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# Event Agenda

49th Annual Conference of the Research Council on Mathematics Learning (RCML)

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## Thursday, March 03, 2022

### Registration

3:30 PM – 8:30 PM | Location: Meritage Lobby

### Poster Sessions

4:00 PM – 5:00 PM | Location: International I

The RCML professional poster session will include the work of numerous researchers. This session will take place in one large room. Participants are encouraged to walk by each poster and participate in scholarly discourse related to the research presented on each poster. You should set aside about ten or fifteen minutes per poster to review all of the participants work.

#### Pre-service Teachers' and Mathematics Disciplinary Literacy

4:00 PM – 5:00 PM

Authors: Ananthi Sankaranarayanan

Disciplinary literacy-based instruction empowers students to engage in deeper content learning and it is crucial that teachers exercise this strategy

#### Leveraging Coaches to Close Middle School Math Teachers, The Knowing-Doing Gap

4:00 PM – 5:00 PM

Authors: Jennifer Gonzales

Explore how mathematics instructional coaches can help address the complicated relationship between mathematics teachers, knowledge, beliefs, and implementation of NCTM, Mathematics Teaching Practices.

#### Problem-Solving Strategies Used by Students with Learning Disabilities

4:00 PM – 5:00 PM

Authors: Emily Evans; Jonathan Bostic

The purpose of this poster is to explore diversity in students, problem solving, focusing intently on students identified with learning disabilities.

#### Speakers



**Emily Evans**

Bowling Green State University



**Jonathan Bostic**

Professor of Mathematics Education | Bowling Green State University

#### Investigating Urban HS Students' Math Attitudes Using Equitable Practices

4:00 PM – 5:00 PM

Authors: Brian Dossey

Join us as we examine a quantitative study demonstrating that using the mathematics workshop approach with urban high school students creates a more equitable environment to learn and improves attitudes towards mathematics at the same time measured by the Attitudes Towards Mathematics Inventory (Lim & Chapman, 2013).

#### Speaker



**Brian Dossey**

Doctoral Student | Baylor University

#### Understanding Epistemological Frames of Statistics Students in Psychology

4:00 PM – 5:00 PM

Authors: Carlos Vargas

Psychology students often dread statistics courses, frequently due to misconceptions regarding its purpose, therefore, this study explores perspectives of knowledge (epistemological frames) that students generate.

## Evaluating the Mathematical Self-Efficacy of Children during Assessments Drafts

4:00 PM – 5:00 PM

Authors: Nicholas Drown; Gabriel Matney; Jonathan Bostic

This presentation will explore the differences and similarities of students' efficacy when taking an assessment of problem-solving items and when taking a traditional unit test.

### Speakers



**Nick Drown**

Graduate Assistant | Bowling Green State University



**Gabriel Matney**

Professor | Bowling Green State University



**Jonathan Bostic**

Professor of Mathematics Education | Bowling Green State University

## Examining Diversity in Problem-Solving Strategies between Experts & Pupils

4:00 PM – 5:00 PM

Authors: Abigail Martin

This presentation shares research involving students' problem-solving solutions, via their chosen procedures and representations and compares them to predicted responses from content experts.

## Can Student Connect Slope to Context?

4:00 PM – 5:00 PM

Authors: Christine Painter

Lesson study is used to understand if students can determine the meaning of slope in linear equations based on responses to an in-class activity.

### Speaker



**Christine Painter**

BGSU

## Understanding Teachers' Knowledge: from PCK to MTSK

4:00 PM – 5:00 PM

Authors: Julio Solis

There is a gap in understanding pedagogical knowledge in higher education. This review explores the MTSK framework allowing the researcher to analyze professors' knowledge.

## Wilson Lecture: My Life with Numbers: The Good, the Bad, and the Ugly

5:30 PM – 6:30 PM | Location: International II-III

Dr. Tilton will present on her experiences with mathematics, statistics, and math educators over her lifetime (she will be brief!) She will highlight how overcoming her fear of mathematics (statistics in particular) with the help of dedicated and caring math educators led her to where she is today.

### Speaker



**Abigail Tilton**

Dean of the College of Arts and Sciences | Texas Woman's University

## Welcome Reception

6:30 PM – 8:30 PM | Location: Bonnie & Clyde's Pavilion (combined w/ Meritage)

Reception

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## Friday, March 04, 2022

### Co-Teaching in Middle School Mathematics

8:00 AM – 8:55 AM | Location: Cross Timbers I

Authors: Rachel Bower

In fall 2021 two mathematics teachers co-taught in a sixth-grade mathematics classroom. Their purpose was to document the experience and begin an investigation into what makes such a relationship possible and potential benefits to students. Considerations for the future of this research will be discussed.

### Speaker



**Rachel Bower**

Assistant Professor of Mathematics Education | Nevada State College

### What We Continue to Learn

8:00 AM – 8:55 AM | Location: Haak

Authors: Ryan Fox; Huntir Bass

We continue our previous work to develop and refine content and pedagogical knowledge useful for teaching university-level pre-calculus math classes.

#### Speakers



**Ryan Fox**

Associate Professor of Mathematics Education | Belmont University



**Huntir Bass**

Mathematics Teacher | Bishop Moore Catholic High School

### Guides for Math Vocabulary: Examining the Trajectory for Elementary PSTs

8:00 AM – 8:55 AM | Location: Becker I

Authors: Amy Ray; Julie Herron; Emma Bullock; Beth Cory; Mary Swarthout

This presentation focuses on the trajectory of vocabulary for PSTs from an undergraduate mathematics course to the assessments their students will take.

#### Speakers



**Amy Ray**

Assistant Professor | Sam Houston State University



**Julie Herron**

Augusta University



**Emma Bullock**

Associate Professor | Sam Houston State University



**Beth Cory**

Associate Professor | Sam Houston State University



**Mary B. Swarthout**

Associate Professor Of Mathematics Education | Sam Houston State University

### Assessment standard setting: What, How, and Why?

8:00 AM – 8:55 AM | Location: Becker II

This presentation describes a standard setting process used with a validated problem-solving series. Attendees will learn a replicable, efficient process for setting standards for evidence-based assessments.

#### Speakers



**Jonathan Bostic**

Professor of Mathematics Education | Bowling Green State University



**Gabriel Matney**

Professor | Bowling Green State University



**Tim Folger**

Bowling Green State University

### I Notice, I Wonder: Mathematizing among Alternately Certified Teachers

8:00 AM – 8:25 AM | Location: Cross Timbers II

Authors: Karen Zwanch

This study examined novice teachers, responses to creating an "I Notice, I Wonder Digital Journal" to support their pedagogy and mathematics thinking.

#### Speaker



**Karen Zwanch**

Assistant Professor of Mathematics Education | Oklahoma State University

### Using Zines in a Mathematics Classroom to Promote PST Understanding

8:30 AM – 8:55 AM | Location: Cross Timbers II

Authors: Ann Wheeler; Winifred Mallam

During this presentation, the researchers will discuss the use of zines to promote learning in mathematics education classes for preservice teachers. Examples of electronic and paper zines will be explored.

#### Speakers



**Ann Wheeler**

Professor | Texas Woman's University



**Winifred Mallam**

Texas Woman's University

### Don't Touch My Hair-Using Culture to Teach Mathematics

9:00 AM – 9:25 AM | Location: Homestead

Authors: Jessica Showell

This research focuses on using ethnomathematics to connect the cultural staple of Black hairstyles to teaching and learning of mathematics.

#### Speaker



**Jessica Showell**

PhD Student | Georgia State University

### Secondary Math Teachers: Will and Skill for Student Engagement

9:00 AM – 9:25 AM | Location: Becker I

Authors: Kimberley Odonnell

Studying the connection between personal responsibility and self-efficacy for student engagement outcomes.

#### Speaker



**Kimberley Odonnell**

Baylor University

### Utilization of bilingual languaging practices in family mathematics events

9:00 AM – 9:25 AM | Location: Haak

Authors: Gerardo Sanchez Gutierrez

We explore how bilingual families make sense of mathematical problems using their entire linguistic repertoire while completing a mathematics task.

#### Speaker



**Gerardo Sanchez**

Doctoral Candidate in STEM Education | University of Texas at Austin

### Framework for and Development of the Metacognition for Teaching Inventory

9:00 AM – 9:25 AM | Location: Cross Timbers II

Authors: John Weaver; Juliana Utley

In this presentation, we will discuss a theoretical framework for metacognition for teaching and describe the development of the Metacognition for Teaching Inventory (MTI).

#### Speakers



**John Weaver**

Clinical Instructor | Oklahoma State University



**Juliana Utley**

Professor and Morsani Chair in Mathematics/Science Education | Oklahoma State University

### From Gatekeeper to Gateway

9:00 AM – 9:25 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Taajah Witherspoon

Algebra is considered as a gatekeeper for higher mathematics. This research sought to expand on the direct correlation that exists between multiplicative and fractional reasoning with algebraic competence.

#### Speaker



**Taajah Witherspoon**

Assistant Professor (2015) | The University of Alabama at Birmingham

### Networking and Collaboration Break

9:30 AM – 9:55 AM

Break Time! This year we would like to provide an opportunity for networking and fellowship. So, from 9:30 and 9:55 am, we encourage you to meet someone new, catch up with old friends, or just take a moment to enjoy the company of others scholar over a cup of coffee.

### PIVOT!: Preparing Pre-Service Teachers for Interruptions in Schooling

10:00 AM – 10:55 AM | Location: Homestead

Authors: Brianna Kurtz

This presentation will explore a project preparing pre-service K-12 teachers in their ability to „pivot“ in their delivery methods in mathematics.

#### Speaker



**Brianna Kurtz**

Assistant Professor of Teacher Education | Mary Baldwin University

### OU Transformative Tutoring Initiative: A High-Dosage Math Tutoring Model

10:00 AM – 10:55 AM | Location: Cross Timbers I

Authors: Stacy Reeder; Kate Raymond; Mandy Howell; Cristina Moershel; Jennifer Johnson

High-dosage tutoring models have been shown to significantly improve learning. The features of our tutoring program with two local high schools will be shared.

#### Speakers



**Stacy Reeder**

University of Oklahoma



**Kate Raymond**

Assistant Professor | University of Oklahoma



**Mandy Howell**

Doctoral Candidate | University of Oklahoma



**Cristina Moershel**

The University of Oklahoma

### Active Learning Ingresses of Early-Career Collegiate Instructors

10:00 AM – 10:55 AM | Location: Haak

Authors: Sean Yee; Kimberly Rogers

This study identifies the active-learning methods that novice mathematics graduate student instructors found most accessible, helping with novice professional development.

#### Speaker



**Sean Yee**

Associate Professor | University of South Carolina

### Using Children's Literature: PSTs Write Rigorous Lessons, or Do They?

10:00 AM – 10:55 AM | Location: Becker I

Authors: Winifred Mallam; Georgia Cobbs; Ann Wheeler

This session focuses on mathematics lessons pre-service teachers (PSTs) created using children's literature. Participants will evaluate and critique sample lessons.

#### Speakers



**Winifred Mallam**

Texas Woman's University



**Georgia Cobbs**

Professor | The University of Montana



**Ann Wheeler**

Professor | Texas Woman's University

## Assessing Undergraduate Students' Multiplicative Concepts

10:00 AM – 10:55 AM | Location: Becker II

Authors: Jianna Davenport

Discussion of the validation of an assessment for undergraduate students, its multiplicative concept stage and its use in undergraduate student mathematics thinking and reasoning research.

### Speaker



**Jianna Davenport**

Graduate Assistant | Oklahoma State University

## Personal Inventory in College Algebra

10:00 AM – 10:25 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Students that monitor their own learning progression, and adopt new strategies to improve learning, possess a positive self-regulatory trait that often leads to academic success.

### Speaker



**Karl Kruczek**

NSU

## Elementary PSTs' Mathematics Teaching Beliefs after Teaching STEM Virtually

10:30 AM – 10:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

This session explores elementary PSTs beliefs about mathematics teaching after a virtual STEM teaching experience.

### Speakers



**Megan Burton**

Professor | Auburn University



**Cathrine Maiorca**

University of California- Long Beach

## Middle school mathematics teachers' curriculum work during the pandemic

11:00 AM – 11:55 AM | Location: Homestead

Authors: Hilary Tanck

Findings from a post-qualitative study investigating four middle school mathematics teachers' curriculum work during the COVID-19 pandemic will be presented.

### Speaker



**Hilary Tanck**

Professional Practice Assistant Professor | Utah State University

## Understanding Collaborative Math Partnerships: Learning From Research

11:00 AM – 11:55 AM | Location: Cross Timbers I

Authors: Trena Wilkerson; Colleen Eddy; Tina Mitchell; Megan Che; Jamaal Young

Join the conversation about the importance of collaborative partnerships in mathematics education and what is available in current research on systematic partnership processes

### Speakers



**Trena Wilkerson**

Professor | Baylor University



**Colleen Eddy**

Associate Professor of Mathematics Education | University of North Texas



**Tina Mitchell**

Assistant Professor, Coordinator of MAT Program | Delaware State University



**Megan Che**

Associate Professor | Clemson University



**Jamaal Young**

Associate Professor of Mathematics Education | Texas A&M University

### **A Framework for Equity Centered Co-Design**

11:00 AM – 11:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Aris Winger; Allison DePiro; Sam Rhodes; Sheela Sethuraman

A Framework for Equity Centered Co-Design

#### **Speakers**



**Allison DePiro**

Senior Implementation Specialist | CueThink



**Sam Rhodes**

Assistant Professor | Georgia Southern University



**Aris Winger**

### **Supporting Preservice Teachers' Learning of Word Problems with Linguistics**

11:00 AM – 11:55 AM | Location: Becker I

Authors: Ashley Williams; Rachael Welder; Michelle Kwok; Jason Moore

Linguistic analysis was applied to support preservice K-8 teachers in making sense of semantic and structural differences in additive word problems.

#### **Speakers**



**Ashley Williams**

Graduate Instructor | Texas A&M University



**Rachael Welder**

Texas A&M University



**Michelle Kwok**

Clinical Assistant Professor | Texas A&M University



**Jason Moore**

Assistant professor | Oakland University

### **Systemic Coherence Through a Shared Vision of Mathematics Instruction**

11:00 AM – 11:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Holt Wilson; Christine Fisher; Cathy Holl-Cross; Olanrewaju Oriowo

We present an initial framework and methodology for supporting the implementation of state K-12 mathematics standards that centralizes a shared instructional vision.

#### **Speakers**



**Holt Wilson**

University of North Carolina Greensboro



**Christine Fisher**

University of North Carolina Greensboro



**Cathy Holl-Cross**

Graduate research assistant | University of North Carolina Charlotte



**Olanrewaju Oriowo**

University of North Carolina Charlotte

### **Experiences of Urban Mathematics Teachers' during the COVID-19 Pandemic**

11:00 AM – 11:25 AM | Location: Cross Timbers II

Authors: Mary Capraro; Robert Capraro; Alesia Moldavan

During this presentation we will discuss 10 urban secondary mathematics teachers' experiences regarding their transition to remote instruction. Recommendations regarding remote instruction will be provided

#### **Speakers**



**Mary Margaret Capraro**

Professor: Mathematics Education | Texas A&M University



**Robert Capraro**

Professor | Texas A&M University



**Alesia Moldavan**

Assistant Professor | Georgia Southern University

### **The Impact of Remote Learning on Undergraduates' Math Anxiety**

11:25 AM – 11:55 AM | Location: Cross Timbers II

Authors: Melinda Lanius

We study the effect of the Spring 2020 emergency remote transition on undergraduate student's math anxiety.

#### **Speaker**



**Melinda Lanius**

Auburn University

### **RCML Business Meeting w/ Lunch**

12:00 PM – 1:25 PM | Location: International IV

### **Teaching & Learning Mathematics Within Integrated STEM**

1:30 PM – 1:55 PM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

This session shares research featured in Investigations in Mathematics Learning, a special issue on teaching and learning mathematics within integrated STEM.

#### **Speakers**



**Christa Jackson**

Professor, Mathematics, Science, and STEM Education | Saint Louis University



**Thomas Roberts**

Assistant Professor | Bowling Green State University



**Cathrine Maiorca**

University of California- Long Beach

### **Validating the Algebra Teacher Self-Efficacy Instrument for PSTs**

1:30 PM – 1:55 PM | Location: Haak

Authors: Melissa Donham; Dittika Gupta; Trena Wilkerson; Colleen Eddy

This presentation will share the validation of the Algebra Teacher Self-Efficacy Instrument (ATSEI) for pre-service teachers (PSTs), initial findings, and implications in teacher education.

#### **Speakers**



**Melissa Donham**

Baylor University



**Dittika Gupta**

Associate Professor | Midwestern State University



**Trena Wilkerson**

Professor | Baylor University



**Colleen Eddy**

Associate Professor of Mathematics Education | University of North Texas

### **Rooting Interdisciplinary Collaboration in Social Justice**

1:30 PM – 1:55 PM | Location: Becker II

Authors: Summer Bateiha; Sadia Mir

Although teaching mathematics in conjunction with multiple disciplines exists and is explored in mathematics education research, we focus on social justice connecting mathematics and storytelling.

#### **Speaker**





**Dr. Summer Bateiha**

Professor | Virginia Commonwealth University in Qatar

### **Middle Grade Students' Mathematics Identity: Instrument Development**

1:30 PM – 1:55 PM | Location: Cross Timbers II

Authors: Jennifer Cribbs; Juliana Utley; John Weaver

In this presentation, we will discuss the development of a mathematics identity instrument that can be used with middle grades students.

#### **Speakers**



**Jennifer Cribbs**

Associate Professor | Oklahoma State University



**Juliana Utley**

Professor and Morsani Chair in Mathematics/Science Education | Oklahoma State University



**John Weaver**

Clinical Instructor | Oklahoma State University

### **Hip-hop Supergroup Lessons in Pedagogy: A Collaborative Autoethnography**

1:30 PM – 1:55 PM | Location: Becker I

Authors: Marti Cason; Melanie Fields

A collaborative autoethnography with two mathematics educators examining the experience of a hip-hop supergroup as a form of pedagogical development.

#### **Speaker**



**Marti Cason**

Mathematics Teacher | Vanguard High School - Mesquite ISD

### **Mathematics Learning Loss due to Interruptions in Formal Education**

2:00 PM – 2:55 PM | Location: Homestead

Authors: Davie Store; Jessie Store

This study will focus on exploring if there are differences in student performance in all mathematics domains during the COVID-19 pandemic.

#### **Speakers**



**Davie Store**

Central Michigan University



**Jessie Store**

Alma College

### **Advancing the Productive Struggle: A Scoping Review**

2:00 PM – 2:25 PM | Location: Cross Timbers II

Authors: Miriam Sanders; Danielle Bevan; Mary Capraro; Robert Capraro; Jamaal Young

This proposed session presents the results of a scoping review that helps to increase the nexus between the theoretical and practical application of productive struggle.

#### **Speakers**



**Miriam Sanders**

Graduate Assistant | Texas A&M University



**Danielle Bevan**

Assistant Professor of Mathematics Education | University of Houston Downtown



**Mary Margaret Capraro**

Professor: Mathematics Education | Texas A&M University



**Robert Capraro**

Professor | Texas A&M University



**Jamaal Young**

Associate Professor of Mathematics Education | Texas A&M University

### Don't Criticize, Create: Blank-Slate Learning

2:00 PM – 2:55 PM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Barba Patton; Sara Thurmond; Andy Tomek; Angela Winn

Acclimating to new environments can be hard, especially today. Starting fresh with a blank slate, is the best way to ensure the success of students

#### Speakers



**Angela Winn**

Math tutor and supplement instructor | University of Houston-Victoria



**Andy Tomek**

University of Houston-Victoria

### Problem Posing: Understanding Prospective K-8 Teachers' Common Errors

2:00 PM – 2:55 PM | Location: Becker I

Authors: Ashley Williams; Rachael Welder

Developing PTs problem posing skills by identifying trends and error patterns in the multi-step word problems they pose.

#### Speakers



**Ashley Williams**

Graduate Instructor | Texas A&M University



**Rachael Welder**

Texas A&M University

### Towards Paradise as a Framework for Mathematics Education

2:00 PM – 2:55 PM | Location: Cross Timbers I

Authors: Nickolaus Ortiz

I use two stories about Black life to theorize a Black Liberatory Mathematics Education (BLiME). This framework seeks to resist anti-Blackness in mathematics education.

#### Speaker



**Nickolaus Ortiz**

Assistant Professor | Georgia State University

### Investigations in Mathematics Learning (IML) Editor Chat 1

2:00 PM – 2:55 PM | Location: Pheasant Ridge

*Come chat with an editor for RCML's flagship journal: Investigations in Mathematics Learning (IML)! Bring ideas and questions for your 1-1 meeting! No advance notice is needed.*

#### Speaker



**Jennifer Cribbs**

Associate Professor | Oklahoma State University

### Meta-analyses on Few Studies: Techniques, Benefits, Drawbacks, and Examples

2:25 PM – 2:55 PM | Location: Cross Timbers II

Authors: Michael Rugh; Jamaal Young; Mary Capraro; Robert Capraro

Meta-analysis allows us to better examine the effect of a treatment even after a few studies. Methods, benefits, drawbacks, and an example are provided.

#### Speakers



**Michael Rugh**

Adjunct Professor | Texas A&M University



**Jamaal Young**

Associate Professor of Mathematics Education | Texas A&M University



**Mary Margaret Capraro**

Professor: Mathematics Education | Texas A&M University



**Robert Capraro**

Professor | Texas A&M University

## How do Teacher Preparation Programs Prepare Teachers to Choose Curriculum?

3:00 PM – 3:25 PM | Location: Cross Timbers II

Authors: Kate Raymond

This session will investigate how teacher preparation program are preparing teacher to integrate online curriculum materials into their practices.

### Speaker



**Kate Raymond**

Assistant Professor | University of Oklahoma

## Examining Validity Evidence: Promoting Valid Interpretations and Uses

3:00 PM – 3:25 PM | Location: Homestead

Authors: Timothy Folger; Jonathan Bostic; Erin Krupa

This submission presents components of a research study using the Delphi method with experts in the field of validity and validation.

### Speakers



**Tim Folger**

Bowling Green State University



**Jonathan Bostic**

Professor of Mathematics Education | Bowling Green State University

## Examining Lesson Study in Preservice Teacher Education

3:00 PM – 3:25 PM | Location: Cross Timbers I

Authors: Gabriel Matney

This study of preservice teachers investigates their experiences with a program requirement to learn about and engage in multiple iterations of open approach lesson study.

### Speaker



**Gabriel Matney**

Professor | Bowling Green State University

## The Impact of State Promotion Policies

3:00 PM – 3:25 PM | Location: Haak

Authors: Claudine Keane

The present multiple case study explored three New York City mathematics teachers,À experiences and perspectives with social promotion and academic promotion criteria. This study described and highlighted how the NYC promotion criteria policies impact their teaching and decision-making.

### Speaker



**Claudine Keane**

Baylor University

## Pathway Based Instruction

3:00 PM – 3:25 PM | Location: Becker I

Authors: Jacqueline Dass

Targeting instruction for every learner based on their individual levels of needs for each and every learning standard.

### Speaker



**Jacqueline Dass**

Owner/CEO | [www.mymathpath.com](http://www.mymathpath.com)

## History of Mathematics in the Classroom: A Focus on Cultures

3:00 PM – 3:25 PM | Location: Virtual

Authors: Brian Evans

A brief overview in math history through various cultural contributions is given, and generates ideas for using math history to motivate students.

### Speaker



**Brian Evans**  
Professor | Pace University

### Networking and Collaboration Break

3:30 PM – 3:55 PM | Location: Delaney Hallway

### Teaching Mathematics Online: A Citation and Keyword Co-occurrence Analysis

4:00 PM – 4:25 PM | Location: Cross Timbers II

Authors: Jamaal Young

This study examines the citation patterns and keyword co-occurrence trends present amongst studies examine the teaching of calculus online. The results of this study provide bibliometric data that can inform research and practice related to the teaching and learning of calculus online.

#### Speaker



**Jamaal Young**  
Associate Professor of Mathematics Education | Texas A&M University

### Mathematics Problem Solving, Literacy, and ELL for New Teachers

4:00 PM – 4:55 PM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Brian Evans

We will discuss supporting new math teachers as they teach ELL students, particularly in the context of urban environments.

#### Speaker



**Brian Evans**  
Professor | Pace University

### 41 Years of Teaching: Have Things Really Changed?

4:00 PM – 4:55 PM | Location: Cross Timbers I

Authors: Daniel Brahier

A reflection on mathematics education as it has changed (and stayed the same) from 41 years, 40 years of experience of classroom teaching.

#### Speaker



**Daniel Brahier**  
Professor | Bowling Green State University

### Learning to Notice: PSTs Noticing During a Varied Field Experience

4:00 PM – 4:55 PM | Location: Becker I

Authors: Sandi Cooper; Michael Warren; Kenley Ritter; Melissa Donham; Melissa Donham

This session reports on a study analyzing the development of preservice teacher noticing during a summer mathematics academy for early learners.

#### Speakers



**Sandi Cooper**  
Professor and Associate Dean of Undergraduate Education | Baylor University



**Michael Warren**  
Instructor of Mathematics | Tarleton State University



**Kenley Ritter**  
Baylor University



**Melissa Donham**  
Baylor University

### Founders Lecture: Current Research Trends in Mathematics Learning That Guide Us for the Future

5:00 PM – 6:00 PM | Location: Delaney

Let's examine research trends in mathematics learning by reflecting on the past five years. This lens will help us to consider how we can plan for the future. What has been the impact? Where do we need to go from here? What are the needs? As we explore these trends and future planning we will engage in discussions around RCML's three goals:

- Developing and sustaining a professional learning community of researchers and school leaders.
- Advancing research about PK-20 mathematics learning, PK-16 teacher preparation and teacher

professional development.

- Informing practice through dissemination of scholarly works through professional fellowship, conference presentations and publications.

#### Speaker



**Trena Wilkerson**

Professor | Baylor University

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## Saturday, March 05, 2022

### Breakfast and Snacks

7:00 AM – 7:55 AM | Location: Delaney Hallway

Please come out early to enjoy breakfast and coffee before the Saturday breakout sessions.

### PST Assessment Experiences Across Mathematics Education Courses

8:00 AM – 8:55 AM | Location: Homestead

Authors: Michael Warren; Melissa Eubank; Eileen Faulkenberry; Beth Riggs; Kathy Horak Smith

Mathematics teacher educators share experiences creating whole-class and individual assessment tasks spanning multiple mathematics education courses.

#### Speakers



**Michael Warren**

Instructor of Mathematics | Tarleton State University



**Melissa Eubank**

Mathematics Instructor and Director of Tutoring and Learning Center | Tarleton State University



**Eileen Faulkenberry**

Professor | Tarleton State University



**Kathy Horak Smith**

Professor and Department Head of Mathematics | Tarleton State University

### Developing Mathematical Knowledge for Teaching in Pre-Service Teachers

8:00 AM – 8:25 AM | Location: Cross Timbers I

Authors: Jason Proctor; Tonya Garrett

This session presents the results of how elementary teacher candidates, Æ MKT developed after creating and implementing a revised curriculum for a Numbers & Operations course.

#### Speakers



**Jason Proctor**

Northeastern State University



**Tonya Garrett**

Assistant Professor | Northeastern State University

### An exploratory study of factors influencing mathematics problem solving.

8:00 AM – 8:25 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

In this quantitative study we investigated the factors influencing students problem solving proficiency.

#### Speakers



**Sam Rhodes**

Assistant Professor | Georgia Southern University



**Antonio Gutierrez de Blume**

Associate Professor of Research | Georgia Southern University



**Allison DePiro**

Senior Implementation Specialist | CueThink

### Measuring Students' STEM Smart Skills - Studying Teachers' Beliefs

8:00 AM – 8:25 AM | Location: Haak

Authors: Alan Zollman; Emily Suh; Blanca Estevez Posadas

This systematic review of the literature reports on teacher beliefs about the life skills and practices students need to be successful STEM learners.

#### Speaker



**Alan Zollman**

Professor | Indiana University Southeast

### Preservice Teachers' Lessons: A Study of Mathematics Knowledge for Teaching

8:30 AM – 8:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Seanyelle Yagi; Linda Venenciano; Winnie Wong

This qualitative study presents an analysis of two preservice teachers, lesson designs and reflections to assess their mathematical knowledge for teaching.

#### Speakers



**Seanyelle Yagi**

Assistant Specialist | University of Hawaii at Manoa



**Linda Venenciano**

Associate Professor | University of Hawaii, Manoa



**Winnie Wong**

University of Hawaii at Manoa

### Student Voices and Reflections on Mathematics Teacher Preparation Programs

8:30 AM – 8:55 AM | Location: Virtual

Authors: Hope Marchionda; Nick Fortune; Natasha Gerstenschlager

We will share and discuss findings from preservice and inservice mathematics teachers on their beliefs about the strengths and weakness of their preparation programs.

#### Speakers



**Hope Marchionda**

Associate Professor | Western Kentucky University



**Nicholas Fortune**

Western Kentucky University



**Natasha Gerstenschlager**

Western Kentucky University

### Fraction Division: Preservice Teachers Domain and Representation Knowledge

9:00 AM – 9:55 AM | Location: Homestead

Authors: Kwaku Adu-Gyamfi

We share a study that demonstrates that Preservice teachers, ability to attend to student solutions, interpret student strategies, and respond to student thinking may be limited and compartmentalized to particular representations and conceptualizations of fraction division.

#### Speaker



**Kwaku Adu**

East Carolina University

### Don't Deface, Reroute: Road to Success

9:00 AM – 9:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Sara Thurmond; Barba Patton; Angela Winn; Andy Tomek

Student evaluations, which take time, are the collecting of grades or gathering of information to promote future successful learning. Strategies will be shared for both.

#### Speakers



**Angela Winn**

Math tutor and supplement instructor | University of Houston-Victoria



**Andy Tomek**

University of Houston-Victoria

## Building High School Students' Spatial Sense through Short, Daily Tasks

9:00 AM – 9:55 AM | Location: Haak

Authors: Telithia Russ; Jennifer Cribbs; Adrienne Sanogo

In this presentation, we will examine potential changes in high school students' spatial sense abilities based on a targeted intervention.

### Speakers



**Telithia Russ**

Graduate Student | Oklahoma State University



**Jennifer Cribbs**

Associate Professor | Oklahoma State University



**Adrienne Sanogo**

Associate Dean For Academic Programs and Student Services | Oklahoma State University

## Building Community in the STEM Fields

9:00 AM – 9:25 AM | Location: Virtual

Authors: Edel Reilly

Reports on a project in a mathematics department to build community through monthly meetings, activities, and workshops in a STEM field.

### Speaker



**Edel Reilly**

Interim Dean College of Education and Communications | Indiana University of Pennsylvania

## Enhancing Culturally Relevant Math Tasks with Multicultural Literature

9:00 AM – 9:25 AM | Location: Becker II

Authors: Dittika Gupta; Alesia Moldavan; Angela Bullard; Molly Melloan

This study examines how preservice teachers used multicultural literature to design and implement culturally relevant math tasks in methods courses.

### Speakers



**Dittika Gupta**

Associate Professor | Midwestern State University



**Alesia Moldavan**

Assistant Professor | Georgia Southern University

## Investigations in Mathematics Learning (IML) Editor Chat 2

9:00 AM – 9:55 AM | Location: Pheasant Ridge

*Come chat with an editor for RCML's flagship journal: Investigations in Mathematics Learning (IML)! Bring ideas and questions for your 1-1 meeting! No advance notice is needed.*

### Speaker



**Jonathan Bostic**

Professor of Mathematics Education | Bowling Green State University

## Building Community through Mathematics Education Leadership Collaborative

9:30 AM – 9:55 AM | Location: Becker I

Authors: Sandi Cooper; Trena Wilkerson; Arash Abnoussi; Dorina Mittrea

In this session, a team will share the experiences of forming and maintaining an effective partnership of mathematics educators through strategic plans for collaboration.

### Speakers



**Sandi Cooper**

Professor and Associate Dean of Undergraduate Education | Baylor University



**Trena Wilkerson**

Professor | Baylor University



**Dorina Mittrea**

Baylor University

### Corequisite over of remediation: A reflection three years later

10:00 AM – 10:25 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Lorraine Gale; Cora Neal

Learn about the impacts, strengths, and challenges of a corequisite quantitative reasoning course at a four-year, open-enrollment institution.

#### Speakers



**Lorraine Gale**  
Weber State University



**Cora Neal**  
Weber State University

### Reaching for College Readiness - Preparing, not Repairing

10:00 AM – 10:25 AM | Location: Cross Timbers I

Authors: William Speer

#### Speaker



**William Speer**  
Director, Math Learning Center | University of Nevada Las Vegas

### Shaping the future: Specifying an Optimized Sequence of Shapes

10:00 AM – 10:25 AM | Location: Becker II

Authors: Julie Nurnberger-Haag; Clarissa Thompson

We propose a better specified and theorized sequence to promote geometric shape learning by applying insights from multiple disciplines.

#### Speaker



**Julie Nurnberger-Haag**  
Assistant Professor | Kent State University

### Talk Moves for Mentoring Model Construction in Mathematical Biology

10:30 AM – 11:00 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

We discuss the role of faculty mentors in guiding four groups of undergraduates to developing a mathematical biology research question and accompanying model.

#### Speaker



**Carlos Castillo-Garsow**  
Associate Professor | Eastern Washington University

### Virtual reality simulations and preservice teachers' diagnostic competence

10:30 AM – 10:55 AM | Location: Virtual Presentation (In-Person Attendees: Pheasant Ridge)

Authors: Enrique Ortiz

The purpose of the study was to help preservice teachers (PSTs) transition into the elementary education classroom with appropriate questioning skills.

#### Speaker



**Enrique Ortiz**  
Professor | University of Central Florida

### Using HSGPA as Placement Tool for College Math Coursework

10:30 AM – 11:00 AM | Location: Cross Timbers I

Authors: Stacey Denum Michie; Joshua Baker

This study examines using HSGPA as a placement tool at a community college to address placement equity gaps in college level mathematics.

#### Speaker



**Stacey Denum Michie**  
Oklahoma State University



## Understanding Mastery-Oriented Mathematics Teachers' Resilience

10:30 AM – 11:00 AM | Location: Haak

This study will explore middle grades mathematics teachers (MGMT) who maintain their mastery orientation while teaching in performance-based environments.

### Speaker



**Tonya Rhodes**

Graduate Teaching Assistant/PhD candidate | Oklahoma State University

## PSTs and Vignettes: Identifying Critical Issues in Mathematics Education

10:30 AM – 10:55 AM | Location: Becker I

Authors: Ryann N. Shelton; Keith Kerschen; Trena Wilkerson; Melissa Donham

This session will address how vignettes can be used with preservice teachers to support their identification of critical issues related to mathematics teaching and learning.

### Speakers



**Ryann N. Shelton**

Baylor University



**Keith Kerschen**

Concordia University Nebraska



**Trena Wilkerson**

Professor | Baylor University



**Melissa Donham**

Baylor University

## Boxed Lunch

11:00 AM – 11:55 AM | Location: Delaney Hallway

Before you leave please stop and grab your boxed lunch to go!  
Thanks again for another engaging and informational RCML conference.