



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION



Fall 2022 Mathematics Conference

Hosted by

TMTA and CAMTA

October 21-22, 2022

CHATTANOOGA STATE COMMUNITY COLLEGE



Table of Contents

Contents

Executive Committee.....	3
Affiliates.....	
	Error! Bookmark not defined.
Keynote Speaker.....	5
Campus Maps.....	6
Master Schedule and Planning Sheet.....	9
Session Descriptions.....	10



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

Executive Committee

President: Andy Stultz

Hixson High School

Email: stultz_william@hcde.org

Past President: Lisa Elliott

West Creek High School

Email: lisa.elliott@cmcss.net

Secretary: Steve Gadbois

Memphis University School

E-mail: steve.gadbois@musowls.org

Treasurer: Stephanie Kolitsch

University of Tennessee at Martin

E-mail: skolitsc@utm.edu

**NCTM Representative and Parliamentarian:
Ryan Nivens**

East Tennessee State University

E-mail: nivens@mail.etsu.edu

Vice-President for Elementary: Jessica Willings

Jefferson County School System

E-mail: jwillings@jcboe.net

Vice-President for Middle Schools: Lea Keith

East Robertson High School

E-mail: lea.avrit@gmail.com

**Vice-President for Secondary Schools: Jennifer
Axley**

Webb School of Knoxville

Email: Jennifer_axley@webbschool.org

**Vice President for Two-Year Colleges: James
Adair**

Dyersburg State Community College

Email: adair@dsc.edu

**Vice-President for Colleges/University: Jennifer
Meadows**

Tennessee Technological University

E-mail: jrmeadows@tntech.edu

Examinations Director: David Ray

University of Tennessee at Martin

E-mail: davidray@utm.edu

Contest Coordinator: Becky Darrough

Austin Peay State University

E-mail: darroughr@apsu.edu

Contest Awards Chair: Jackie Vogel

Austin Peay State University

Email: vogelj@apsu.edu

TMTA Bulletin Editor: Lisa Elliott

West Creek High School

E-mail: lisa.elliott@cmcss.net

Membership Coordinator: Stephanie Kolitsch

University of Tennessee at Martin

E-mail: skolitsc@utm.edu

Social Media: Jessica Willings

Jefferson County School System

E-mail: jwillings@jcboe.net



TENNESSEE MATHEMATICS TEACHERS ASSOCIATION

Affiliates

CAMTA

Chattanooga Area Mathematics Teachers' Association
Emily McDonald
Red Bank High School – Chattanooga
mcdonald_emily@hcde.org

MAC-O-TOM

Memphis Area Council of Teachers of Mathematics
Elizabeth Kirby
Shelby County School System
kirbyea@scsk12.org

MT²-NW

Mathematics Teachers of Tennessee – Northwest
Crystal Johnson
East Junior High School
crystal.johnson@fcsk12.net

(MT)²

Middle Tennessee Mathematics Teachers
Teresa Agee
Martin Luther King Jr. Academic Magnet School
Teresa.Agee@mnps.org

SM²EA

Smoky Mountain Mathematics Educators' Association
Alice Carson
Webb School of Knoxville
Alice_Carson@webbschool.org

TAMTE

Tennessee Association of Mathematics Teacher Educators
Holly Anthony
Tennessee Tech University
hanthony@tntech.edu

TATM

Tennessee Aspiring Teachers of Mathematics
Susan Conner
Austin Peay State University
Sconner6@my.apsu.edu

TMATYC

Tennessee Mathematics Association for Two Year Colleges
Rita Sowell
Volunteer State Community College
rita.sowell@volstate.edu

UETCTM

Upper East Tennessee Council of Teachers of Mathematics
Tina Hill
dbhsmathteacher@gmail.com

Keynote Speaker

Dr. Jennifer Bay-Williams

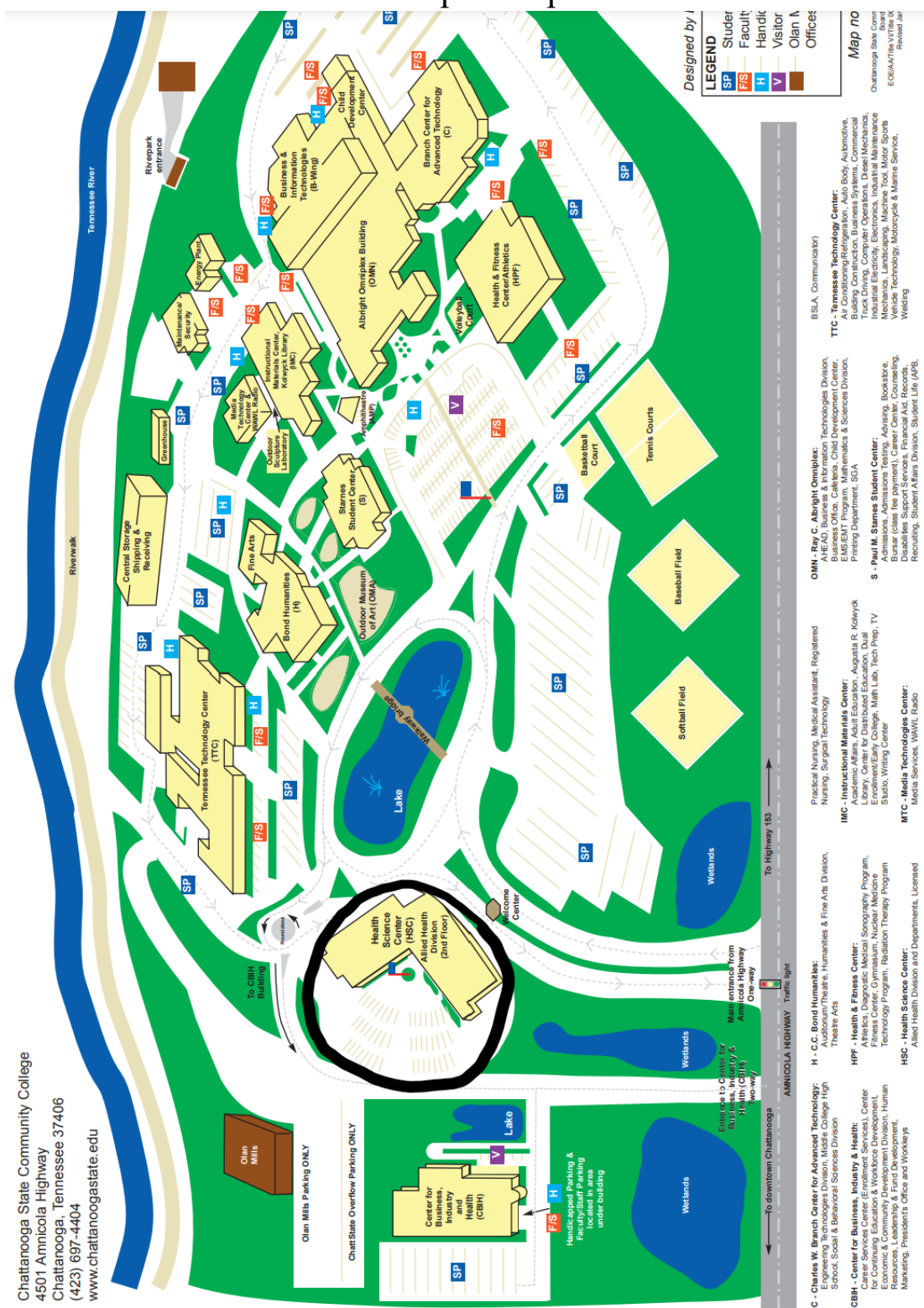
j.baywilliams@louisville.edu



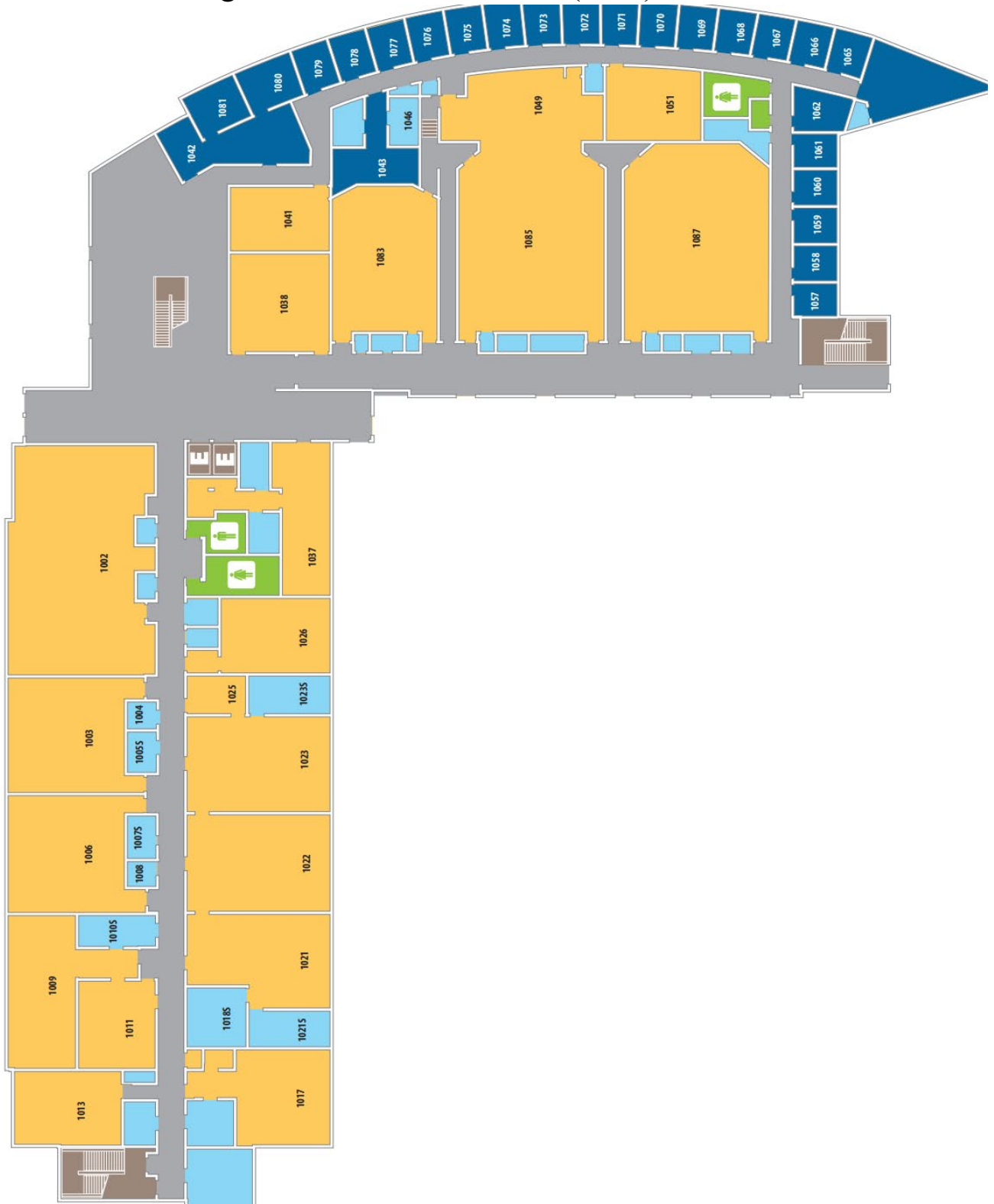
Jennifer Bay-Williams is an international leader in mathematics education. Her recent best-selling books include *Math Fact Fluency* (about basic fact fluency) and the *Figuring out Fluency* book series (6 book series about fluency beyond basic facts). Beyond her fluency efforts, she has authored numerous other books including the comprehensive resources *Teaching Student-Centered Mathematics* and *Elementary and Middle School: Teaching Developmentally* (now in its 11th edition). Jennifer is a frequent presenter at state and national conferences and works with schools and districts in efforts to ensure every student is competent and confident in mathematics. She is a professor and Associate Dean at the University of Louisville in Louisville, Kentucky. She has taught in Missouri, Kentucky, and Perú. And, she was born in Nashville, Tennessee!

Chattanooga State Community College Campus Maps

Campus Map

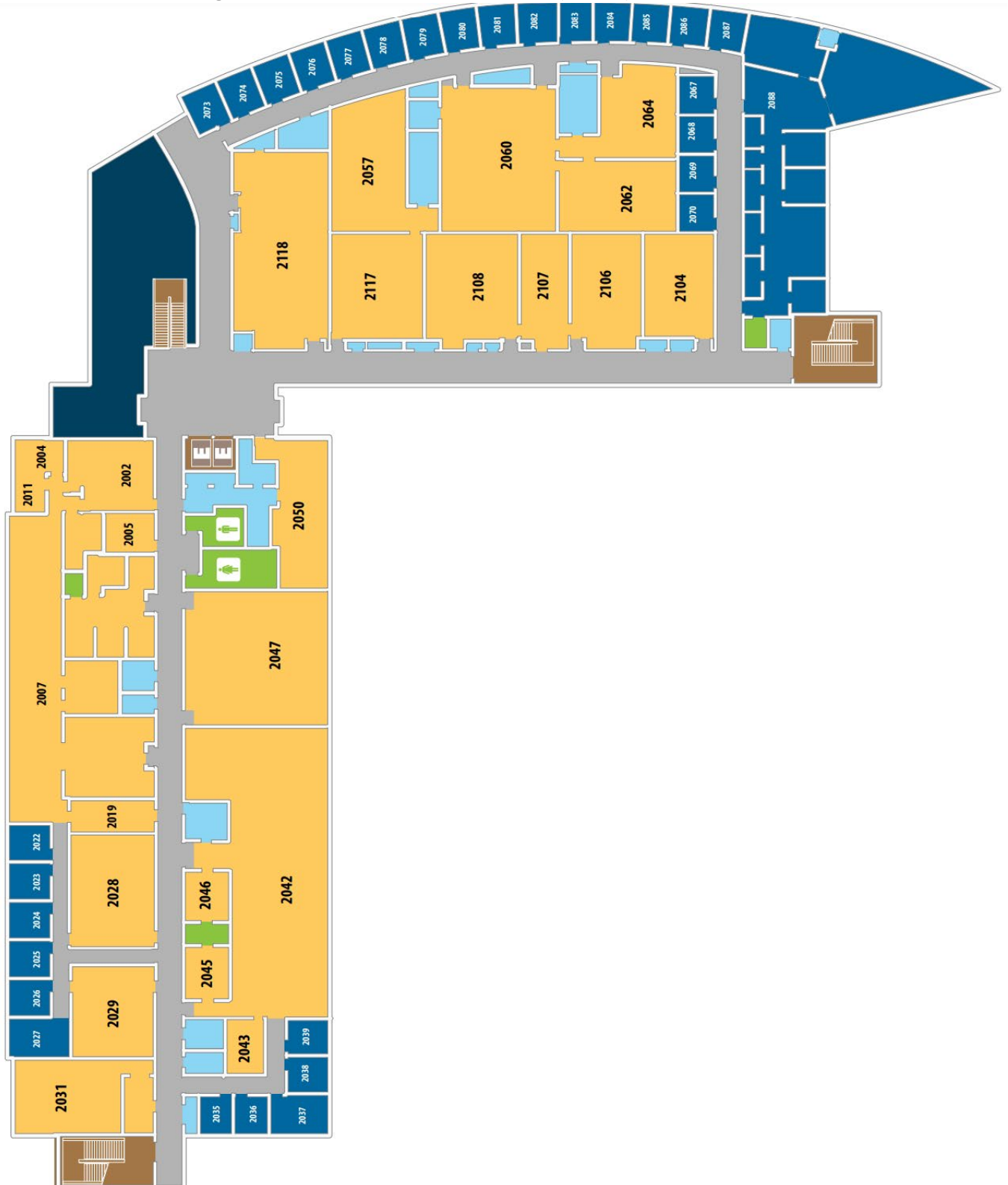


Erlanger Health Science Center (HSC) - Level 1



Chattanooga State Community College Campus Maps

Erlanger Health Science Center (HSC) - Level 2



Master Schedule and Planning Sheet

All times are Eastern time.

FRIDAY, OCTOBER 21

Registration	3:00 - 7:00 PM	Chattanooga State HSC Lobby
Session A	5:00 - 5:50 PM	_____
Session AB	5:00 - 6:50 PM	_____
Session B	6:00 - 6:50 PM	_____

Light snacks will be available.

SATURDAY, OCTOBER 22

Registration	7:30 - 10:00 AM	Chattanooga State HSC Lobby
Light Breakfast	7:30 - 8:00 AM	Chattanooga State HSC Lobby
Session C	8:00 - 8:50 AM	_____
Session CD	8:00 - 9:50 AM	_____
Session D	9:00 - 9:50 AM	_____
No Sessions	10:00 - 10:30 AM	<i>Designated Vendor Time</i>
Session E	10:40 - 11:30 AM	_____
Lunch	11:30 AM - 12:15 PM	Chattanooga State HSC Lobby
Keynote	12:15 - 1:30 PM	Room 1085 TMTA Awards Keynote: Dr. Jennifer Bay-Williams
Session F	1:40 - 2:30 PM	_____
Session FG	1:40 - 3:30 PM	_____
Session G	2:40 - 3:30 PM	_____
Closing	3:30 - 4:00 PM	Giveaways and Prizes - Room 1085

Saturday, October 22	*All Times in Eastern Time*						
	<i>Room Number</i>	<i>Speaker</i>	<i>Title</i>	<i>Session Description</i>	<i>Audience(s)</i>	<i>Special Notes</i>	
Session C8:00 - 8:50 AM	1003	Amanda Willis	The Role of Rigor in the Secondary Math Classroom	Math learning thrives on rigorous opportunities that encourage exploration, conversation, and reflection. Get ready to Reveal the full potential in every learner as we explore how to incorporate rigorous and meaningful activities in our classrooms.	Middle, High	Teachers seated in groups	
	1006	Elliott S. Elliott, Taylor Dennis, Grace Looney, Terae Phelps,	Area Models: Multiplication from Whole Numbers to Algebra	Hands-on activities using grid paper, fraction model multipliers, and algebra tiles to represent multiplication.	3-5, Middle, High		
	2047	Jennifer Meadows, Emily Medlock	Selecting and Implementing High Quality Instructional Materials	What are the criteria for high quality instructional materials (HQIM)? How does HQIM support ALL learners in the elementary math classroom? In this session, we will discuss these questions and more.	K-2, 3-5, Pre-Service, General		
	1002	Chanda Johnson	Catch Up and Move Forward	Explore a new national research study from the last two years of pandemic learning that finds promising evidence that math learning acceleration works at scale.	K-2, 3-5, Middle, General	Computer Lab	
	1087	Mary Betz	Making 6-12 Math Relevant and Interesting in a Tech-Forward World	Geared toward teachers of Middle and High School Students, this session will focus on the age-old question of "Why do I need to know this? Where will I ever use Math in my Real Life?!". Reinforcing where students may see Math content in their every-day lives, and how it can be channeled for different STEAM career paths.	Middle, High, General		
Session CD8:00 - 9:50 AM	1083	Mara Merly Delgado	Let's Get Messy!!! Mathematical Modeling	Let's get messy and have fun with Mathematical Modeling! We'll discuss some ideas for getting your students engaged in the Mathematical Modeling Cycle and the Standards for Mathematical Practice. This interactive workshop leverages 3-Act Math to get you thinking about how to provide a space for students to be the authors of their own ideas.	K-2, 3-5		
	1085	Gerry Long	Fun Functions	Participants will experience eighth grade and algebra activities including function machines, silent board games, and an Algebra Walk. Math practices will be highlighted.	Middle, High		
	2029	Barbara B. Kuehl	Take a Wild Ride on Your Own Function Roller Coaster!	Learn to engage students in understanding the results of combining functions by designing roller coasters. Have fun doing mathematics while experiencing pedagogy that supports productive discourse, builds mathematical identity, provides natural opportunities for differentiation, and attains significant mathematical goals.	High	TI-84 calculators needed	
Session D 9:00 - 9:50 AM	1002	Carey Wilson	Micro:Bits and Mathematics?	During this session, you will be introduced to BBC Micro:Bit equipment and how to use block-based coding. Come build with us during this session!	General		
	1003	Julia Grecol	Hands-on Geometry in Middle and High School	Instructional strategies that build conceptual understanding through exploration of geometry concepts using concrete manipulatives in middle and high school classrooms.	Middle, High		
	1006	John Riley	White Board Modeling Methods and project-based math education	In this presentation, attendees will experience the use of white boards to deliver open-ended activities in their classroom. The fundamentals of math education will be referenced including: the eight-effective practices, Mathematical Mindsets and Building thinking classrooms.	3-5, Middle, High, General		
	1087	Becca Phillips	Professional Learning that Packs a Punch	Explore what research tells us about effective Professional Learning, and how to get the most out of pull-out training, PLC's, and coaching.	Middle, High		
	2047	John Tapper	Creating Access and Equity for Students with Disabilities	Every special educator can use support with math. All Learners Network founder John Tapper will help teachers learn effective techniques to work with math students with learning challenges.	K-2, 3-5, Middle		
Designated Vendor Time 10:00 - 10:30 AM							
Session E 10:40 - 11:30 AM	1003	Tabatha Rainwater, Dr. Jeneva Clark, and Jonathan Clark	Chem-E-cars in the classroom	A Chem-e-Car is a water bottle with wheels, powered by a chemical reaction of baking soda and vinegar, connecting chemistry, engineering, and mathematics. We will provide videos, handouts, and lessons for several topics (e.g., graphing ordered pairs, modeling, trig functions). Come race a Chem-e-Car and learn about impact on student learning.	Middle, High		
	1006	Julia Grecol	Connecting Algebra and Geometry with Transformations	Using transformations and technology to discover connections between the equations and graphs of functions.	High, Pre-Service	TI-84 calculators needed	
	1087	Sunshine Light and Julie Tester	Increasing Student Engagement in 6-8 mathematics	Participants will explore and discuss methods of engaging students in order to spark interest, increase conceptual understanding, and promote learning for all. We will look at routines that can be built into any classroom structure that entice students into participating.	Middle		

	1085	Carey Wilson and Jennifer Meadows	Integrated STEM Education Lesson Plans	This presentation will provide multiple integrative STEM lesson plans for teachers to use from the Army Educational Outreach Program (AEOP): Research Experiences for STEM Educators and Teachers (RESET):2021-2022 school year	Middle, High		
	1002	Jamie Price	Vertically Aligning Math Manipulatives in K-5	How can manipulatives be used across K-5? Explore ideas to incorporate ten frames and other manipulatives across K-5 for a deeper understanding of mathematical concepts.	K-2, 3-5		
	2047	Cindy Cliche	Story Problem Strategies that Support Student-Engaged Problem Solvers	Supporting students in making sense of story problems helps ensure access for all learners. Explore teaching strategies to support this work in your classrooms.	K-2 and 3-5		
	1083	Jessica Morse	5E + IA Inquiry Model for Stemsscopes TN Math	Explore how the effective 5E +IA model drives student wonder, curiosity, and learning in the math classroom. We will focus our time on the STEMscopes Math Explore/Explain Cycle and how students can construct meaning through student-centered lessons that provide ample opportunity for assessment, intervention, and feedback. Take away strategies and ideas for your classroom.	K-2, 3-5, Middle, High		
	2029	Nigel Nisbet	The Neuroscience of Deeper Learning	How can you keep students on grade level in mathematics while addressing learning recovery? Let's explore what's happening in students' brains as they learn!	K-2, 3-5, and Middle		
Lunch: 11:30 - 12:15							
TMTA Awards and Keynote 12:15 - 1:30							
Session F 1:40 - 2:30 PM							
	1003	Sam Narimetla	A Few Suggestions to High/Middle School Math Teachers	Will share my experiences as a college math teacher that might be of help.	Middle, High, College		
	1006	Lea Keith and Karen Goodman	Using Supplemental Resources to Support Instruction	Exploring free curriculums and other resources to supplement curriculum and support instruction in the mathematics classroom	Middle, High		
	1002	Amanda Willis	The Role of Rigor in the Elementary Math Classroom	Math learning thrives on rigorous opportunities that encourage exploration, conversation, and reflection. Get ready to Reveal the full potential in every learner as we explore how to incorporate rigorous and meaningful activities in our classrooms.	K-2, 3-5		
	1083	Leslie Suters, Perihan Fidan, Elizabeth McMillan, Queen Ogbomo, Lauren Messimer, and Allie Payne	A glimpse inside edTPA for mentors and teacher candidates	Learn about the edTPA assessment required for new teacher candidates in TN. We will share what to expect as a mentor and a teacher candidate.	K-2, 3-5, Middle, High, Pre-Service		
	2047	Deborah McAllister and Lisa Wilkes	Math/Science Integration for Earth's Sake	Discover hands-on STEM lessons that build middle school math skills using content from current trends and events around the environment and global demographics.	Middle		
	2029	Travis Lemon	Cognitive Engagement: A Conceptual Foundation for Dilation	Engage in a fun hands-on geometry task about dilations. The low threshold high ceiling nature of the task will promote access for all learners and also facilitate new levels of understanding.	High, College		
Session FG 1:40 - 3:30 PM							
	1087	Becca Phillips	Using Instruction Routines to Promote Math Language Development	Explore the Stanford SCALE Center's Language Routines to help ELL and all students use vocabulary so they are better equipped to understand and remember it.	Middle, High		
	1085	Katherine Mangione	Developing Math Facts Fluency in the K-5 Classroom	Using dice and cards let's explore games to support math fact fluency in students. All games will be shared via Google Drive. Giveaways!	K-2, 3-5		
Session G 2:40 - 3:30 PM							
	1003	Joanne Philhower	Implementing Formative Assessment Practices in the Math Classroom	This session will provide practical strategies learned from my research that teachers can use to implement high quality formative assessment practices in their math classrooms.	Middle, High, Pre-service		
	1002	Tori Sinco & Donna Sabeno	Helping Students Make Sense of the Mathematics They're Learning	Have you ever heard students ask, "Do I have to carry on this page?" or "Do I need to add or subtract?" Explore why thinking and reasoning, a process unique to each learner, is so vital for students in mathematics. What might classroom instruction look like that uncovers the curriculum to develop both understanding about the content and why the formulas/procedures make sense? Come and experience hands-on and engaging ways to bring reasoning to the forefront in mathematics. This session will immerse participants in read-alouds, games, and activities that focus on numerical reasoning. The first 10 participants will receive a complimentary copy of About Teaching Mathematics, by Marilyn Burns.	K-2, 3-5	Computer Lab	
	1006	Gail D. Boyd	Like Elsa Said, "Let It Go!" by Posing Purposeful Questions	This session focuses on how to create and adapt questions to help develop students as thinkers and learners. Come learn how to "let it go" so students can show what they know with purposeful questioning	K-2, 3-5, Middle		

	1083	Mary Betz	Making Math Instruction Enjoyable and Accessible for All K-8 Learners	Strategies to make grade-level Math content accessible and enjoyable to all learners through various forms of engagement, and Discovery-based activities for building Conceptual Understanding for all learners.	K-2, 3-5, Middle		
	2047	Steve Gadbois	Who Invented Pascal's Triangle?	Come learn the history of Pascal's triangle and examine its patterns.	Middle, High		
	2029	Emily McDonald	Desmos + Mathigon Polypad	Learn how to create a Desmos Activity with the integration of the Mathigon Polypad. Participants will experience an activity as a student and then learn how to create their own activity.	3-5, Middle, High		
Open Time	2031	Math Exploration/Playground This is a playground time for self-care. This room is open for participants to play math games, experience logic puzzles as a student, or peruse math-related books. Come relax and recharge with some fun activities that you can use in your own classroom. This is not a formal session. Participants are encouraged to just stop by or stay awhile.			Open to All		
Giveaway Time: 3:30 - 4:00 PM							
Click the Friday, October 21 tab at the bottom to see the Day 1 schedule.							

Saturday, October 22	*All Times in Eastern Time*						
	<i>Room Number</i>	<i>Speaker</i>	<i>Title</i>	<i>Session Description</i>	<i>Audience(s)</i>	<i>Special Notes</i>	
Session C8:00 - 8:50 AM	1003	Amanda Willis	The Role of Rigor in the Secondary Math Classroom	Math learning thrives on rigorous opportunities that encourage exploration, conversation, and reflection. Get ready to Reveal the full potential in every learner as we explore how to incorporate rigorous and meaningful activities in our classrooms.	Middle, High	Teachers seated in groups	
	1006	Elliott S. Elliott, Taylor Dennis, Grace Looney, Terae Phelps,	Area Models: Multiplication from Whole Numbers to Algebra	Hands-on activities using grid paper, fraction model multipliers, and algebra tiles to represent multiplication.	3-5, Middle, High		
	2047	Jennifer Meadows, Emily Medlock	Selecting and Implementing High Quality Instructional Materials	What are the criteria for high quality instructional materials (HQIM)? How does HQIM support ALL learners in the elementary math classroom? In this session, we will discuss these questions and more.	K-2, 3-5, Pre-Service, General		
	1002	Chanda Johnson	Catch Up and Move Forward	Explore a new national research study from the last two years of pandemic learning that finds promising evidence that math learning acceleration works at scale.	K-2, 3-5, Middle, General	Computer Lab	
	1087	Mary Betz	Making 6-12 Math Relevant and Interesting in a Tech-Forward World	Geared toward teachers of Middle and High School Students, this session will focus on the age-old question of "Why do I need to know this? Where will I ever use Math in my Real Life?!". Reinforcing where students may see Math content in their every-day lives, and how it can be channeled for different STEAM career paths.	Middle, High, General		
Session CD8:00 - 9:50 AM	1083	Mara Merly Delgado	Let's Get Messy!!! Mathematical Modeling	Let's get messy and have fun with Mathematical Modeling! We'll discuss some ideas for getting your students engaged in the Mathematical Modeling Cycle and the Standards for Mathematical Practice. This interactive workshop leverages 3-Act Math to get you thinking about how to provide a space for students to be the authors of their own ideas.	K-2, 3-5		
	1085	Gerry Long	Fun Functions	Participants will experience eighth grade and algebra activities including function machines, silent board games, and an Algebra Walk. Math practices will be highlighted.	Middle, High		
	2029	Barbara B. Kuehl	Take a Wild Ride on Your Own Function Roller Coaster!	Learn to engage students in understanding the results of combining functions by designing roller coasters. Have fun doing mathematics while experiencing pedagogy that supports productive discourse, builds mathematical identity, provides natural opportunities for differentiation, and attains significant mathematical goals.	High	TI-84 calculators needed	
Session D 9:00 - 9:50 AM	1002	Carey Wilson	Micro:Bits and Mathematics?	During this session, you will be introduced to BBC Micro:Bit equipment and how to use block-based coding. Come build with us during this session!	General		
	1003	Julia Grecol	Hands-on Geometry in Middle and High School	Instructional strategies that build conceptual understanding through exploration of geometry concepts using concrete manipulatives in middle and high school classrooms.	Middle, High		
	1006	John Riley	White Board Modeling Methods and project-based math education	In this presentation, attendees will experience the use of white boards to deliver open-ended activities in their classroom. The fundamentals of math education will be referenced including: the eight-effective practices, Mathematical Mindsets and Building thinking classrooms.	3-5, Middle, High, General		
	1087	Becca Phillips	Professional Learning that Packs a Punch	Explore what research tells us about effective Professional Learning, and how to get the most out of pull-out training, PLC's, and coaching.	Middle, High		
	2047	John Tapper	Creating Access and Equity for Students with Disabilities	Every special educator can use support with math. All Learners Network founder John Tapper will help teachers learn effective techniques to work with math students with learning challenges.	K-2, 3-5, Middle		
Designated Vendor Time 10:00 - 10:30 AM							
Session E 10:40 - 11:30 AM	1003	Tabatha Rainwater, Dr. Jeneva Clark, and Jonathan Clark	Chem-E-cars in the classroom	A Chem-e-Car is a water bottle with wheels, powered by a chemical reaction of baking soda and vinegar, connecting chemistry, engineering, and mathematics. We will provide videos, handouts, and lessons for several topics (e.g., graphing ordered pairs, modeling, trig functions). Come race a Chem-e-Car and learn about impact on student learning.	Middle, High		
	1006	Julia Grecol	Connecting Algebra and Geometry with Transformations	Using transformations and technology to discover connections between the equations and graphs of functions.	High, Pre-Service	TI-84 calculators needed	
	1087	Sunshine Light and Julie Tester	Increasing Student Engagement in 6-8 mathematics	Participants will explore and discuss methods of engaging students in order to spark interest, increase conceptual understanding, and promote learning for all. We will look at routines that can be built into any classroom structure that entice students into participating.	Middle		

	1085	Carey Wilson and Jennifer Meadows	Integrated STEM Education Lesson Plans	This presentation will provide multiple integrative STEM lesson plans for teachers to use from the Army Educational Outreach Program (AEOP): Research Experiences for STEM Educators and Teachers (RESET):2021-2022 school year	Middle, High		
	1002	Jamie Price	Vertically Aligning Math Manipulatives in K-5	How can manipulatives be used across K-5? Explore ideas to incorporate ten frames and other manipulatives across K-5 for a deeper understanding of mathematical concepts.	K-2, 3-5		
	2047	Cindy Cliche	Story Problem Strategies that Support Student-Engaged Problem Solvers	Supporting students in making sense of story problems helps ensure access for all learners. Explore teaching strategies to support this work in your classrooms.	K-2 and 3-5		
	1083	Jessica Morse	5E + IA Inquiry Model for Stemsscopes TN Math	Explore how the effective 5E +IA model drives student wonder, curiosity, and learning in the math classroom. We will focus our time on the STEMscopes Math Explore/Explain Cycle and how students can construct meaning through student-centered lessons that provide ample opportunity for assessment, intervention, and feedback. Take away strategies and ideas for your classroom.	K-2, 3-5, Middle, High		
	2029	Nigel Nisbet	The Neuroscience of Deeper Learning	How can you keep students on grade level in mathematics while addressing learning recovery? Let's explore what's happening in students' brains as they learn!	K-2, 3-5, and Middle		
Lunch: 11:30 - 12:15							
TMTA Awards and Keynote 12:15 - 1:30							
Session F 1:40 - 2:30 PM							
	1003	Sam Narimetla	A Few Suggestions to High/Middle School Math Teachers	Will share my experiences as a college math teacher that might be of help.	Middle, High, College		
	1006	Lea Keith and Karen Goodman	Using Supplemental Resources to Support Instruction	Exploring free curriculums and other resources to supplement curriculum and support instruction in the mathematics classroom	Middle, High		
	1002	Amanda Willis	The Role of Rigor in the Elementary Math Classroom	Math learning thrives on rigorous opportunities that encourage exploration, conversation, and reflection. Get ready to Reveal the full potential in every learner as we explore how to incorporate rigorous and meaningful activities in our classrooms.	K-2, 3-5		
	1083	Leslie Suters, Perihan Fidan, Elizabeth McMillan, Queen Ogbomo, Lauren Messimer, and Allie Payne	A glimpse inside edTPA for mentors and teacher candidates	Learn about the edTPA assessment required for new teacher candidates in TN. We will share what to expect as a mentor and a teacher candidate.	K-2, 3-5, Middle, High, Pre-Service		
	2047	Deborah McAllister and Lisa Wilkes	Math/Science Integration for Earth's Sake	Discover hands-on STEM lessons that build middle school math skills using content from current trends and events around the environment and global demographics.	Middle		
	2029	Travis Lemon	Cognitive Engagement: A Conceptual Foundation for Dilation	Engage in a fun hands-on geometry task about dilations. The low threshold high ceiling nature of the task will promote access for all learners and also facilitate new levels of understanding.	High, College		
Session FG 1:40 - 3:30 PM							
	1087	Becca Phillips	Using Instruction Routines to Promote Math Language Development	Explore the Stanford SCALE Center's Language Routines to help ELL and all students use vocabulary so they are better equipped to understand and remember it.	Middle, High		
	1085	Katherine Mangione	Developing Math Facts Fluency in the K-5 Classroom	Using dice and cards let's explore games to support math fact fluency in students. All games will be shared via Google Drive. Giveaways!	K-2, 3-5		
Session G 2:40 - 3:30 PM							
	1003	Joanne Philhower	Implementing Formative Assessment Practices in the Math Classroom	This session will provide practical strategies learned from my research that teachers can use to implement high quality formative assessment practices in their math classrooms.	Middle, High, Pre-service		
	1002	Tori Sinco & Donna Sabeno	Helping Students Make Sense of the Mathematics They're Learning	Have you ever heard students ask, "Do I have to carry on this page?" or "Do I need to add or subtract?" Explore why thinking and reasoning, a process unique to each learner, is so vital for students in mathematics. What might classroom instruction look like that uncovers the curriculum to develop both understanding about the content and why the formulas/procedures make sense? Come and experience hands-on and engaging ways to bring reasoning to the forefront in mathematics. This session will immerse participants in read-alouds, games, and activities that focus on numerical reasoning. The first 10 participants will receive a complimentary copy of About Teaching Mathematics, by Marilyn Burns.	K-2, 3-5	Computer Lab	
	1006	Gail D. Boyd	Like Elsa Said, "Let It Go!" by Posing Purposeful Questions	This session focuses on how to create and adapt questions to help develop students as thinkers and learners. Come learn how to "let it go" so students can show what they know with purposeful questioning	K-2, 3-5, Middle		

	1083	Mary Betz	Making Math Instruction Enjoyable and Accessible for All K-8 Learners	Strategies to make grade-level Math content accessible and enjoyable to all learners through various forms of engagement, and Discovery-based activities for building Conceptual Understanding for all learners.	K-2, 3-5, Middle		
	2047	Steve Gadbois	Who Invented Pascal's Triangle?	Come learn the history of Pascal's triangle and examine its patterns.	Middle, High		
	2029	Emily McDonald	Desmos + Mathigon Polypad	Learn how to create a Desmos Activity with the integration of the Mathigon Polypad. Participants will experience an activity as a student and then learn how to create their own activity.	3-5, Middle, High		
Open Time	2031	Math Exploration/Playground This is a playground time for self-care. This room is open for participants to play math games, experience logic puzzles as a student, or peruse math-related books. Come relax and recharge with some fun activities that you can use in your own classroom. This is not a formal session. Participants are encouraged to just stop by or stay awhile.			Open to All		
Giveaway Time: 3:30 - 4:00 PM							
Click the Friday, October 21 tab at the bottom to see the Day 1 schedule.							