



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION



Fall 2023 Mathematics Conference

Hosted by

TMTA and $(MT)^2$

September 15-16, 2023

Math and Literacy

BELMONT UNIVERSITY



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TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

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TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

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Keynote Speaker

Dr. Matt Jones

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Matt Jones grew up in Brentwood, Tennessee. He majored in mathematics and physics at Middle Tennessee State University. His M.S. and Ph.D. are from the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Tech in operations research, stochastic processes, and applied probability. He has been a probability and statistics professor in the Department of Mathematics and Statistics at Austin Peay State University since 2005. He coordinates, advises, and teaches for the M.S. program in predictive analytics. He is passionate about probability and statistics education at all levels.

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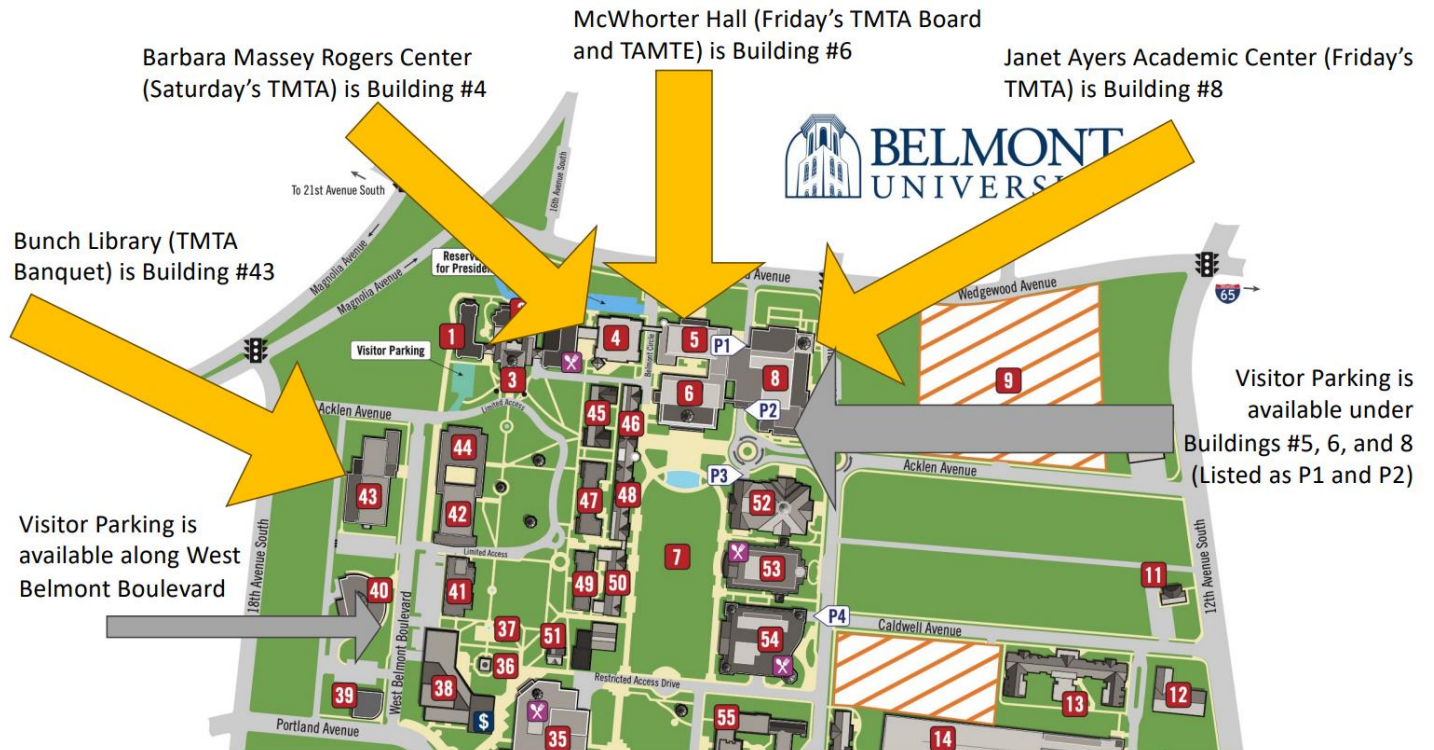
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Vendors will be in Room 4094 of the Janet Ayers Academic Center on Friday.
They will be in Room 304 of the Massey Rogers Center on Saturday.

Link to apply for parking pass

<https://www.belmont.edu/ocs/parking/registration.html>

Belmont University Campus Map



Master Schedule and Planning Sheet

****All times are Central time.****

FRIDAY, September 15

Registration	2:00 - 6:00 PM	Ayers Academic Center, Rm 4094
Session A	4:00 - 4:50 PM	_____
Session B	5:00 - 5:50 PM	_____

Light snacks will be available.

SATURDAY, OCTOBER 22

Registration	7:30 - 10:00 AM	Lobby of the Rogers Center
Light Breakfast	7:30 - 8:00 AM	
Session C	8:00 - 8:50 AM	_____
Session CD	8:00 - 9:50 AM	_____
Session D	9:00 - 9:50 AM	_____
<i>No Sessions</i>	10:00 - 10:45 AM	<i>Designated Vendor Time</i>
Session E	10:50 - 11:40 AM	_____
Lunch and Keynote	12:00 – 1:45 PM	Bunch Library “Moneyball and Sabermetrics”
Session F	2:00 - 2:50 PM	_____
Closing	3:00 – 3:30 PM	Giveaways and Prizes – Rm 103

Session Descriptions

Janet Ayers Academic Center

FRIDAY, SEPTEMBER 15

Session A 4:00 - 4:50 PM

5008	Algebra Prep K-5, Remediation 6-8 Jon Mark Glenn Preparing K-5 for Algebra and remediating 6-8 are important goals. Come see how to make that happen. <i>K-2, 3-5, Middle</i>
5003	Truth Tables, Circuits, and PLC Fiddle Elliott S. Elliott Explore logical AND and OR with physical circuits and virtual circuits using free PLC Fiddle software with an eye toward mechatronics. Bring a computer. <i>Middle, High, College</i>
5005	Bisquick® can kill you! WRONG! FAKE STATS! Colleen Watson Why are we so gullible? We will examine many newspaper articles, Facebook posts, and common myths that go viral to see how data is manipulated/misrepresented. <i>High, College</i>
5001	Formative Assessment Classroom Techniques (FACTs) Heather Bertram I will share 30+ formative assessment strategies that can be used in middle/high school to gauge students' learning. <i>Middle, High, Pre-Service</i>
5009	An introduction to the Desmos Activity Builder Sharon Glenn Learn how to access ready-made activities and use them with students as well as how to create your own or modify an existing activity. Bring your computer. <i>3-5, Middle, High, College, Pre-Service</i>

Session B 5:00 - 5:50 PM

5001	<p>Accelerate Math Learning for Tennessee Students Chanda Johnson</p> <p>Participants will explore key strategies for accelerating learning: introduce new content via friendly on-ramps, ground grade-level learning in visual representations, and give students just-in-time support. <i>K-2, 3-5, Middle</i></p>
5003	<p>Engaging Math Tasks to Encourage Student Thinking Shelly Baumann</p> <p>Engaging thinking tasks allow students an opportunity to build problem-solving strategies, discuss their mathematical thinking, and build on the ideas and strategies of other students. <i>Middle</i></p>
5009	<p>An introduction to the Desmos Activity Builder Sharon Glenn</p> <p>Learn how to access ready-made activities and use them with students as well as how to create your own or modify an existing activity. Bring your computer. <i>3-5, Middle, High, College, Pre-Service</i></p>
5005	<p>The Long Term Impacts of Attending a Low Income School Taylor Overcast</p> <p>The presentation will overview the additional challenges of low-income students and analyze how these challenges affect overall college attendance and, specifically, STEM participation and completion. <i>Middle, High, College</i></p>
5008	<p>Algebra Prep K-5, Remediation 6-8 Jon Mark Glenn</p> <p>Preparing K-5 for Algebra and remediating 6-8 are important goals. Come see how to make that happen. <i>K-2, 3-5, Middle</i></p>
4111	<p>RESET: Enhancing STEM Education through Authentic Research Experiences Jennifer Meadows, Carey Wilson, and Leslie Suters</p> <p>This session will introduce RESET, a program providing educators with professional development and summer research experiences. We will also engage in integrated stem activities created by RESET participants. <i>Middle, High</i></p>

SATURDAY, SEPTEMBER 16

Barbara Massey Rogers Center

Session C 8:00 - 8:50 AM

104	<p>Numerical Reasoning: A Pathway to Proficiency Michele Lynch, Heinemann</p> <p>Reasoning and understanding are the pathway to helping students make sense of the math they're learning. So how do we build students numerical reasoning, sense making, and problem solving while also rebuilding key mathematical concepts? Join us for this workshop as we explore why thinking and reasoning, a process unique to each learner, is so critical to students' mathematical understanding.</p> <p><i>K-2, 3-5, Middle</i></p>
109	<p>Frustrated with classroom woes? Let's problem solve! Hailey Reynolds</p> <p>In my jam-packed session, you will learn research-based strategies and techniques designed to improve student focus, drastically reduce problem behavior & increase instruction time.</p> <p><i>K-2, 3-5, Middle, High, General</i></p>
110	<p>Modeling Relationship between CSR and Stock Liquidity Samson Edozie</p> <p>CSR (Corporate Social Responsibility) and Stock Liquidity are better measured using mathematical models as it helps potential investors to make informed decisions.</p> <p><i>Middle, High, College, Pre-Service, General</i></p>
200A	<p>Mathematics Chair Roundtable Jackie Vogel</p> <p>Are you the chair of a Mathematics Department? Would you like to visit with your fellow chairs? Come join us for this informal roundtable discussion!</p> <p><i>Middle, High, College</i></p>
200B	<p>Formative Assessment Classroom Techniques (FACTs) Heather Bertram</p> <p>I will share 30+ formative assessment strategies that can be used in middle/high school to gauge students' learning.</p> <p><i>Middle, High, Pre-Service</i></p>

Session CD 8:00 - 9:50 AM

204	<p>Multiplication/Division: Moving Students from Concrete to Algorithm Julia Grecol and Monica Frideczky</p> <p>This session will focus on the progression of instructional strategies to develop students' conceptual understanding of multiplication and division across grades 3 through 6. <i>3-5, Middle, Pre-Service</i></p>
210	<p>Getting Started With A Collaborative Classroom Tiffany Henderson, Carnegie Learning</p> <p>Set the stage for an outstanding school year by establishing routines and expectations for a collaborative classroom. Come learn and discuss successful strategies designed to promote a productive learning environment. Walk away with a specific action plan to implement this school year. Bring a computer. <i>General</i></p>
413	<p>Incorporating Project-Based Learning in the Math Classroom Stefanie Holmes and Jillian Miller</p> <p>Explore the benefits of project-based learning through hands-on examples. <i>High, College, Pre-Service, General</i></p>

Session D 9:00 - 9:50 AM

200B	<p>Place Mats Aren't Just for Dinner! Deborah T Cantrell</p> <p>Place Value Mats and Place Value Disks will be utilized to show place value, order, addition, subtraction, multiplication, and division. Place Value Disks are a cheaper alternative to base ten blocks and are easier to store. <i>K-2, 3-5</i></p>
104	<p>Helping Students Understand Word Problems Using Reciprocal Teaching Joanne Philhower</p> <p>This interactive session will share how reciprocal teaching strategies (predicting, clarifying, questioning, solving, and summarizing) can be used to help students solve word problems. <i>K-2, 3-5, Middle, High</i></p>
414	<p>Connecting Measurement Formulas: Perimeter to Volume Audrey Bullock</p> <p>Participants will engage in several hands-on activities showing how measurement formulas can be derived and connected. <i>3-5, Middle</i></p>

203	<p>An Emoji is Worth 1,000 Variables Carey Wilson and Holly Anthony I will share activities for using emojis and mobiles to enhance algebra instruction. <i>Middle, High, Pre-Service</i></p>
110	<p>Analyzing Credit Card Fraud Detection and Prevention Akinfolajimi Bamigbola This project addresses the escalating concern of credit card fraud in modern banking by applying data analytic concepts such as machine learning. <i>High, College, Pre-Service, General</i></p>
209A	<p>Partnerships with Secondary Education and Community Colleges regarding STEMM Suzanne Lyle Round table discussion on how Community Colleges can support Secondary Education Institutions regarding STEMM. What trainings would STEMM teachers like to be provided by the Community Colleges? What programs would teachers like to see offered by the Community College for their STEMM students? <i>General</i></p>

*****Designated Vendor Time* 10:00 - 10:30 AM*****

Session E 10:40 - 11:30 AM

104	<p>Coding and Storybooks Dr. Deborah McAllister and Lisa Wilkes This presentation will review a selection of storybooks for grades K-5 that focus on coding topics. Hands-on activities will be completed. <i>K-2, 3-5, Pre-Service</i></p>
109	<p>Building Thinking Classrooms Teaching Practices Leslie Suters, Michelle Chenot, Jami Garner, & Theresa Halcomb Get hands-on experiences that can be used right away with your own students from Peter Liljedahl's book, Building Thinking Classrooms. You will also hear from a panel of teachers who have been using these techniques in Oak Ridge Schools. <i>K-2, 3-5, Middle, High, Pre-Service</i></p>
200B	<p>Stats in the Middle Alice Carson Engage students with data collection and analyze the results. <i>Middle</i></p>

210	<p align="center">Using Math to Establish Classroom Expectations</p> <p align="center">Jenny DeHart</p> <p align="center">Come experience an activity you can use in your classroom which allows you to establish classroom expectations while engaging your students in a mathematical thinking task.</p> <p align="center"><i>Middle, High, College</i></p>
110	<p align="center">Sodium Hydroxide's effect on abrasion in PKSP composite</p> <p align="center">Paul Madu</p> <p>Natural-fiber composites shine for cost-effectiveness and biodegradability. This research optimizes abrasion in Palm Kernel Shell Polypropylene (PKSP) using Taguchi's design, affirming Sodium Hydroxide's positive effect.</p> <p align="center"><i>High, College, Pre-Service, General</i></p>
414	<p align="center">Math in Everyday Life</p> <p align="center">Sam Narimetla</p> <p align="center">I'll show how math helps us understand things around us. For example, why are satellite dishes and headlight mirrors shaped that way.</p> <p align="center"><i>High, College, General</i></p>
413	<p align="center">A Supply and Demand Application of Linear Equations</p> <p align="center">Sarah Eskew</p> <p>We describe an activity using supply and demand equations to motivate and practice ideas from linear equations. An extension using linear regression will be given.</p> <p align="center"><i>High, College</i></p>
100	<p align="center">Using CODAP for to Promote Data Literacy</p> <p align="center">Emily McDonald</p> <p>Learn how to use the free Common Online Data Analysis Platform (CODAP) to help your students easily work with data to foster skills in data visualization creation. Example data-focused activities from a high school class will be shared. Please bring a device.</p> <p align="center"><i>Middle, High</i></p>

Lunch: 12:00 – 12:30

TMTA Awards and Keynote 12:30 - 1:45

Session F 2:00 - 2:50 PM

104	<p>Math Manipulatives for Special Education Students Samantha Deems</p> <p>Math manipulatives can help special education students learn and grasp math materials. These can also help students outside of the special education classroom as well. <i>K-2, 3-5</i></p>
109	<p>Creating Math Workstations for Middle Grades Tammie Patterson, Abbie Fuqua, Lauren Campbell</p> <p>How do you make math fun, challenging, and anxiety free, while including all students at all ability levels? Math game workstations open the door to math success. Learn how to help your students by providing math workstations that are set up to accommodate their needs while giving you the opportunity to provide individual/small group instruction. <i>Middle, College, Pre-Service</i></p>
200B	<p>Statistics In Algebra 2? Oh My! Alice Carson</p> <p>Engage students with data collection and analyze the results. Also, we will look at the standards and implementation into the Algebra 2 course. The TI 84 will be used. Bring yours if you have one! <i>High</i></p>
110	<p>Modeling Foreign Exchange Impact on Commercial Banks Performance Stanley Okoro</p> <p>Commercial banks often face risks associated with exchange rate shocks. This study examines the risk of foreign exchange transactions on the performance of Kenyan Bank. <i>High, College, Pre-service, General</i></p>
100	<p>M³: Making Math Meaningful (with Technology) Emily McDonald</p> <p>Explore free online resources that will help your students explore and discover mathematics. Participants will learn about resources to utilize in their classroom that engage students and assess student understanding. (Sample tools: Desmos Activities, Mathigon, Graspable Math, etc.). Bring a computer. <i>Middle, High</i></p>
203	<p>Integrating AP Calculus with AP Physics Yanli Cui</p> <p>Both AP Calculus AB and BC, and AP Physics 1, 2 and C are offered at our school. Many students are taking AP Calculus and AP Physics C concurrently, which made it especially tough because not only are kids learning challenging physics material, they also need to know calculus alongside it. While AP Physics 1 and 2 are algebra-based, both Physics C courses (Electricity & Magnetism and Mechanics) are calculus-based, meaning students need to know calculus well enough to apply it in physics. <i>High, College</i></p>

Door Prizes and Business Meeting 3:00-3:30 Rm 103