includes: AVP for Web Development: outgoing Joe Champion; Incoming AVP for Communications Steve Rhine; AVP for Sponsorship, outgoing Damon Bahr and incoming Marilyn Evans; AVP for Marketing, outgoing Joel Amidon and incoming Sandi Cooper; and AVP for STaR Fundraising: outgoing Denise Spangler and incoming Jeff Wanko. Dustin also introduced the new Social Media Director, Amanda Jansen. (Report for this division can be found on pages 23-24 of the AMTE 2019 Annual Report.)

g. **Additional Recognitions**

**Mike Steele**

Mike recognized the Membership Task Force. Members include: Maggie McGatha (co-chair), Nicole Rigelman (co-chair), Lisa Poling (co-chair), Heather Howell, Naomi Jessup, Courtney Koestler, Josh Males, Priya Prasad, and Michelle Stephan.

Mike recognized the Online Math Methods Task Force. Members include: Christine Browning (chair), Jennifer Chavout, Chrystal Dean, Brian Fede, Susan Friel, Jennifer Lovett, Stephen Pape, and Jason Silverman.

Tim Hendrix was thanked for his service as AMTE's Third Executive Director (2013-2020).

**VI. New Business**

**Mike Steele**

Mike asked if there was any new business to consider. None was offered.

**VII. Installation of New Board Members**

**Mike Steele**

Mike recognized outgoing board members: Randy Phillipp (Immediate Past President), Sandi Cooper (Secretary), Eva Thanheiser (Member-at-Large), Tim Hendrix (Executive Director), Maggie McGatha (VP for Membership), and Lynn Breyfogle (VP for Professional Learning). Mike recognized incoming board members: Megan Burton (President), Cynthia Taylor (Secretary), Marrielle Myers (Member-at-Large), Shari Stockero (Executive Director), Lisa Poling (VP for Membership), and Jennifer Suh (VP for Professional Learning).

**VIII. Discussion:**

**AMTE "Looking Down the Road" to the future for mathematics teacher educators**

**Mike Steele**

Mike announced AMTE's 2020 Strategic focus is Assess, listen, and plan for the future of the organization. He also presented AMTE's 2019-2020 Strategic Priorities and provided an overview of each.

1. Explore multiple avenues for AMTE members to recognize and address inequities, building toward equitable practices.
2. Identify and engage a broader constituency for AMTE.
3. Engage membership in strategic planning for the organization.

Mike also shared three phases of AMTE's Long-Range Planning, which were:

Phase 1 (February – April 2020): Needs Assessment and Membership Engagement

Phase 2 (May – July 2020): Create long-term goals

Phase 3 (August – December 2020): Create action plan for the next 12 – 18 months of activity

Mike asked the group to engage in a brief discussion and provide feedback based on the following questions:



- What do you see as the most significant challenges facing mathematics teacher education in the next 5-10 years?
- What actions would you like to see AMTE take in the short term (12-18 months) to better support members and address challenges?
- What actions would you like to see AMTE take in the long term (3-5 years) to better support members and address challenges?
- Are there things that AMTE should not take on or should stop doing to better focus on the current needs of our membership?

Members captured their ideas on index cards and shared in small group discussions. Ideas that were shared included:

- Podcasts and how AMTE should keep going on that pathway;
- AMTE to take a more visible role about teaching in this country;
- AMTE and other sister organizations should create a position statement around teacher preparation and promote a campaign that aligns with the statement that the public would see (e.g., teaching is a profession that makes a difference and well prepared teachers make the biggest difference);
- Bring diversity at AMTE and Affiliates;
- Collaborate with mathematics departments and faculty who teach content and pedagogical courses for prospective teachers;
- Provide conference registration waivers for underrepresented faculty and graduate students;
- Invite practicing teachers to one day of the AMTE conference and have sessions with a teacher leadership focus for practicing teachers to attend;
- Use videos to advertise the benefits of teaching as a profession; and
- Make a space in the AMTE community for people who want to stay involved in the organization.

## **IX. Adjournment**

**Mike Steele**

*Motion: To adjourn the 2020 AMTE Annual Business Meeting. Moved by Randy Philipp, and seconded by Rob Wieman. Motion passed unanimously.*

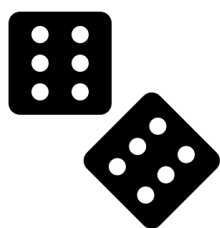
Meeting adjourned 1:25 (MST)

Respectfully submitted by Cynthia Taylor

## MORE INFORMATION ON AMTE.NET

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

## 2022 ANNUAL AMTE CONFERENCE



### See you in Las Vegas

We invite you to attend and present at the Twenty-Sixth Annual AMTE Conference, to be held **February 10-12, 2022**, at the Hilton Las Vegas Resort & Spa in **Las Vegas, NV**.

The Call for Proposals will be available on the AMTE website ([amte.net](http://amte.net)) by March 1, 2021, and in the next issue of *AMTE Connections*. The Program Chair is Julie Amador, University of Idaho ([programchair@amte.net](mailto:programchair@amte.net)).

THE DEADLINE FOR SUBMITTING PROPOSALS  
FOR THE 2022 ANNUAL CONFERENCE IS MAY 15, 2021.

Visit [amte.net/conferences](http://amte.net/conferences) for updated information about past and future conferences.

## FUTURE AMTE CONFERENCES

2023 AMTE Conference

Crowne Plaza New Orleans  
French Quarter New Orleans, LA

February 2 – 4, 2023

2024 AMTE Conference

Rosen Centre Hotel  
Orlando, FL

February 8 – 10, 2024