




2023

SSMA CONVENTION

AIM HIGH WITH STEM

October 19-21, 2023 

Colorado Springs, CO 

The Antlers Hotel 

Event Agenda

School Science and Mathematics Association 2023 Annual Convention

Thu, Oct 19, 2023

7:30 AM - 8:45 AM

Breakfast

Location: Summit III

7:30 AM - 5:00 PM

Registration

Location: Summit Prefunction Area

9:00 AM - 9:50 AM

Morning Sessions

Studying Wicked Problems in Mathematics Education: Implications for Equity

9:00 AM - 9:50 AM

Location: Stratton

Speaker: Emma Bullock

Developing Mathematical Identities from Contributions of Historically Excluded Women in STEM

9:00 AM - 9:50 AM

Location: Cameron

Speakers: Sandi Cooper, Trena Wilkerson, Margeaux Smith

Facilitating Belonging and Retention in Underrepresented Undergraduate Students in STEM

9:00 AM - 9:50 AM

Location: Hayden

Speakers: Megan Stockenauer, Stephen Scogin

Incorporating teaching word problem structure in educator preparation programs

9:00 AM - 9:50 AM

Location: Jackson

Speakers: Julia Calabrese, Danielle Bevan

9:00 AM - 10:15 AM

Workshops

3-D Science for a World of 8 Billion

9:00 AM - 10:15 AM

Location: Summit I

Speaker: Howard Drossman

10:00 AM - 10:25 AM

Morning Sessions

Using Plickers for Fast Fun Assessment

10:00 AM - 10:25 AM

Location: Stratton

Speaker: Kylie Swanson

Teacher Efficacy of 5th - 8th Grade Rural STEM Teachers Across Oklahoma

10:00 AM - 10:25 AM

Location: Cameron

Speakers: Sarah McDowell, Toni Ivey

DO MATHEMATICS TEXTBOOKS PREPARE STUDENTS FOR THE UNIVERSITY ENTRANCE EXAM, ALGEBRA TASK

10:00 AM - 10:25 AM

Location: Hayden

Speaker: Seyedehkhadijeh Azimi Asmaroud

A STEM Teacher Goes Rogue after Professional Development with an Innovative Implementation of GIS

10:00 AM - 10:25 AM

Location: Jackson

Speakers: Kristen Brown, Molly Weinburgh

Implementing the Integrated STEM Practices in the Classroom

10:00 AM - 10:25 AM

Location: Summit II

Speakers: Christa Jackson, Kristin Cook, Sarah Bush, Margaret Mohr-Schroeder, Cat Maiorca, Thomas Roberts

10:35 AM - 11:00 AM

Morning Sessions

Evaluating the Impact of an Artificial Intelligence Workforce Development Program

10:35 AM - 11:00 AM

Location: Stratton

Speakers: Toni A. May (Sondergeld), Janet Walton

Using Interactive Word Walls for 3D Learning

10:35 AM - 11:00 AM

Location: Cameron

Speaker: Meredith Reinhart

Understanding Students' Identities in STEM Through Video Elicitation

10:35 AM - 11:00 AM

Location: Hayden

Speaker: Andrea Perrin

Un-grading in a Math Methods Course

10:35 AM - 11:00 AM

Location: Jackson

Speaker: Cacey Wells

Where is the "M" in STEM

10:35 AM - 11:00 AM

Location: Summit II

Speaker: Sue Brown

11:10 AM - 11:35 AM

Morning Sessions

Preparing STEM Students to Become STEM Teachers: Reflections from a Noyce Project

11:10 AM - 11:35 AM

Location: Stratton

Speaker: Kristin Cook

11:10 AM - 12:00 PM

Morning Sessions

Integrating Learning Targets & Assessment Blueprints into Your Math Course

11:10 AM - 12:00 PM

Location: Cameron

Speaker: Jamie-Marie Miller

The Universal Screeners for Number Sense: an Open-Source Assessment Project for K-6

11:10 AM - 12:00 PM

Location: Hayden

Speakers: David Woodward, Jonathan Bostic, Timothy Folger

Enhancing Teaching and Learning through Interactive Digital Activities

11:10 AM - 12:00 PM

Location: Jackson

Speaker: Fenqjen Luo

Long-Term Professional Development to Develop Equitable Small-Group, Student-to-Student Discourse

11:10 AM - 12:00 PM

Location: Summit II

Speaker: Sarah Quebec Fuentes

12:00 PM - 1:30 PM

Lunch

Location: ON YOUR OWN

1:45 PM - 2:10 PM

Afternoon Sessions

Exploring the Thought Processes of Elementary Mathematics Dual Language Teachers

1:45 PM - 2:10 PM

Location: Stratton

Speakers: Jessica Valdez, Ryann N. Shelton

STEM Online Professional Development: Key Features for Success and Sustainability

1:45 PM - 2:10 PM

Location: Cameron

Speaker: Sumreen Asim

Do students approach mathematical creativity in the classroom individually, collectively or both?

1:45 PM - 2:10 PM

Location: Hayden

Speakers: Fay Quiroz, Ali Bicer

An Exploration of Equity Practice in STEM Education: Colleges of Education

1:45 PM - 2:10 PM

Location: Jackson

Speakers: Christie Martin, Bridget Miller, Audrey Meador, Tonya Jeffery, Li Sun

Exploring Secondary Science Educators' Knowledge and Experiences with Place Based Education

1:45 PM - 2:10 PM

Location: Summit II

Speakers: Jake Johnson, Merryn Cole

2:20 PM - 3:10 PM

Afternoon Sessions

SSMA Mentoring Program Session

2:20 PM - 3:10 PM
Location: Summit II
Speaker: Stephen Scogin

Learning in the field: Pre-service STEM teachers' experiences in secondary classroom internships

2:20 PM - 3:10 PM
Location: Stratton
Speakers: Sarah Ferguson, Mary C. Enderson

Teaching Online v 2.0 - Moving Beyond the Basics

2:20 PM - 3:10 PM
Location: Cameron
Speaker: Charles Emenaker

Analyzing Science Picture Books Using the Justice, Equity, and Inclusion Checklist

2:20 PM - 3:10 PM
Location: Hayden
Speakers: Caitlin Fine, Ingrid Carter

Beliefs: A Case Study on Formation, Change, and Influence

2:20 PM - 3:10 PM
Location: Jackson
Speaker: Tonya Garrett

3:20 PM - 3:45 PM

Afternoon Sessions

Participant centered research in STEM education using photo elicitation and photovoice

3:20 PM - 3:45 PM
Location: Summit II
Speakers: Daniel Edelen, Kristin Cook, Octavia Tripp, Christa Jackson, Sarah Bush, Margaret Mohr-Schroeder, Craig Schroeder, Thomas Roberts, Cat Maiorca, Megan Burton, Andrea Perrin

Researchers' experiences with affective measures in a STEM workshop series for teachers

3:20 PM - 3:45 PM
Location: Stratton
Speaker: Jeannie Chipps

Foundational Math Model

3:20 PM - 3:45 PM
Location: Cameron
Speaker: Michelle Tudor

Misconceptions that Influence Elementary Pre-Service Teachers' Assessments of a Task

3:20 PM - 3:45 PM
Location: Hayden
Speakers: Kate Raymond, Valerie Long

Investigating the formal/informal binary of science education at the K-12 level

3:20 PM - 3:45 PM
Location: Jackson
Speaker: Gerardo Sanchez

4:00 PM - 4:25 PM

Afternoon Sessions

Growth mindset in K-8 STEM education

4:00 PM - 4:25 PM
Location: Stratton
Speaker: Micah Stohlmann

Preservice Teachers' Perspectives of Integrating Outdoor Campus into Classroom Instruction

4:00 PM - 4:25 PM
Location: Cameron
Speaker: Li Sun

Equality as Balance: Unearthing Middle Grades PSTs' Misconceptions About the Equal Sign

4:00 PM - 4:25 PM
Location: Hayden
Speakers: Amy Ray, Beth L Cory

Learning Beyond the Standards: Students' Internal and External Skill Development for STEM Success

4:00 PM - 4:25 PM
Location: Jackson
Speaker: Alan Zollman

MAT Impact Fellows' Developing Teachers and Emerging Teacher Leaders in Science and Mathematics

4:00 PM - 4:25 PM
Location: Summit I
Speaker: Cliff Chestnutt

Examining the Impact of STEM Internships on Participant Growth of 21st Century Skills

4:00 PM - 4:25 PM
Location: Summit II
Speaker: Toni A. May (Sondergeld)

4:30 PM - 5:00 PM

Committee Meetings

Awards and Endowment

4:30 PM - 5:00 PM
Location: Stratton
Speaker: Andrea Foster

Conventions

4:30 PM - 5:00 PM
Location: Cameron
Speaker: Susan Cooper

Finance

4:30 PM - 5:00 PM
Location: Hayden
Speaker: Margaret Mohr-Schroeder

Membership

4:30 PM - 5:00 PM
Location: Jackson
Speaker: Stephen Scogin

Nomination and Election

4:30 PM - 5:00 PM
Location: Summit I
Speaker: Dittika Gupta

Policy

4:30 PM - 5:00 PM
Location: Summit II
Speaker: Sean P Yee

Publications

4:30 PM - 5:00 PM
Location: Summit III
Speaker: Becky Hammack

5:00 PM - 6:30 PM

Graduate Student Gathering

Location: 1322

Fri, Oct 20, 2023

7:30 AM - 8:45 AM

Breakfast

Location: Summit III

9:00 AM - 9:50 AM

Morning Sessions

What can I use? A discussion of quantitative instruments for K-12 student and teacher contexts

9:00 AM - 9:50 AM
Location: Stratton
Speakers: Jonathan Bostic, Timothy Folger

A Decade of Changes to K-5 State Mathematics Standards

9:00 AM - 9:50 AM
Location: Cameron
Speaker: Ashley Schmidt

The Story Behind the Smile: Examining Preservice Elementary Teachers' Science Self-Efficacy

9:00 AM - 9:50 AM
Location: Hayden
Speakers: Elizabeth MacTavish, Emily Colvin

10:00 AM - 10:25 AM

Morning Sessions

Investigating College Students Motivations and Decisions in Planning Science Outreach

10:00 AM - 10:25 AM

Location: Stratton

Speakers: Merryn Cole, Jake Johnson

Math Coach's Mathematical Knowledge for Teaching Geometry

10:00 AM - 10:25 AM

Location: Cameron

Speaker: Jung Colen

Using a Jigsaw Strategy to Practice the Facilitation of Student-Centered Discussions

10:00 AM - 10:25 AM

Location: Hayden

Speakers: Jerrid Kruse, Sarah Voss

C3: Lessons Learned and Takeaways

10:00 AM - 10:25 AM

Location: Jackson

Speakers: Beth L Cory, Amy Ray, Emma Bullock, Mary B. Swarthout

Multiple Strategies for Understanding Fundamental Mathematics in STEM Education

10:00 AM - 10:25 AM

Location: Summit I

Speakers: Eunmi Joung, Thomas Mgonja

10:35 AM - 11:00 AM

Morning Sessions

Interactions in a Multilingual Science Classroom in Lebanon

10:35 AM - 11:00 AM

Location: Stratton

Speaker: Christelle Fayad

Bridging the gap: Enhancing the roles and impacts of pure STEM faculty in STEM teacher preparation

10:35 AM - 11:00 AM

Location: Cameron

Speakers: David Weiss, Patrick McGuire

Giving Calculus Students the Power of Responsibility Through Flipping Calculus

10:35 AM - 11:00 AM

Location: Hayden

Speaker: Paula Stickle

Elementary PBL Teachers' Perceptions of Teacher-Student Relationships

10:35 AM - 11:00 AM

Location: Jackson

Speaker: Ash Kizer

Case Study of Racially Minoritized Engineering Majors interest to be STEM Teachers at HSI

10:35 AM - 11:00 AM

Location: Summit I

Speaker: Colleen Eddy

Disrupting the School-to-Prison Pipeline through Abolitionist STEM and The Cultural Wealth Model

10:35 AM - 11:00 AM

Location: Summit II

Speaker: Maizie Dyess

11:10 AM - 12:00 PM

Morning Sessions

Potential and Implemented Levels of Cognitive Demand for Pre-Service Teachers' Tasks in the edTPA

11:10 AM - 12:00 PM

Location: Stratton

Speaker: Tony Thompson

Transdisciplinary Education: How to Support a Transdisciplinary Approach to Teacher Education

11:10 AM - 12:00 PM

Location: Hayden

Speakers: Craig Schroeder, Margaret Mohr-Schroeder, Christa Jackson, Daniel Edelen, Thomas Roberts, Andrea Perrin

Launching Rising 5th Graders and Elementary Teachers in STEM+ Engagement through a Summer Camp

11:10 AM - 12:00 PM

Location: Summit II

Speakers: Suzanne Nesmith, Sandi Cooper, Laura Case, Debbie Chou

Diving Deeper into Culturally Relevant Tasks: Looking at a Framework to Critique Learning

11:10 AM - 12:00 PM

Location: Cameron

Speakers: Dittika Gupta, Alesia Moldavan

Examining Preservice Teachers' Mathematical Problem-Solving Conceptualization and Performance

11:10 AM - 12:00 PM

Location: Jackson

Speaker: Yasemin Gunpinar

12:00 PM - 1:30 PM

Lunch; Keynote

The Beer Archaeologist: Caesar's Cervisia

12:00 PM - 1:30 PM

Location: Summit III

Speaker: Travis Rupp

1:45 PM - 2:10 PM

Afternoon Sessions

Fifth through twelfth grade students' mathematics identity development

1:45 PM - 2:10 PM

Location: Stratton

Speakers: Jennifer Cribbs, Jacob Martin, Juliana Utley

Demographic effects on middle grades student mathematics affect and identity

1:45 PM - 2:10 PM

Location: Cameron

Speakers: Ruby Lynch-Arroyo, Scott Chamberlin

Promoting teachers' advocacy and agency for equity in STEM education through research and reflection

1:45 PM - 2:10 PM

Location: Hayden

Speakers: Nancy Holincheck, Tiffany Butler

Year-long Teaching Residency for STEM Teacher Candidates: Program Planning and Implementation

1:45 PM - 2:10 PM

Location: Jackson

Speakers: Julie Mills, Melanie Fields, Gil Naizer

Teenagers' criteria and strategies to assess online scientific information trustworthiness

1:45 PM - 2:10 PM

Location: Summit I

Speaker: Gabriel Lecompte

Math posters as a tool for curricular noticing: Implementation of a structured field experience

1:45 PM - 2:10 PM

Location: Summit II

Speakers: Audrey Meador, Shirley Matteson

2:20 PM - 3:10 PM

Afternoon Sessions

A Framework for Mathematics Support Courses that Centers Equity, Engagement, & Effectiveness

2:20 PM - 3:10 PM

Location: Stratton

Speaker: Lisa Amick

Teaching engineering through empathy using novel studies

2:20 PM - 3:10 PM

Location: Cameron

Speakers: Elizabeth MacTavish, Emily Colvin

2:20 PM - 3:35 PM

Workshops

Getting Started: Implementing computer science education in elementary science/STEM methods courses

2:20 PM - 3:35 PM
Location: Summit I
Speaker: Sumreen Asim

2:20 PM - 3:10 PM

Three-Minute Thesis

Science Teacher Narratives on Professional Development

2:20 PM - 3:10 PM
Location: Jackson
Speaker: Kristen Brown

Pre-Service Teachers' Systems Thinking about the Nervous System

2:20 PM - 3:10 PM
Location: Jackson
Speaker: Ihsan Ghazal

3:20 PM - 3:45 PM

Afternoon Sessions

Preservice Teachers' Attitudes on Studying Word Problem Semantic Structure

3:20 PM - 3:45 PM
Location: Stratton
Speakers: Julia Calabrese, Miriam Sanders, Danielle Bevan

Teacher Dispositions to Support Underrepresented Scholars in STEM

3:20 PM - 3:45 PM
Location: Cameron
Speakers: Craig Schroeder, Sarah Bush, Cat Maiorca

Developing relational concepts through the exploration of balanced and unbalanced

3:20 PM - 3:45 PM
Location: Hayden
Speakers: Bridget Miller, Christie Martin

Siri Create a Lesson Plan: Student Teachers' Interactions with ChatGPT for Lesson Planning

3:20 PM - 3:45 PM
Location: Jackson
Speaker: Amy Corp

K-8 Preservice Teachers' Number Sense: Foundations of Numbers and Operations Course Analysis

3:20 PM - 3:45 PM
Location: Summit II
Speaker: Gregory Chamblee

4:00 PM - 4:25 PM

Afternoon Sessions

Centering Students in Transdisciplinary STEAM Using Positioning Theory

4:00 PM - 4:25 PM
Location: Stratton
Speakers: Daniel Edelen, Sarah Bush, Kristin Cook

Development of a Survey Instrument to Assess Science Teacher Preferences of Professional Development

4:00 PM - 4:25 PM
Location: Cameron
Speakers: Jennifer Tuff, Kristen Brown, Molly Weinburgh

A Culturally Relevant Summer Camp at Choctaw Nation of OK with NASA SciAct Native Earth | Native Sky

4:00 PM - 4:25 PM
Location: Hayden
Speakers: Stephanie Hathcock, Juliana Utley, Sarah McDowell

Teaching Community-Based Engineering in a Rural School District

4:00 PM - 4:25 PM
Location: Jackson
Speakers: Tugba Boz, Becky Hammack

Explicating the conception of mathematical promise

4:00 PM - 4:25 PM
Location: Summit I
Speakers: Scott Chamberlin, Ali Bicer, Anna Payne

Affordances and Constraints of a Hybrid Online/In-Person Science Methods Course

4:00 PM - 4:25 PM
Location: Summit II
Speakers: Ingrid Carter, Susan Ahrendt

5:00 PM - 5:45 PM

Business Meeting

Location: Summit III

5:45 PM - 7:00 PM

Poster Session and Reception

Location: Carson

Designing an Experiential Learning Trip Utilizing National Park and Mountain Coaster Contexts

5:45 PM - 7:00 PM

Location: Carson

Speaker: Michael Daiga

A Blended Teaching Internship to Improve Preservice STEM Teachers' Pedagogical Knowledge

5:45 PM - 7:00 PM

Location: Carson

Speakers: Sarah Voss, Isaiah Kent-Schneider, Jerrid Kruse

Retrieval practice and reflective test corrections to reduce math anxiety and improve self efficacy

5:45 PM - 7:00 PM

Location: Carson

Speaker: Jessica de la Cruz

K-8 Preservice Teachers' Numeracy (Number Sense) Knowledge: Content Analysis

5:45 PM - 7:00 PM

Location: Carson

Speaker: Gregory Chamblee

Sat, Oct 21, 2023

7:30 AM - 8:45 AM

Breakfast

Location: Summit III

9:00 AM - 9:50 AM

Morning Sessions

Teaching the evaluation of the trustworthiness of online scientific information

9:00 AM - 9:50 AM

Location: Stratton

Speaker: Gabriel Lecompte

Connecting with Students Virtually in Face-to-Face Classes: Integrating Google Suite

9:00 AM - 9:50 AM

Location: Cameron

Speaker: Jamie-Marie Miller

How Pre-service Teachers Attend to Mathematical Teaching Practice during Number Talks

9:00 AM - 9:50 AM

Location: Hayden

Speakers: Kate Raymond, Tonya Campbell

Exploring the Validity of The Mathematics Teaching Efficacy Beliefs Instrument for Teachers

9:00 AM - 9:50 AM

Location: Jackson

Speakers: John Weaver, Juliana Utley

10:00 AM - 10:25 AM

Morning Sessions

Leveraging Networked Improvement Communities as a Pathway for Collaborative Practitioner Inquiry

10:00 AM - 10:25 AM

Location: Stratton

Speakers: Sarah Bush, Lisa Amick, Margaret Mohr-Schroeder, Ashley Schmidt

Preservice teachers' perceptions of their readiness to teach math using multiple representations

10:00 AM - 10:25 AM

Location: Cameron

Speakers: Young Rae Kim, Eunmi Joung

Preservice Teachers' Earth Science Understandings: Then and Now

10:00 AM - 10:25 AM

Location: Hayden

Speakers: Jennifer Wihelm, Rebecca Krall

Using Mathematical Modeling to Impact Students' Ability to Distinguish Misinformation

10:00 AM - 10:25 AM

Location: Jackson

Speakers: Faith Breitenbach, Will Tidwell, Lauren Rast

Exploring Mathematics Preservice Teachers' Experiences in a Summer Field Experience

10:00 AM - 10:25 AM

Location: Summit I

Speakers: Ryann N. Shelton, Keith Kerschen, Sandi Cooper, Trena Wilkerson

Legacy of the New Math: A reflection on curriculum reform

10:00 AM - 10:25 AM

Location: Summit II

Speaker: Oscar Chavez

10:35 AM - 11:00 AM

Morning Sessions

Tracking Lebanese Students' Reasoning about Immune Concepts from Grades 8 to 12

10:35 AM - 11:00 AM
Location: Stratton
Speaker: Ihsan Ghazal

Student STEM Learning Experiences and Beliefs in an Urban School Setting

10:35 AM - 11:00 AM
Location: Cameron
Speaker: Drew Gossen

Mathematical Connection and Mathematical Creativity

10:35 AM - 11:00 AM
Location: Hayden
Speakers: Ali Bicer, Scott Chamberlin, Anna Payne

Angles in the Air: The Practical Applications of Geometric and Trigonometric Concepts by Pilots

10:35 AM - 11:00 AM
Location: Jackson
Speaker: Kuan-Chun Chen

Teaching Science in Elementary Schools: The Rest of the Story

10:35 AM - 11:00 AM
Location: Summit I
Speaker: Molly Weinburgh

11:10 AM - 11:35 AM

Morning Sessions

Supporting Elementary Teachers as They Implement STEM Investigations

11:10 AM - 11:35 AM
Location: Stratton
Speaker: Sue Brown

Connecting Experiences in Mathematics and Math Trauma

11:10 AM - 11:35 AM
Location: Cameron
Speaker: Melissa Gunter

Understanding Pre-service Teachers' Perceptions of Authentic Mathematics

11:10 AM - 11:35 AM
Location: Hayden
Speaker: Cacey Wells

Putting NGSS Into Play: An Elementary Schools' Implementation Story

11:10 AM - 11:35 AM
Location: Jackson
Speakers: Stephen Scogin, Megan Stockenauer

Teacher Tools: Data Analysis Skills Needed for the Next Generation of STEM Teachers

11:10 AM - 11:35 AM
Location: Summit I
Speakers: Craig Schroeder, Megan Burton

K-8 Prospective Teachers' Views of Learning and Teaching Mathematics Using Programming and Robotics

11:10 AM - 11:35 AM
Location: Summit II
Speakers: Tugba Boz, Hyejin Park