

# Conference Program <br> October 18 -20, 2023 

## KEYNOTE SPEAKERS




Kevin Dykema NCTM President


Francis Su Author, Mathematics for Human Flourishing

## Additional Featured Speakers



Ron Lancaster David McMillion Daren Starnes Richard Woods

For information about each of our keynote and featured speakers, please visit www.gctm.org/gme

## IMPORTANT INFORMATION

- If you have any questions, please see a GMC Board member or come by Registration (International Paper Building).
- Lost and found is located at Registration (International Paper Building).
- If you are staying in the cabins, please be sure to remove your belongings by 10:00 AM on Friday.

The Georgia Council of Teachers of Mathematics 64th Annual Georgia Mathematics Conference 2023 Conference Overview

| Wednesday, October 18th |  |  |
| :---: | :---: | :---: |
| 2:00-6:45 PM | Registration and Lodging | International Paper |
| 3:30-5:30 PM | Pre-Conference Sessions | Wildlife Ecology \& Krannert |
| 5:30-6:45 PM | Dinner (pre-purchased) | Dining Hall $A-B$ |
| 7:00 PM | Opening Session <br> Keynote Speaker: Venya Gunjal, <br> Former State 4-H President | Talmadge Auditorium |
| 7:30 PM | GCTM Business Meeting \& Give-Aways | Talmadge Auditorium |
| 8:15 PM | Trivia Night \& Refreshments | EMC Senior Pavilion |
| 8:15-9:30 PM | Registration and Lodging | International Paper |
| Thursday, October 19th |  |  |
| 7:00-8:30 AM | Breakfast (pre-purchased) | Dining Hall $A-B$ |
| 8:30-9:20 AM | Morning Session Keynote Speaker: Kevin Dykema | Talmadge Auditorium |
| 7:30 AM - 6:00 PM | Registration and Lodging | International Paper |
| 9:00 AM - 4:30 PM | Exhibits | Sutton Hall (2 sides) |
| 9:45 AM - 4:45 PM | Concurrent Sessions A-E | Various Buildings |
| 11:30 AM - 1:00 PM | Lunch (pre-purchased or cash-only grill option) | Dining Hall $A-B$ Outside Sutton Hall |
| 5:00 PM | PE @ GMC (Fun Run, Games, Zumba, etc.) | EMC Senior Pavilion |
| 5:45-6:45 PM | Dinner (pre-purchased) | Dining Hall $A-B$ |
| 6:30 PM | Susan Craig Bench Dedication | Chapel |
| 7:30 PM | Evening Session: Awards | Clover (in Dining Hall) |
| 8:30 PM | Dancing, Karaoke, Music, Games \& Refreshments <br> Building Thinking Classrooms Open Forum | EMC Senior Pavilion Hastings |
| 8:30-9:30 PM | Registration and Lodging | International Paper |
| Friday, October 2oth |  |  |
| 7:00-8:30 AM | Breakfast (pre-purchased) | Dining Hall $A-B$ |
| 7:30-9:00 AM | Registration | International Paper |
| 8:30-9:20 AM | Morning Session Keynote Speaker: Dr. Francis Su | Talmadge Auditorium |
| 9:00 AM - 1:00 PM | Exhibits | Sutton Hall (2 sides) |
| 9:45 AM - 3:30 PM | Concurrent Sessions F-I | Various Buildings |
| 11:30 AM - 12:45 PM | Lunch (pre-purchased or cash-only grill option) | Dining Hall $A-B$ Outside Sutton Hall |

## Updates and Feedback

## Conference Updates

Do you want to know the latest conference updates when it is "hot off the press" (e.g. session cancellations)? If yes, JOIN the GMC text message notification system, through Remind.

Text the message @gmc2023 to the number 81010. If you're having trouble with 81010, try joining via the url https://www.remind.com/join/gme2023

Ways to SUBMIT Feedback.
Conference Evaluation Forms
Please use this form to comment on the overall conference. Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically.
Complete the survey at
https://tinyurl.com/2023GMCjoy

Session Evaluation Forms
Please use this form to comment on individual sessions. All speakers have several forms.
Place completed forms in the boxes
(registration area, Dining Hall, Auditorium).
The form is available electronically. Complete the survey at
https://tinyurl.com/2023GMCsessions


Scan the QR code


Extra copies of both forms are available in the registration area.
Are you good at capturing the moment? Take pictures of mathematical activities in a session, of you and friends participating in a session, or of anything else fun that you do at Rock Eagle! Email pictures to Rebecca Gammill at gammillgctm@gmail.com for possible inclusion in eReflections or Connections.

## Share your experience with us on social media at \#GMC2023. Don't forget to tag @GCTM.

Thank You!

## NATIONAL COUNCIL OF <br> TEACHERS OF MATHEMATICS

August 23, 2023

To the Georgia Council of Teachers of Mathematics:
On behalf of the National Council of Teachers of Mathematics (NCTM) I am pleased and honored to welcome you to your $64^{\text {th }}$ annual conference. I look forward to joining you Thursday and presenting a keynote session and meeting many of you. Thanks for taking the time to grow professionally and ultimately to benefit the students you'll teach for years to come.

I hope you take the time during these next few days to make some new friends as well as spend time with old friends - to Rekindle the Joy. Take the new ideas you get from the many sessions offered and spend time talking with those friends about them. Talk about what is working well in your settings and get new ideas for those things that need some improving.

NCTM values its relationship with the Georgia Council of Teachers of Mathematics and appreciates the support it has given in the planning and presentation of NCTM Annual Meetings in 1976 and 2007. We're looking forward to being in Atlanta for the NCTM Annual Meeting \& Exposition again in 2025. These joint endeavors have offered valuable professional enrichment to thousands of teachers of mathematics -many of them members of both organizations.

On NCTM's behalf, I thank you for the professional development that you continue to provide to teachers and for the array of resources that you offer to support mathematics education. The Council applauds you for continuing to address your mission of encouraging an active interest in mathematics and acting as an advocate for the improvement of mathematics education at all levels.

Sincerely,


## Kevin J. Dykema

President

## Our Mission Statement

The mission of the Georgia Council of Teachers of Mathematics is to:

- promote a high-quality mathematics education for all students,
- encourage an active interest in mathematics and in mathematics education,
- promote ongoing professional development for mathematics education, and
- promote and reward excellence in the teaching of mathematics in the state of Georgia.

The objectives of the Georgia Council of Teachers of Mathematics are to encourage an active interest in mathematics and to act as an advocate for the improvement of mathematics education at all levels.


June 17-18, 2024: Tift County
June 20-21, 2024: Cherokee County
June 24-25, 2024: Morgan County
June 27-28, 2024: Chatham County

## Past Participant Comments

- "GCTM's academy was one of the best conferences I've ever been to! I would recommend this conference to any educator/admin/parent I know!"
- "This has been by far the most engaging, applicable, useful, and fun training I have ever been to. I am so excited to bring back all of my new math games to my team."
- "The presenter related well to the group and kept our attention. The sessions were grade level specific while also providing insight into learning progressions across grade levels."


# Georgia Council of Teachers of Mathematics Annual Awards 

Gladys M. Thomason Award for Distinguished Service
Selection for this achievement award is based on distinguished service in the field of mathematics education at the local, regional, and state levels. Nominees should have demonstrated significant rendered services, service beyond normal job requirements, and services primarily for the improvement of mathematics instruction. This is GCTM's most prestigious award.

Previous Recipients of the Gladys M. Thomason Award

| 2022 Kristi Caissie | 2005 Christine Thomas |  |
| :---: | :---: | :---: |
| 2021 Denise Huddlestun | 2004 Tom Ottinger | 1988 Mildred Sharkey 1987 Wanda White |
| 2020 Bonnie Angel | 2003 Dottie Whitlow | 1986 Aurelia Hinson |
| 2019 Nicole Ice | 2002 Barbara Ham | 1985 Ed Davis |
| 2018 Charles Garner, Jr. 2017 Chris Franklin | 2001 Margaret Faircloth | 1984 Bill Bompart |
| 2016 Tammy Donalson | 1999 Thomas Cooney | 1983 Jo Anne Mayberry |
| 2015 Cheryl Hughes | 1998 Wanda Oldfield | 1982 Peggy Neal |
| 2014 Ellice Martin | 1997 Earl Swank | 1981 Doris Dickey |
| 2013 Peggy Pool | 1996 Cathy Franklin | 1980 Dora Helen Skypek |
| 2012 Debbie Poss | 1995 Bill Roughead | 1979 Lex Buchanan |
| 2011 Lynn Stallings | 1994 Jane Barnard | 1978 Clare Nesmith |
| 2010 Susan Craig | 1993 David Stone |  |
| 2009 Patricia Barrett | 1992 John Neff | 1975 Dorothy Simmons |
| 2008 James Wilson | 1991 Becky King |  |
| 2007 Barbara Ferguson | 1990 Larry Elbrink | 1974 Gwen Shufelt |
| 2006 Dan Funsch | 1989 J. Norman Wells | 1972 Gladys M. Thomason |

## Dwight Love Award

This award is presented to a teacher in Georgia who models excellence in the profession and in life and gives
much to others beyond the classroom as mentor, teacher and leader. The awardee is a master teacher, professionally active, and promotes GCTM and its mission.

## John Neff Award

This award is presented to a member of GCTM who demonstrates excellence as a full time postsecondary educator and/or district supervisor. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

## Awards for Excellence in the Teaching of Mathematics

Three awards are available, one each for elementary, middle, and secondary levels, and are given to excellent teachers who have strong content foundations in mathematics appropriate for their teaching level, show evidence of growth in the teaching of mathematics, and show evidence of professional involvement in GCTM and NCTM.

Teacher of Promise Award GCTM recognizes one outstanding new teacher/ member in the state each year who has no more than 3 years of experience at the time of the nomination and who demonstrates qualities of excellence in the teaching of mathematics.

## Bill E. Bompart Award

This award is presented to a mathematics support professional in Georgia who is employed by a school system, serves in a role to support mathematics teachers in instruction and student learning, and is professionally active in education. The recipient is someone who is an inspirer, a mentor, and an advocate of mathematics and mathematics education.

Friend of Mathematics Award Nominated and selected by members of the GCTM Executive Board, the winner of this award is an individual who, while not a mathematics teacher/educator, is dedicated to supporting the missions and goals of GCTM, as well as its members individually and as a whole.

# AP Precalculus, AP Calculus, and AP Statistics Teachers Join us for the GA ${ }^{2}$ PMT Annual Meeting at GCTM's Georgia Math Conference at Rock Eagle* 

Rooms 1, 2, \& 3 of the Gas Building on Friday, October 20, 2023

## Meet Our Featured Presenters:

Daren Starnes
Daren Starnes has taught AP Statistics for 25 years and has served for over 20 years as an AP Exam reader and leadership team member. He became a College Board consultant in 1998 and has since led over 100 summer institutes and numerous one-and two-day workshops for statistics teachers. Daren served as lead instructor for the AP Daily video project, and for the past 3 years has partnered with Luke Wilcox to deliver AP Daily exam review sessions for students. He is co-author of two popular high school statistics textbooks-The Practice of Statistics and Statistics and Probability with Applications. Daren and his wife Judy enjoy traveling and spending time with their three sons' families, especially their seven grandkids.

## Julie Harrison

Julie Harrison is a gifted-endorsed Math Teacher who has taught high school courses ranging from General Math to AP Calculus BC. For 25 years she taught at Eagle's Landing High School in McDonough, GA with 20 of those years teaching AP Calculus (AB and BC) and Precalculus. Last year, she began working at Spelman College in Atlanta, GA. Julie has been involved in the AP Reading for Calculus exams since 2008 where she has worked on the operational, alternate, and international exams for both $A B$ and BC and served as a Table Leader. She is a member of the AP Precalculus Development Committee as well as an AP Precalculus and AP Calculus workshop consultant. For Georgia's 2020 revision of math standards, she served as Precalculus Team Lead for the Georgia Math Standards Review Teacher Working Committee.

|  | Room 1 | Room 2 | Room 3 |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 9:45- } \\ & \text { 10:45 } \end{aligned}$ | Using Applets to Explore Statistical Relationships Daren Starnes <br> Use freely available applets to analyze relationships between two categorical variables and between two quantitative variables. | IVT, MVT, \& EVT and a <br> Nifty Theorem <br> Marshall Ransom <br> Review and apply IVT, MVT and EVT as scored on AP Calculus Exams. This will lead to another theorem that can be shown to be true using the EVT and results in the IVT property being applicable under one simple condition. | Come get the TEA on technology in AP Precalculus Dennis Wilson, <br> Landmark Christian School <br> Explore how to use the TI calculator as a Teaching/Exploration/Assessment (TEA) tool in the AP Precalculus classroom. |
| $\begin{aligned} & \text { 11:00- } \\ & \text { 12:00 } \end{aligned}$ | Making Sense of Statistical Inference <br> Daren Starnes <br> Explore two simulation activities that help students develop the concepts of margin of error, $P$-value, and statistical significance. | Visualizing Approximation and Error in AP Calculus <br> Dennis Wilson, <br> Landmark Christian School <br> Explore different ways to help students visualize various methods of approximations such as tangent lines, Riemann Sums, and Taylor polynomials. | Pacesetter to AP: Precalculus Through Modeling Storie Atkins, <br> Columbus High School <br> Engage in redesigned modeling tasks inspired from College Board's Pacesetter Precalculus Through Modeling curriculum. |
| $\begin{gathered} 12: 00- \\ 1: 00 \end{gathered}$ | GA ${ }^{2}$ PMT Business Meeting \& Lunch |  |  |
| $\begin{aligned} & 1: 15- \\ & 3: 30 \end{aligned}$ | Report from the AP Statistics Reading Daren Starnes | Report from the AP Calculus Reading <br> Marshall Ransom Chuck Garner, Rockdale Magnet School Dennis Wilson, Landmark Christian School | Deepening Understanding of Supporting Students in the AP Precalculus Course Julie Harrison, Spelman College |

*Registration for the Georgia Math Conference is required to attend the GA ${ }^{2}$ PMT annual meeting. Visit www.gctm.org to register for the conference and see www.GAAPMT.org for more about GA²PMT.

## Conference Planner

| Time | Wednesday | Thursday | Friday |
| :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { 8:30 AM - } \\ \text { 9:20 AM } \end{gathered}$ |  | Keynote: Kevin Dykema <br> Talmadge Auditorium | Keynote: Francis Su <br> Talmadge Auditorium |
| $\begin{aligned} & \text { 9:45 AM - } \\ & \text { 10:45 AM } \end{aligned}$ |  |  |  |
| $\begin{aligned} & \text { 11:00 AM - } \\ & \text { 12:00 PM } \end{aligned}$ |  |  |  |
| $\begin{gathered} \text { 11:30 AM - } \\ \text { 1:00 PM } \\ \hline \end{gathered}$ |  | Visit the Sponsors in Sutton Hall (both sides!) |  |
| $\begin{gathered} \text { 1:15 PM - } \\ \text { 2:15 PM } \end{gathered}$ | Registration opens at 2:00PM! |  |  |
| $\begin{gathered} \text { 2:30 PM - } \\ 3: 30 \mathrm{PM} \end{gathered}$ |  |  |  |
| $\begin{gathered} \text { 3:45 PM - } \\ 4: 45 \mathrm{PM} \end{gathered}$ | 3:30PM - 5:30 PM Pre-Conference Sessions |  | Travel safely! We will see you next year. |
| 5:00 PM |  | PE at the GMC |  |
| Evening Activities | 7:00 PM <br> Keynote: <br> Venya Gunjal | 6:30 PM: Dedication of Susan Craig's Bench 7:30 PM: Awards Ceremony |  |
| 8:30 PM |  |  |  |

# Wednesday, October 18, 2023 <br> Pre-Conference Sessions <br> 3:30 PM - 5:30 PM 

P1 Focusing on Families of Functions 6-8, 9-12<br>Platinum Sponsor: Dennis Wilson, Krannert 3 Landmark Christian Academy (TI Instructor)<br>From preAlgebra to preCalculus, functions play a vital role in our mathematics classroom. Join us as we take a deep dive into functions. We will use TI graphing technology to build and strengthen conceptual understanding through multiple representations of linear, quadratic, exponential, logarithmic, radical, polynomial, rational, and trigonometric functions.

P2 2023 Summer Academy Elementary Sampler K-2, 3-5 Academy Facilitator

Wildlife Ecology 1
Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the elementary session.

P3 2023 Summer Academy Middle School Sampler
6-8
Academy Facilitator
Wildlife Ecology 2
Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the middle school session.

P4 2023 Summer Academy High School Sampler 9-12
Debbie Poss, GCTM Executive Director Wildlife Ecology 3
Don Slater, GCTM
Did you miss the 2023 GCTM Summer Academy? Come to this session to see a few of the activities included in the high school session. Activities from Algebra, Geometry and Precalculus will all be explored.
P5 Experience the Joy of a Thinking Classroom!
Stephanie Frey \& Lisa Sill, Greenbrier High School
Are your students truly engaged in their learning or are they just mimicking you?Has your teaching
strategy become boring for you and for them? Are you ready to shake things up? Join us as we
demonstrate a Thinking Classroom in action. This interactive two-hour session will be packed with
strategies that you can implement immediately in your math classroom all based on Peter
Liljedahl's research found in his book, Building Thinking Classrooms in Mathematics. Prior
knowledge of the 14 Teaching Strategies is not required, but we suggest you go ahead and get the
book and read the forward and the first 6 chapters. Resources will be shared to help you implement
many of the practices as soon as you get back to your school. Topics will range from upper
elementary to pre-calculus.

7:00 PM Opening Session
Talmadge Auditorium
Sum-thing to Smile About: Rekindling the Joy of Mathematics
Venya Gunjal, Former State 4-H President
I will be going over my journey in $4-\mathrm{H}$ with a focus on the impact my teachers and STEM classes have had on bringing me where I am today. Georgia $4-\mathrm{H}$ is integrated with public schools in every county in the state, and so the support of teachers goes hand-in-hand with the life lessons $4-\mathrm{H}$ has taught me. I plan on citing personal anecdotes and comments I have heard from individuals during my tenure as president this past year to highlight the importance of teachers in a student's journey through 13 years of schooling.

## Key Notes

$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Special thanks to Deputy Superintendent for Teaching and Learning, April Aldridge, for providing greetings from the Georgia Department of Education.

Immediately following the keynote address will be the GCTM Business Meeting. The opening session will end with door prizes!

Following the meeting, you are invited to the EMC Senior Pavilion for Refreshments and Trivia Night. Thank you to Illustrative Mathematics for sponsoring our evening events.

## Thursday, October 19, 2023

8:30 AM Keynote Session

We have seen that far too many students are not experiencing success in math. We can't just blame the kids. There are steps we can take to address this. Let's begin by examining the impact of structures, practices, and policies we have in place, and how we can create new structures, and implement effective teaching practices to engage students to succeed in math.

Thursday Keynote Address is sponsored by hand2mind.
Don't forget to stay for the door prizes before heading off to a great day of learning!

## Key Notes

$\qquad$

## Concurrent Session A: 9:45-10:45 AM

| Let Them Learn Together | 6-8, 9-12, HE |
| :--- | ---: |
| Lorenzo Robinson, Lovejoy High School | Bankers |

Lorenzo Robinson, Lovejoy High School Bankers
Let's rediscover the joy of mathematics through the lens of cooperative learning by exploring strategies to solve open-ended, thought-provoking math problems.
3 Hands-on and Self-Correcting Math Centers
Bronze sponsor: Rich Stuart, Learning Wrap-Ups
Attendees will play with and KEEP materials that can be used in elementary grades centers.

4 Shake Up Your Operational Fluency
K-2, 3-5
Bronze sponsor: Lori Triplett, Box Cars \& One-Eyed Jacks
Clover (in Dining Hall)
Come prepared to play our favorite math games that incorporate the use of regular and multi-sided dice and shakers. Concepts covered include: basic addition and multiplication, doubles, make 10 strategy, commutative and associative properties. Gameboards provided, great for whole-class and small group instruction.

## 5 Problem-Solving, Mathematical Modeling and Play K-2, 3-5, 6-8

Mike Wiernicki, Mathematics Specialist/Consultant
Dining Hall C
Play is how we all experience learning from birth and should be a part of learning mathematics at all levels. Play and thinking are not mutually exclusive. Play can be a catalyst for problem-solving and mathematical modeling, when working on interesting problems. Participants will experience and discuss the connections between problem-solving, mathematical modeling, and play.

6 Game On! Infusing Joyful Learning with Math Games
3-5, 6-8, 9-12
Shaina Bryant \& Courtney Taylor, The Kindezi School
Dining Hall D
We will explore the benefits of using games as a pedagogical tool to make math more accessible and less intimidating for students and rekindle the joy of learning math!address clarity, success criteria and modeling in the classroom.

8 Creative Insubordination in Support of Decisions and Culture
Jordan Moreno \& Eryn Maher, Georgia Southern University
Educators and students apply creative insubordination, making decisions and arguments to build more culturally relevant math tasks together.
$\quad \begin{aligned} & \text { Supporting Parents of K-2 Students: } \\ & \text { Developing Place Value Understanding }\end{aligned}$
Heidi Eisenreich, Abigail Wilkerson, Gwen Masch, \& K-2, HE
Isabella Fairlamb, Georgia Southern University
We are creating free online resources aligned to the new Georgia standards to help parents work
with their children on place value concepts. Resources include videos, a link to virtual
manipulatives, and worksheets with answer sheets. Links to the resources will be shared with
participants so they can share with parents.

## 10 Building Your Own Desmos Sketch <br> Chris Michael, Brookwood High School <br> Gas 3

Together we will build Desmos sketches to explore topics in precalculus, calculus, and statistics. Topics may include parametric equations, Riemann sums, Euler's method, and random sampling.

## 11 Deepen Student Understanding of Bivariation and

6-8, 9-12 Proportionality with the QCR
Basil Conway, Columbus State University
Georgia Power 1
Students are often introduced to bivariate data in the middle grades and required to describe the strength of linear relationships without any particular pathway to quantitative measure or connection to the correlation coefficient. This session will utilize the Quadrant Count Ratio to deepen understanding of bivariation and proportionality and show evidence of its effect of use in the classroom.

12 Figuring Out Fractions
Jennifer Tukes, Newton County Schools
Georgia Power 2
Come learn ways to help your student develop fraction understanding and reasoning. I will share and provide the opportunity to practice strategies, use manipulatives, and play games. You will leave the session with ideas you can use right away in your classroom.

13 Transforming Your Classroom to Increase Student K-2, 3-5, 6-8 Discourse and Engagement
Julie Schirmer, Oconee County Schools
Georgia Power 3
Looking for ways to increase student engagement and deepen discourse within your classroom? This session will explore how you can transform your classroom using Mathematical Practices.
Strategies on developing effective collaboration and mathematical reasoning among students will be explored.

# 14 Let Learners Learn: Teaching Math Through Problem Solving 

Hayley Gilbert, Heard County Middle School
I would like to share the dynamic I have built in my classroom with other educators. My students are given success criteria that they make their way through via self assessments. I utilize randomized grouping and collaboration on a daily basis to force them to get out of their comfort zones and "borrow ideas" from others to solve problems. My key role is facilitator within my classroom.

Quadratics! Functions Formula Factor -
Unique Teaching Ideas $\quad$ 9-12
Solve quadratic equations 5 different ways. Graph all 3 forms with the "parabola dance." Given a graph, write the equation in 3 forms - creatively!
16 Mathematical Problem Solving for All Students
Platinum Sponsor: Susan Arnette,
STEMscopes by Accelerate Learning
Teaching students to reason and problem solve is the cornerstone of quality math instruction. This
session will highlight several engaging strategies such as Three Reads, Numberless Word Problems,
and more that will provide multiple entry points for all students to engage in the math and ignite a
passion for problem solving in your classroom! Session Repeats Friday at 11:OO AM.

17 Connecting with Polar Curves
9-12
Platinum Sponsor: Dennis Wilson,
Krannert 3
Landmark Christian Schools (TI Instructor)
Polar graphs can present quite a conundrum for students as they try to connect many different concepts and representations. We will explore methods for helping students make connections between their past knowledge and the new concepts of polar curves with visual representations. We will utilize technology to create dynamic links between the Cartesian and Polar coordinate systems.

## 18 Classroom Gone Quiet? Build Discourse in the Secondary Mathematics Classroom!

Silver Sponsor: Cassie Martin Reynolds, Carnegie Learning, Inc.
6-8, 9-12
Wildlife Ecology 1 Interested in building discourse for ALL your learners? Then you've come to the right place! During this session, we will understand how to meaningfully engage students in productive mathematical discourse that surfaces student understandings. You will take home strategies for your toolbox that will help your secondary math learners build discourse in the classroom.

19 Typesetting Math with Word and LaTeX David Hornbeck \& Chuck Garner, Wildlife Ecology 2
Rockdale Magnet School for Science and Technology
Have you ever wanted to write math like that seen in textbooks? In this session, you'll learn how to get started using LaTeX and Word to write beautiful tests, papers, and even books, and will get many resources for starting your journey.

Collaborative Inquiry to Deepen Equitable Teaching Practices
Bronze Sponsor: Gina Wilson, Knowles Teaching Initiative
General Interest
Wildlife Ecology 3 Analyze student data and complete a collaborative inquiry cycle to explore how to deepen learning opportunities for all students.

21 A Roadmap to Interdisciplinary Teaching
K-2, 3-5
Michelle Bateman \& Lenisera Barnes-Bodison, DeKalb County Schools
Experience a journey of endless possibilities for students to gain a love of learning math through interdisciplinary challenges found in the GaDOE Mathematics Learning Plans.

## Concurrent Session B: 11:00 AM - 12:00 PM


#### Abstract

22 Family Math Night K-2, 3-5 Vinnie Prasad \& Heather Mullins, Cobb County Public Schools Bankers Stress-free parent math night? How is that possible? This session will explore the K-5 critical math standards and incorporate them into math night games. We will learn how to encourage parents to help support their child at home. Participants will walk away with all resources needed for a successful math night.


23 Invigorating Joy When Learning Systems of Equations 6-8, 9-12 Shelli Casler-Failing, Georgia Southern University Callaway Attendees will learn how the TI-Innovator Rover can be used to support student understanding of systems of equations.

24 Q\&A with State Superintendent
General Interest
| Featured Speaker: Richard Woods, State School Superintendent Clover (in Dining Hall)
Come join us for remarks and a question-and-answer session with the Georgia Superintendent of - Schools.
\.__ . . . . ._ . . .

## 25 Developing Fraction Sense with Hands-On Instruction

Bronze Sponsor: Angie Meredith, hand2mind
Dining Hall C
Most students don't have a conceptual understanding of fractions. Physical manipulatives can empower students to develop fraction sense.

26 Hands-On Manipulatives Matter in Middle Grades
Bronze Sponsor: Jane Hannon, hand2mind $\quad \begin{gathered}\text { 6-8 }\end{gathered}$
Participants will be actively engaged using hands-on manipulatives to deepen student understanding of abstract middle school math concepts.

In this session, we will explore the wonder of mathematical connections between the whole number reasoning and fractional reasoning and walk through the progression of fractional/proportional reasoning as we "DO" mathematics through unitizing, partitioning, and iterating.

## 28 Equitable Math Instruction through Cultural Relevance General Interest Bronze Sponsor: India White, Gas 1 Big Ideas Learning / National Geographic <br> Scores from the National Assessment of Educational Progress suggest that if current educational practices in math classrooms remain the same, the achievement gap between Caucasians and African descent learners will be eliminated by around 217 years. To close the academic achievement gap for all students, teachers must be equipped with methods to conduct equitable instruction that is culturally relevant. Session repeats today at 2:30 PM.

# 29 Unleashing the Power of Feedback: <br> Transforming Math Teaching and Learning 

Lateisha Andrews \& Tiffany Dillard, DeKalb County School District

## General Interest

Gas 2
Drawing from the research of John Hattie and Helen Timperley, we will delve into their groundbreaking work on the three types of feedback approaches: feed-up, feedback, and feedforward. Participants will be able to experiment with various feedback approaches, trying them out using real-world scenarios from the four grade bands. Participants will discuss these strategies' benefits, limitations, and adaptability to suit their diverse teaching needs.

## 30 Supporting English Learners in the Mathematics Classroom <br> Brandi Worsham, Brenau University <br> The purpose of this session is to explore ideas mathematics classroom. We will synthesize key ideas to consider when working with ELs in the mathematics classroom and highlight instructional strategies that develop the speaking, listening, reading, and writing skills of ELs as they engage with content and mathematics practice standards.

$31 \quad$ Fraction Subtraction is Out of this World!
3-5
Isabella Fairlamb, Gwen Masch, Abigail Wilkerson, \& Heidi
Georgia Power 1 Eisenreich, Georgia Southern University
We will make sense of fraction subtraction using word problems and fraction tiles to promote a deeper understanding.

[^0]This session will explore why mathematical modeling matters to students and how it helps to build critical thinking, problem solving, and collaborative skills. We will explore the resources that keep mathematics relevant to students. Participants will use available resources and Georgia's K-12 Mathematics Standards to apply mathematics to real-life situations.

## Session Repeats Friday at 9:45 AM.

## 34 How to Code a Desmos Activity Without Knowing 6-8, 9-12 How to Code <br> Hannah Blalock, Wilbanks Middle School \& Hastings <br> Zach Thomaswick, Habersham Ninth Grade Academy <br> Learn to customize your own Desmos activities by utilizing existing coding from activities and templates that have been shared by others.

## $35 \quad$ Alternative 3rd and 4th Year Courses for Struggling Students <br> Robert Gerver, North Shore High School <br> International Paper 2 <br> Some students who need 3-4 years of math to graduate find Alg. 2 and Precalc daunting options. <br> Advanced Algebra with Finance, and Hands-On Stat, are 2 alternatives.

36 Mathematical Modeling is as Simple as a 3-Act Task
3-5
Angela Leach, DeKalb County School District \&
Krannert 1
Robbi Brown, Rock Chapel Elementary School
In this session participants will learn how to analyze a mathematical representation of a real-world scenario to make a prediction through completing 3-Act Tasks.
$37 \quad$ Productive + Struggle $=$ Student Success
K-2, 3-5
in Mathematics
Platinum Sponsor: Susan Arnette,
Krannert 2
STEMscopes by Accelerate Learning
Are your math students hesitant when presented with challenging tasks? Do they wait for you to rescue them at the first signs of struggle? Discover the value of productive struggle and explore key components essential to building a classroom that fosters grit and perseverance.

## Session repeats Thursday at 3:45 PM.

[^1]In this session, teachers will engage in establishing norms that will promote classroom community, building positive relationships among students, and encouraging effective student collaboration and math conversations. Teachers will also experience total participation protocols they can use in their classroom to promote voice equity and increase engagement. Come join us to learn how to increase the level of joyful noise in your mathematics classroom!


# Concurrent Session C: 1:15 PM - 2:15 PM 

| 43 Building Coherence across High School Courses | 9-12 |
| :--- | ---: |
| Ashley Garner, Lindell Coker, \& Joseph Marutollo, | Bankers |
| Atlanta Public Schools |  |
| Explore one task each from AGA highlighting coherence for students to strengthen sense-making, |  |
| conceptual understanding, and enhance decision-making skills. |  |

44 Algebraic Thinking is Accessible with Manipulatives ..... 6-8
Bronze Sponsor: Kimberly Conley, hand2mind CallawayJoin us as we explore how to develop a strong understanding of algebraic concepts through the useof manipulatives.
45 Building Fluency through Number Strings, Math Talks, and Student Centers

Bronze Sponsor: Lisa Lindsey, hand2mind
Clover (in Dining Hall)
Learn how Number Strings and Math Talks connect strategies to increase fluency. Experience student centers that reinforce and support new strategies through application and practice.

|  |  |  |
| :---: | :---: | :---: |
| Darcie Pritchett \& Angela Samples, Clear Creek Middle School |  |  |
| Let's get Math in Motion! Gifted learners thrive in a challenging environment that allows them to explore their interests while expanding their knowledge base. Join us as we share some exciting ways to engage your gifted learners on a level that motivates them to explore the world of mathematics from a new perspective. |  |  |

## 47 Modeling with Fractions

Dining Hall D
Bronze Sponsor: Ryan Dougherty, Brainingcamp Explore the world of fractions and see how fraction models can build deep conceptual understanding for all students. We will be using virtual manipulatives, so please bring a computer or tablet.
The Joy of Discovering Geometry
with Everyday Items 9-12

4910 Days to Multiplication Mastery $\quad$ 3-5
Bronze Sponsor: Rich Stuart, Learning Wrap-Ups Gas 1
Imagine how easy it would be to teach students who had automatic recall of simple Multiplication facts. Learn about Hands-On and Self-Correcting materials and strategies that help students master basic math facts.

50 Is Percent a Problem? Let's Talk Money
Dana Enriquez-Vontoure, Houston Area Schools
Gas 2
Join us to explore engaging and effective intervention strategies to help students from all backgrounds progress from decimals, fractions benchmarks to percent. Learn how to develop students' percent fluency through numeracy routines and strategies that capitalize on their previous math experiences to promote depth and conceptual understanding.

## 51 Opening the Middle: Diverse Solution Paths to Enhance Mathematical Meaning

Bronze Sponsor: Janelle Duckett, Great Minds / Eureka Math \&
Brian Lack, Forsyth County Schools
Students may use their burgeoning number sense, familiar tools, and new strategies to crack open an unfamiliar problem. In this session, explore a framework to share, compare, and connect strategies that can lift and support divergent thinking, address common misconceptions, and make visible the efficiency of various problem-solving methods.

## 52 Enhancing Learning Through Thinking Tasks

6-8, 9-12
Silver Sponsor: Sherri Abel, Derivata Inc.
Georgia Power 1
The data is staggering! In a typical one-hour lesson, $75 \%-85 \%$ of the students are non-thinking $100 \%$ of the time, and the rest are non-thinking for all but 8-12 minutes of that time. It's time we change that! Participants will be engaged in the when, where, what, and how of increasing thinking in their classrooms.

53 Word Problems on Fire: Igniting Student Engagement
Karen Hensen \& Carlie Oelke, Columbus Regional Mathematics
Georgia Power 2 Collaborative \& Columbus State University
Informational text reading will be related to teaching mathematics by weaving the strategies of 3 Read Protocol and Numberless Word Problems. See how students will be successful problem solvers when math is presented in context via word problems.

54 Bet You Haven't Solved Equations this Way!
6-8, 9-12
Hope Phillips \& Peter Anderson, Columbus State University Georgia Power 3
Promote sensemaking! No tools! Just draw a line! Connect number lines and algorithms to deepen students' quantitative and spatial reasoning.

## 55 Building Mathematical Mindsets \& Revitalizing Reasoning <br> Danielle Lanigan, Cobb County School District

We all want our students to reason through problems and actually enjoy mathematics, but how do we get there? In this session, we'll explore methods to develop a positive mathematical mindset for ourselves and our students based on ideas from Jo Boaler and also dive into instructional practices and classroom-ready activities that use positive math mindsets to foster reasoning skills.
Session repeats Friday at 11:0o AM.

Chuck Garner, Rockdale Magnet School for Science and Technology International Paper 2
Dive into the curriculum of the $4^{\text {th }}$-year high school option Advanced Finite Mathematics from the original author!

57 Engagement with Exciting 3 Act Tasks
3-5, 6-8
Abby Hughes, Kittredge Magnet School
Krannert 1
3 Act Tasks get kids excited about doing mathematics through authentic situations. For new teachers or teachers who haven't tried 3 Act Tasks who want strategies for implementation.

| 58 Using Manipulatives and Models | 6-8, 9-12 |
| :--- | ---: |
| Platinum Sponsor: Susan Arnette, | Krannert 2 |

Platinum Sponsor: Susan Arnette,
Krannert 2
STEMscopes by Accelerate Learning
In this session, teachers will engage with a variety of manipulatives and models from middle school and high school. Teachers will receive instruction on how to use the manipulatives and have a multi-targeted practice opportunity with each of the manipulatives. The facilitator and participants will discuss how the use of these manipulatives and models in their grade level both builds from elementary and prior grade level knowledge, as well as into future grade level spiraling.
Session repeats Friday at 9:45 AM.

Soft Skills for Success on the AP Calculus Exam
Platinum Sponsor: Dennis Wilson,
9-12
Platinum Sponsor: Dennis Wilson,
Krannert 3
Landmark Christian Schools (TI Instructor)
A strong understanding of the concepts of calculus is essential for success on the AP Calculus exam, but unfortunately this is not enough to ensure it. In this session, we will explore the "soft skills" that should be emphasized throughout the course. This includes the mathematical practice of good communication and notation as well as a strong understanding of when and how to use the calculator. Join us as we explore these skills through the lens of sample Free Response Questions.

60 Teaching Inverses of Functions: 9-12 Ideas You Have Not Used YET
Tom Reardon, Fitch High School / Youngstown State University
Wildlife Ecology 1
Come explore and develop conceptual understanding of forming inverses of functions, with and without graphing technology. Leave with ideas for teaching inverses in your classroom, including inverses of trigonometric functions.

61 Working Towards Getting All Students on Grade Level
3-5, 6-8
Christine King, Cking Education
Wildlife Ecology 2
This session focuses on how to use formative assessment data and prerequisite standards to target instruction and accelerate learning. We will explore how to use math manipulatives along with pedagogical structures that can be used to support all students in becoming proficient at grade-level standards. Participants will leave with an understanding and framework for accelerating learning.

# 62 Maintaining Your Balance by Rekindling Your Joy 

Veronica Walton, Aaron Cohn Middle School
General Interest
This is a follow up to last year's "Reclaiming Your Balance" session. In this session, we will focus more on ways to maintain those necessary boundaries needed to keep balance in your life. We will use our joy for teaching mathematics to lead the way!

63 Math Made Fun with Chexagon
3-5, 6-8, 9-12
George Lanier, Foster-Johnson, LLC
Wildlife Ecology 4
This session will demonstrate the use of the Math Checkerboard Game, Chexagon. This STEM math resource works in the classroom, afterschool programs, math clubs as well as for school competitions and district tournaments. Chexagon makes math a contact sport. Create the excitement for your Math Club and Mathletes to compete in mental math challenges.

> Don't Forget! PE at GMC starts at 5:Oo down at the EMC Senior Pavilion. There is something for everyone!

## Concurrent Session D: 2:30 PM-3:30 PM

| I Mathematical Moments that Leave Us Breathless and | $\mathbf{6 - 8 , 9 - 1 2}$ | Bankers |
| :--- | :--- | :--- |
| Wanting to Learn More |  |  |
| I Featured Speaker: Ron Lancaster, Associate Professor Emeritus |  |  |
| Ontario Institute for Studies in Education of the |  |  |
| I University of Toronto |  |  |

$\begin{array}{lc}65 & \text { The Danger of Math "Tricks" } \\ \text { David Hornbeck, Rockdale Magnet School for } & \text { 6-8, 9-12 } \\ \text { Callaway }\end{array}$

## Science and Technology

We have all likely used a variety of "tricks" and short-hands in our careers, from "Keep-Change-
Flip" and "canceling" to "absolute value just makes everything positive." Some of these tricks involve changing vocabulary, while others turn more complex processes into easier ones. The question is: what ramifications might these "tricks" have on student understanding in the long term?

66 Experience the Joy of a Thinking Classroom!
3-5, 6-8, 9-12, HE
Stephanie Frey \& Lisa Sill, Greenbrier High School
Clover (in Dining Hall)
Experience strategies to engage your students using BTC methods from Dr. Liljedahl and hear how it brought JOY back into teaching for us!

67 Joyful Math through the Arts, Games, and Movement Jamey Smith, Heritage High School \& Evans Harrell, Georgia Tech

General Interest
Dining Hall C Over several years we have produced artistic activities in which math is embedded and successfully demonstrated them in classrooms, school STEAM events, the Fulton County Teaching Museum, the Atlanta Science Festival, and elsewhere. We will talk about the lessons learned and share (free) resources teachers can use to rekindle their own students' mathematical curiosity and joy. Some activities are plug and play for use in the classroom. We will close with a creative discussion about novel ways to use games, art, music, and dance to enhance students' appreciation of math.

68 Building Number Sense: Strategies for Understanding $\quad$ Relationships, Reasoning and Estimation $\quad 3-5$ Angela Summerford \& Brooke Armesto, Bryan County Elementary

Dining Hall D We will explore practical classroom strategies to address the common challenge of students lacking number sense in 5 th grade. We will focus on developing students' understanding of numbers and their relationships through activities such as Number Talks and Estimating Jars. Our goal is to empower teachers to foster a deeper understanding of numbers, promote critical thinking, and encourage students to ask, "Does my answer make sense?"
69 Using the Dash Robot to Rekindle the
Joy of Mathematics
Alesia Moldavan \& Shelli Casler-Failing,
Georgia Southern University
This session introduces participants to the Dash robot and shares experiences from K-8 teachers
about how to use Dash in the classroom.
EMC Senior Pavilion

70 Connecting Spatial and Measurement Reasoning 3-5
Bronze Sponsor: Jane Hannon, hand2mind Gas 1
Come explore engaging tasks that will connect measurement reasoning to geometric thinking creating deep understanding of those ideas.
Effective Engagement 101
Lachandra Thomas-Mole, Grovetown Elementary School \&
Shannon Roberts-Kelly, Monte-Sano Elementary School
When your students describe math, do they say things like 'boring,' 'stressful,' and 'frustrating'? Do
you wish they would say things like 'exciting,' 'interesting,' and 'fun"? Well, if that's the case, join us
as we explore and discover how ideas such as mistakes, challenges, and reasoning can transform
your math classroom and create an engaging atmosphere for thoughts, responses, and practice!

72 Connections between Equation-Solving and Functions
Come explore connections between equation-solving algorithms, equivalent equations, and function transformations through technology.

## 73 Algebra Tiles: Factoring and Completing the Square <br> 9-12 <br> Bronze Sponsor: Ashley Boyd \& Gerry Long, <br> Georgia Power 1 <br> CPM Educational Program <br> Build on students' understanding of an area model by using algebra tiles to multiply polynomials, factor, and complete the square.

## 74 Mathematics for Real World: Understanding the Statistical Problem Solving Process in K-5 Standards

Seyoung Holte, NEGA RESA
Georgia Power 2
In this session, we will engage in a series of activities to understand the Framework for Statistical Reasoning, the progression of K-5 statistical reasoning standards, and how Statistical Problem Solving Process relates to Mathematical Modeling and Mathematical Practices.

75 Building True K-5 Problem Solvers
K-2, 3-5
Bronze Sponsor: Angie Meredith, hand2mind
Georgia Power 3
Come experience how using various problem types in a quick daily routine will help build true problem solvers.

## 76 Crash Course: STEM/STEAM Camp <br> Julie Matthews, Rockdale Magnet School for <br> General Interest <br> Hastings

## Science and Technology

One of my passion projects as a teacher at a STEM high school has been to lead a STEAM camp for 4th-8th grade students. This camp has given my students and me so many rewarding experiences and I would like to help others start their own camps! Session repeats Friday at 2:30 PM.

## 77 Making Math Matter for Every Student <br> Tonya Clarke, Charlene Matthew, Marsha Lee, \& Naketa Winfrey, General Interest International Paper 2 Clayton County Public Schools <br> This session will provide strategies for reasoning and sense-making through tasks that promote mathematical modeling while developing conceptual understanding and computational skills. Participants will engage in the moves that make the math matter. True equity exists when all students are empowered to reason in ways that work for them.

## $78 \quad$ Math is Everywhere!

Kiawana Kennedy, Georgia Public Broadcasting
Krannert 1
Join GPB Education for a journey through our digital resources for elementary school math, including our content that supports foundational building blocks, interdisciplinary connections, computer science, and math in everyday life. Participants will also learn about teaching strategies that they can use in their classrooms to meaningfully engage students with the thousands of free digital resources available through PBS LearningMedia.

79 Math Talks: Promoting Dialogue in the Math Classroom
K-2, 3-5
Platinum Sponsor: Susan Arnette,
Krannert 2
STEMscopes by Accelerate Learning
Effective teaching of mathematics involves encouraging students to construct meaning through mathematical discourse. Students learn how to communicate and articulate mathematical ideas and use their reasoning skills to analyze perspectives shared by their peers in order to deepen their own mathematical understanding.


## $81 \quad$ Using Virtual Resources to Support Student Learning <br> 6-8, 9-12

Alan Clark \& Erin Macke, Georgia Connections Academy Wildlife Ecology 1
Witness how students are engaged synchronously and asynchronously with Zoom, Desmos Classroom, and Lesson Guides using Google Slides.

82 Incorporating Literacy in the Math Classroom
Sallie Lunzmann, Amy Jackson, \& Brittany Oliver,
General Interest Wildlife Ecology 2 Johnson County High School
Reading and writing belong in all disciplines. Using discipline-appropriate strategies will allow our students to think, speak, and write like mathematicians in the real world.

## 83 Engage Your Student with Mathematical Puzzles

9-12
Bobby Stecher, Stratford Academy \& Abby Noble,
Wildlife Ecology 3
Middle Georgia State University
Mathematical Puzzles Program (MaPP) at Middle Georgia State organizes events that engage students in learning mathematics through collaboration and puzzle solving. Students move around campus, solve puzzles as a team, and most importantly have fun with math! At this session, you will get to experience the fun as a participant.

## 84 Equitable Math Instruction through Cultural Relevance <br> Bronze Sponsor: India White, <br> General Interest

Big Ideas Learning / National Geographic
Scores from the National Assessment of Educational Progress suggest that if current educational practices in math classrooms remain the same, the achievement gap between Caucasians and African descent learners will be eliminated by around 217 years. To close the academic achievement gap for all students, teachers must be equipped with methods to conduct equitable instruction that is culturally relevant.

## Concurrent Session E: 3:45 PM - 4:45 PM

85 Teacher Bag of Tricks: Escaping Common Formatives 3-5, 6-8, 9-12<br>Ebony Haskins, Savannah Christian Preparatory School<br>Bankers

Find engaging ways to be intentional with your teaching practices. Let's create a gamified formative review through digital escape rooms. Teachers will leave with ideas and strategies to capture engagement for all students. Session repeats Friday at 2:3o PM.


87 Counting Craze: Engaging and Exciting Ways To Facilitate Counting for Grades K-5
Jocelyn Robbins, Fayette County Public Schools \& Julie Fowler, Clover (in Dining Hall) Retired Fayette County Elementary Instructional Coach
This session will focus on the counting strand in the new standards. We will take a deep dive into Choral Counting, Count Circles, and Counting Collections to show how these two instructional practices and routines support the foundations of math across grades K-5. Educators will have time to plan and collaborate and leave with new ideas to engage learners.

## 88 Building Numerical Fluency with Visual Number Talk Bars

Bronze Sponsor: Pamela Smith, EAI Education
K-2, 3-5

The purpo of this session is to provide eductors wan © The fluency with Addition and Subtraction Operations and automaticity with basic facts within Kindergarten through Grade 5. Come join the excitement of the Visual Number Talks Bars and how they are helping students develop fluency!

## 89 Building Fluency through Number Talks, Math

 Strings, and Student Centers$90 \quad$ Undoing "I do we do you do":
General Interest
Centering Student Thinking
Brittany Castanheira, Mercer University \&
EMC Senior Pavilion
Susan Cannon, University of Georgia
This session will focus on dismantling the heavily implemented gradual release model for teaching mathematics, otherwise known as the "I do, we do, you do" sequence. Presenters will guide attendees through alternative research-informed practices for sequencing mathematics lessons with the intention of centering student ideas and problem-solving strategies to enhance learning for all (including the teacher).

91 Strategies to Promote Discourse in Math Classrooms
6-8, 9-12
Bronze Sponsor: Gerry Long \& Ashley Boyd,
Gas 1
CPM Educational Program
Participants will actively engage in strategies that particularly deal with discourse while working through a rich math task.
$92 \quad$ Finding Joy in Group Work 6-8, 9-12
Bronze Sponsor: Joshua Thurbee, Knowles Teacher Initiative
Gas 2
Equalize learning experiences and inject joy for all students during group work by improving collaboration and increasing participation

## 93 Collaborative Planning Made Simple with Google Classroom

Christian Kendrick \& Gayle Herrington, Woodland High School

Silver Sponsor: Sherri Abel, Derivita Inc.
Georgia Power 1
Issues getting students to talk....mathematically? This session will focus on implementing low floor, high ceiling tasks designed to engage all students, as well as implementing the 5 Practices for Orchestrating Mathematical Discussions (Smith \& Stein). You will leave armed to deploy these strategies the very next day. Come prepared to participate!

We will work through a modeling task that introduces both the concept of regression and transformations of sinusoidal functions using dynamic features in the TI-84 calculator. Teachers will also be provided with a few more TI-84- and Geogebra-oriented tasks for Precalculus: Concepts and Connections.

97
Keeping YOU in the NEW
K-2, 3-5
Mandy Kelly \& Kayley Sanders , Hastings
Carrollton Upper Elementary School
The new standards have challenged us to change how we teach math. How can we embrace that challenge, while also continuing to do what we know works in our classrooms? Join us for a practical way to merge the new standards with best practices already in place to maximize student growth.

98 A Bold Vision for Teaching and Learning Mathematics<br>K-2, 3-5<br>Brian Lack, Forsyth County School District<br>International Paper 2<br>Learn about how one school district developed a bold vision for teaching and learning elementary mathematics that has resulted in substantial positive changes in teachers' beliefs and practices.

$$
\begin{aligned}
& \text { Model Real-World Data } \\
& \text { Tom Reardon, Fitch High School / Youngstown State University } \\
& \text { Obtain current data about hot car temperatures, opioid use, and gun violence. Then, use high } \\
& \text { school math to model this relevant data. Participants will walk away with handouts for students and } \\
& \text { with teacher solutions for these problems. }
\end{aligned}
$$

$$
\begin{aligned}
& \text { 100 } \quad \begin{array}{l}
\text { Productive + Struggle }=\text { Student Success } \\
\text { in Mathematics }
\end{array} \\
& \text { Platinum Sponsor: Susan Arnette, } \\
& \text { STEMscopes by Accelerate Learning } \\
& \text { Are your math students hesitant when presented with challenging tasks? Do they wait for you to } \\
& \text { rescue them at the first signs of struggle? Discover the value of productive struggle and explore key } \\
& \text { components essential to building a classroom that fosters grit and perseverance. }
\end{aligned}
$$

# $102 \quad$ STEM-ifying Quadratic Functions 

6-8, 9-12
Curtis Martin, Thomson Middle School \&
Wildlife Ecology 1
Amanda Merritt, Southern Regional Education Board
Come experience a hands-on STEM project that engages students in developing their mathematical and scientific reasoning skills. As you explore quadratic functions, you will broaden your skillset as a teacher to enact exciting STEM lessons that connect math to science and also deepen students' literacy skills. You will walk away with a lesson you can implement in your classroom as well as strategies that you can infuse into other lessons throughout the school year.

## 103 Eureka! Unlocking Word Problems in the K-3 Classroom

Tena Fulghum, Making Math Matter
This session is designed to assist teachers of grades K-3 with using schema-based problem types to unlock additive word problems. Focus is on building mathematical comprehension through the use of graphic representations and language which allows scholars to take control of mathematical problem-solving. These problem types are found as the "Early Numeracy Math Problems Types" in the GADOE website. Session repeats Friday at 9:45 AM.

104 Building Number Sense: The Power of the Number Line<br>Robbi Brown, Rock Chapel Elementary School \&<br>Wildlife Ecology 3 Angela Leach, DeKalb County School District<br>In this session, the participants engage in a variety of hands-on activities to develop fluency and numerical reasoning using the number line.

105 What's Your Angle?<br>Emily Brett \& Jennifer Townsend, Arthur Williams Middle School<br>Wildlife Ecology 4<br>Participants will use a candy activity to prove the Pythagorean theorem based on their sizes and areas. We will focus on exploring relevant digital examples to bolster understanding of Pythagorean triples and their converses. Geoboards will be used to help build a conceptual understanding of the Pythagorean Theorem by comparing their legs and hypotenuse. Finally, participants will demonstrate what they learned by finding diagonal distance on a map.

## What great idea will YOU present next year? Call for GMC 2024 Speaker Proposals

- The Speaker Proposal system will open April 1, 2024.
- Speaker Proposals are due by July 15, 2024.
- All submitters will be notified of their speaker proposal status via email in August 2024.
Please ensure your email address is up to date on your submission.


## 5:00 PM PE at the GMC <br> EMC Senior Pavilion

You've been sitting all day, so it's time for some movement!

Come join us for the famous Fun Run, Cornhole, Basketball, Zumba, and Games.


Thank you to Carnegie Learning for sponsoring PE at the GMC and providing t-shirts for participants.


## 6:30 PM Celebrating Susan Craig

Chapel

For those of us who have been around GCTM for a while, Susan Craig was someone you would count on seeing each year at the conference. She retired after 41 years in education in Richmond County. During her career, she was named 1986 Richmond County Teacher of the Year and was awarded the Georgia 1985 Presidential Award for Excellence in Mathematics Education and the 2010 GCTM Gladys M. Thomason Distinguished Service Award. Susan passed away on December 29, 2021. The membership of GCTM collected donations for a bench to be placed at Rock Eagle in her memory. This year, we celebrate Susan and dedicate the bench to her memory.


## 7:30 GCTM Awards Ceremony Clover (in Dining Hall)

Join us to celebrate our colleagues who have earned the 2023 GCTM Awards. Thank you to ST Math for sponsoring our Awards Ceremony.


## 8:30 Karaoke, Dancing, and Refreshments EMC Senior Pavilion

Following the awards ceremony, you are invited to the EMC Senior Pavilion for refreshments, music, and dancing! Thank you to Derivata for sponsoring this event.

Also: Building Thinking Classrooms open forum / follow-up in Hastings.

## Key Takeaways - Take a deliberate pause to REFLECT!

Whether you are attending as a team, a small group or an individual, prioritize time today to reflect on one key takeaway from each of the sessions.
$\qquad$
Point to Ponder: How will you incorporate any of the NEW ideas and/or strategies in your school, class, and life?

## Friday, October 20, 2023

8:30 AM Keynote Session
Points of View: Building Space for Wonder, Joy, and Deeper Understanding Francis Su, Harvey Mudd College, Author of Mathematics for Human Flourishing

Beyond teaching math skills, we have a role as teachers of mathematics to open students up to joy and wonder to be found in thinking well. One of the best ways that happens in mathematics are the mental connections made when grasping an idea from multiple perspectives. These aha! moments provide opportunities for delight. They also point to larger lessons in teaching equitably. The virtue of taking up multiple points of view will serve our students well far beyond their math courses.

Friday Keynote Address is sponsored by American Book Company.
Don't forget to stay for the door prizes before heading off to a great day of learning!

Key Notes
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Concurrent Session F: 9:45-10:45 AM

106 Connecting the Dots: Domino Math Games<br>Bronze Sponsor: Lori Triplett, Box Cars and One-Eyed Jacks<br>K-2, 3-5<br>Bankers

Come prepared to play our favorite games that cover the following concepts: operational fluency, place value, graphing, multiplication, fractions and more. Ideas for integrating into either whole class or small group instruction, differentiation and gameboards will be provided. Games would also be great for a family math games night.


108 Building Communities with Reasoning Routines and K-2, 3-5, 6-8, 9-12 Discourse
Skip Tyler, Collaborative Teaching and Learning
Clover (in Dining Hall) Group Consulting
Reasoning routines build community, increase discourse, enhance instruction, develop concepts, and set the stage for learning! Participants will engage in a variety of reasoning routines and leave with resources that can be used immediately in your classroom.

> Building Numerical Fluency with Visual Number Talks Dot Models Bronze Sponsor: Pamela Smith, EAI Education The purpose of this session is to provide educators with an overview of a new tool and strategies as they pertain to fluency in Multiplication and Division Operations and automaticity of the basic facts within Grades 3-5. Come join this hour of learning and leave with the tool and strategies needed to immediately implement back in your classroom!

110 Developing Understanding of Area
3-5
Rachel Tuck, Spring Hill Elementary School \&
Dining Hall D
Robyn Ovrick, University of Georgia
Participants will experience hands-on activities to help 3rd-4th grade students develop understanding of area. Bring laptop or tablet.

In this session, we will explore features of Desmos that allow users to create graphs and equations that relate to real-life data.

# - 112 Using Applets to Explore Statistical Relationships <br> 9-12, HE 

Featured Speaker: Daren Starnes, Independent Consultant
Gas 1
We'll use freely available applets to analyze relationships between two categorical variables and - between two quantitative variables.

113 IVT, EVT, MVT and a Nifty Theorem 9-12, HE
Marshall Ransom, Georgia Southern University
Gas 2
The sometimes called "value theorems" are basic to elementary calculus. These will be reviewed and the way in which they appear and are scored on the AP Calculus Exam will be discussed. A theorem resulting from these will be described and proved. This is a theorem accessible to AP Calculus teachers, but one with which many teachers are not very familiar.

114 Come Get the TEA on Technology in AP Precalculus 9-12, HE Dennis Wilson, Landmark Christian School

Gas 3
The description for AP Precalculus states that "Technology should be used throughout the course as a tool to explore concepts." In a rigorous college level precalculus course, how do we make time for such exploration? We will examine the handheld calculator and computer emulator as a tool for Teaching, Exploring, and Assessing mathematical concepts in the class. We will look at activities that focus the lesson on these mathematical concepts while allowing students to learn important calculator skills.

115 Problem-Solving Skills for the Modern Student
K-2, 3-5
Roger Studdard, Retired
Georgia Power 1
Problem-solving is important for students because it helps them develop critical thinking, creativity, and metacognitive skills. It allows them to approach complex problems systematically and logically, leading to better solutions. This session will highlight tips and strategies the educator may use to foster a more problem-solving environment.

116 Teach the Way You Were Taught or Try Change
General Interest
Silver Sponsor: Reggie Revere, Carnegie Learning, Inc.
Georgia Power 2 Participants will experience a classroom setting, as we dive into strategies and essential ideas to reengage students.

117 Closing the Gap with the Thinking Classroom Practices
Lisa Arnholt \& Ezra Gonzales, Calvary Christian School
General Interest
Georgia Power 3
Build a thinking classroom that supports equitable teaching practices and fosters engagement and critical thinking in students.

This session will explore why mathematical modeling matters to students and how it helps to build critical thinking, problem solving, and collaborative skills. We will explore the resources that keep mathematics relevant to students. Participants will use available resources and Georgia's K-12 Mathematics Standards to apply mathematics to real-life situations.

119 What Does Listening Have to Do With It?<br>Bronze Sponsor: Ashley Boyd, CPM Educational Program<br>\section*{General Interest}<br>International Paper 2<br>This session is designed to be a practice space that is ideal for coaches, administrators, and teacher leaders. Participants will practice listening, thinking and responding-skills that are essential for developing professional relationships. In addition, participants will delve into the various types and purposes of paraphrasing. Practice active listening, critical thinking, and effective responses to better support teachers in the classroom.

This session is part of a special coach / leader strand.

| 120 | Computation Fluency: Using Area Models to Make <br> Sense of Fraction Multiplication and Division | 3-5, 6-8 |
| :--- | ---: | ---: |
| Chuchu Wu \& Kathryn Early, |  |  |
| Georgia Southwestern State University |  |  |
| Participants will explore using area models to help students develop an understanding of fraction |  |  |
| multiplication and division. Fraction manipulatives and area model drawing will be utilized for |  |  |
| participants to explore and make connections between the structure of area models in fractions and |  |  |
| the whole number multiplication and division. |  |  |

121 Using Manipulatives and Models
Platinum Sponsor: Susan Arnette,
STEMscopes by Accelerate Learning
In this session, teachers will engage with a variety of manipulatives and models from middle school
and high school. Teachers will receive instruction on how to use the manipulatives and have a
multi-targeted practice opportunity with each of the manipulatives. The facilitator and participants
will discuss how the use of these manipulatives and models in their grade level both builds from
elementary and prior grade level knowledge, as well as into future grade level spiraling.

122 Focusing on Families of Functions
6-8, 9-12
Platinum Sponsor: Beth Smith, Texas Instruments
Krannert 3
From preAlgebra to preCalculus, functions play a vital role in our mathematics classroom. In this session we will use TI-84 Plus technology to build and strengthen conceptual understanding of functions through multiple representations. We will explore linear, quadratic, exponential, logarithmic, radical, polynomial, rational, and trigonometric functions.

## 125 Eureka! Unlocking Word Problems in the K-3 Classroom

Tena Fulghum, Making Math Matter
This session is designed to assist teachers of grades K-3 with using schema-based problem types to unlock additive word problems. Focus is on building mathematical comprehension through the use of graphic representations and language which allows scholars to take control of mathematical problem-solving. These problem types are found as the "Early Numeracy Math Problems Types" in the GADOE website.

## 126 <br> Reimagining Academic Discourse

General Interest
Karonda Foster-Mitchell, DeKalb County School District
Wildlife Ecology 4
This professional learning presentation seeks to engage participants in situated learning experiences focusing on mathematics academic discourse. The participants will learn about a daily discourse protocol designed by educators at High Tech High School. The goal of this session is to aid teachers in facilitating engaging, robust, and enriching discourse.

## Have you checked out our Sponsors in Sutton Hall?

## Concurrent Session G: 11:00 AM-12:00 PM

## 127 The Greatest Hits of Updating the <br> Traditional Math Classroom

Michelle Mikes, Cobb County Board of Education
General Interest
Bankers
Join this session to review some of the "greatest hits" over the past 30 years of effective strategies, alternate instructional structures, classroom environment, and the act of taking a risk in an effort to rekindle the joy in your classroom. Let's explore, engage, apply, and reflect on practices.

Mary Garner \& Virginia Watson, Gateway Community Math Center
Callaway
As directors of the Gateway Community Math Center, we've assembled a variety of resources to engage students with the kind of mathematical play described in Francis Su's book Mathematics for Human Flourishing. In this session you'll engage with games, puzzles, and activities suitable for different age groups. We'll be sharing our experiences running summer math camps, math festivals, and math circles, with low-floor high-ceiling math activities that can accommodate students who have a variety of math skills and confidence.

129 Teaching Mathematics with Problem-Based Learning

Problem-based learning activities will be shared that teach the Georgia Algebra and Geometry curriculum.

## 130 Art Integration in Mathematics

Joshua Nelson, Woodland Elementary School

## General Interest

are
Creativity is often deemed one of the most complex and cognitively demanding skills to promote, especially in mathematics. However, with the help of manipulatives we can create works of art that lead to curiosity and perhaps some mathematical conjectures. Come be creative and see what curiosity we can spark, and learn how to integrate art and expression into the mathematics classroom.

131 Using the Building Thinking Classroom to Ignite the Joy
Miranda Hull, Marietta High School
General Interest
Dining Hall D
I taught Geometry Support, On-level Geometry, and Honors Geometry using Building Thinking Classrooms. It was a dream to teach. We also just had our Marietta MathCon, and I am excited to share a year's worth of preparation with others.

## 132 Multiplicative Reasoning in Action

Bronze Sponsor: Mary Abele-Austin, BW Walsh / OGAP
3-5, 6-8
Increase teacher content knowledge and provide instructional strategies! Solve a multi-digit multiplication task using the open area model, partial products, \& traditional algorithm. Connect the three strategies and consider the use of this activity to support teachers to see these relationships. Encourage teachers to build flexible, fluent multiplicative reasoners.


134 Visualizing Approximation and Error in AP Calculus
9-12, HE
Dennis Wilson, Landmark Christian School
Gas 2
From tangent lines to Riemann sums, Calculus gives access to quick approximations through many methods. But why do these methods provide an accurate approximation and how accurate are they? This session will explore different ways to help students visualize various methods of approximations such as tangent lines, Riemann Sums, and Taylor polynomials. The methods allow students to understand the errors produced by these approximations as well as convergence to an exact value.

## 135 Pacesetter to AP: Precalculus Through Modeling

Storie Atkins, Columbus High School
Gas 3
Participants will engage in redesigned modeling tasks inspired from College Board's Pacesetter Precalculus Through Modeling curriculum.

136 Empower \& Rekindle:
6-8, 9-12
Spiraled Math, Auto-Assessments, \& Success
Mia Allen \& Lee Allen, Oconee County Schools /
Georgia Power 1

## Endless Feedback LLC

Spiraled teaching and auto-generated assessments unite for student success \& teacher ease. Boost efficiency, reduce burnout, and rekindle joy in math!

137 Chess is Kinda Cool!<br>Daniel Holte, Statham Elementary School<br>General Interest<br>Georgia Power 2

In this session, we will explore how chess can be used in the gifted mathematics classroom to promote mathematical reasoning, mathematical practices, critical thinking and excitement. Participants will engage in example activities that connect mathematics to chess and how to bring the joy back to their classrooms.

> 138 Purposeful Learning Driven by Data Bronze Sponsor: Keith Brown \& Amanda Willis, McGraw Hill Education Formative assessment can take the guessing out of planning meaningful differentiation. Teachers will see how exit tickets can decide on differentiated assignments.

## 139 Building Mathematical Mindsets and Revitalizing Reasoning <br> Danielle Lanigan, Cobb County School District

We all want our students to reason through problems and actually enjoy mathematics, but how do we get there? In this session, we'll explore methods to develop a positive mathematical mindset for ourselves and our students based on ideas from Jo Boaler and also dive into instructional practices and classroom-ready activities that use positive math mindsets to foster reasoning skills.

140 Building Teacher Leader Capacity with Bite Size 2o-Minute PD
Heather Stechly, Jalencia Turner, Iesha Clarke, \& Erin Roberts, Gwinnett County Public Schools
Coaches or leaders, learn how we implement a "Bite Size PD" coaching model to maximize our district-wide learning in less time. Explore strategies we use to deliver quick, impactful cycles of learning and check-ins to cultivate a culture of continuous growth and collaboration.

This session is part of a special coach / leader strand.

141
I Got To Do This With My Kids! 27 Clever Activities on TI-84
Tom Reardon, Fitch High School / Youngstown State University
6-8, 9-12
Krannert 1
Come learn about some engaging activities I've done with my students. I will share a website that contains student and teacher PDFs, and a 2-minute video of each activity. We will address topics from Algebra 1 to Calculus.

142 Mathematical Problem Solving for All Students
Platinum Sponsor: Susan Arnette,
K-2, 3-5
Krannert 2
STEMscopes by Accelerate Learning
Teaching students to reason and problem solve is the cornerstone of quality math instruction. This session will highlight several engaging strategies such as Three Reads, Numberless Word Problems, and more that will provide multiple entry points for all students to engage in the math and ignite a passion for problem solving in your classroom!

143
The Joy of the TI-36X Pro
Platinum Sponsor: Debbie Poss \& Don Slater, Texas Instruments Instructors
The TI-36X Pro is a relatively inexpensive scientific calculator that has some really neat features! Come and play with this one and see if it could find a place in your classroom.

144 From Doubt to Discovery:
General Interest
Cultivating Mathematical Confidence
Brooke Armesto \& Angela Summerford, Wildlife Ecology 1 Bryan County Elementary School
Some kids feel they are 'just not math kids.' Explore transformative strategies to reignite their mathematical confidence and empower them as resilient problem solvers.

[^2]
## 147 Supporting Culturally Responsive Pedagogy with IM K-5 Math ${ }^{\text {TM }}$

Silver Sponsor: LaToya Byrd, Illustrative Mathematics
Wildlife Ecology 4
Districts across the country are addressing inequities in math education by implementing culturally relevant and responsive pedagogy. In this session, we will highlight the design features of IM K-5 Math ${ }^{\mathrm{TM}}$ that support this effort.

## Make it a goal to meet someone new today at lunch. Perhaps you will find a colleague who will partner with you to implement what you have learned this week.

## Concurrent Session H: 1:15 PM - 2:15 PM

148 Solving Equations: A Unique Way of Storytelling<br>6-8, 9-12<br>Andrel Sims \& Evonnie Jones, Valdosta High School<br>Bankers<br>Through the use of storytelling, learn an effective way to teach students how to solve algebraic equations. Participants will also be given a sample pixel art activity that can be utilized as student practice.

> Math Play, Fun, and Festivals (Part II) Mary Garner \& Virginia Watson, Gateway Community Math Center As directors of the Gateway Community Math Center, we've assembled a variety of resources to engage students with the kind of mathematical play described in Francis Su's book Mathematics for Human Flourishing. In this session you'll engage with games, puzzles, and activities suitable for different age groups. We'll be sharing our experiences running summer math camps, math festivals, and math circles, with low-floor high-ceiling math activities that can accommodate students who have a variety of math skills and confidence.

150 Taking the Variation out of Teaching Variables

Bronze Sponsor: Lori Triplett, Box Cars and One-Eyed Jacks
Dining Hall C
Come prepared to play games that incorporate the use of cards, dice, place value dice and number lines that teach the following concepts: composing/decomposing numbers, comparing numbers, identifying place value holders and its corresponding value, rounding and expanding numbers. Whole numbers - decimals will be explored, gameboards provided.

152 Using Manipulatives to Model Linear and
6-8, 9-12 Quadratic Functions
Angel Abney, Doris Santarone, \& Brandon Samples,
Dining Hall D Georgia College and State University
The goal of this session is to use manipulatives, such as tiles, to generate visual, graphical and algebraic representations of linear and quadratic functions.

## 153 Math Is Play: Developing Mathematical Mindsets

Seyoung Holte, NEGA RESA \&

## General Interest EMC Senior Pavilion

 Daniel Holte, Statham Elementary SchoolOur brain lights up when we play games. Playfulness is essential to bring joy, curiosity, and deeper reasoning \& understanding. In this session, we will explore the characteristics and benefits of good games, connections between spatial, visual, temporal reasoning and mathematical reasoning \& problem solving, and ways to foster playful minds as we play various interactive, hands-on games.


Silver Sponsor: Sherri Abel, Derivita, Inc.
Georgia Power 1
What makes a strong assessment? Rigorous questions aligned to the standards! Attend this session to learn how to Level-Up your questions to more fully align to the standards, engage students, and yield higher outcomes on all assessments.

## 158 "Hands-on" Activities for Preservice Teachers using Virtual Manipulatives

3-5, HE
Nikita Patterson, Georgia State University
Georgia Power 2
This presentation will give examples of virtual manipulatives used for an undergraduate mathematics course for preservice elementary school teachers. The audience will be able to experience using these virtual manipulatives and discuss the benefits and disadvantages of their use.

159 Ah-Ha! Games for the Brain
General Interest
Honora Wall, EduCalc Learning
Georgia Power 3
Elevate your math games beyond multiplication facts and speed trials! Learn how art and languagebased games promote math confidence and competence in this hands-on session.
$160 \quad$ Playing with Your Math
6-8, 9-12
Peter Anderson \& Hope Phillips, Mathematics Collaborative at
Hastings Columbus State University
Rekindle your joy for math and teaching by experiencing a BTC lesson (and then ask the teacher questions)! Come experience Building Thinking Classrooms through a student's eyes.

161 Finding and Building a Professional Community for Teaching
Shaffiq Welji, University of Georgia

## General Interest

International Paper 2
Learn about different models of PLCs. Take away best practices from research on starting and strengthening PLCs, and discuss challenges and ideas for overcoming them.

This session is part of a special coach / leader strand.
162 Analog Clock Activities: Arc Lengths, Sectors,
\& Segments 9-12, HE

163 How to Teach Effectively in a Hybrid
Russell Lawless, Greater Atlanta Christian School
Krannert 2
This presentation will focus on positive ways to teach effectively in a hybrid synchronous model considering strategies such as defronting a classroom, creating visibly random groups, developing a positive learning environment, implementing non-curricular tasks, assessing the role of homework, and intentional questioning.

## 164 Fall in Love with Rover

6-8, 9-12
Debbie Poss \& Don Slater, GCTM
Krannert 3
Learn how to use and program the robotic vehicle Rover to enhance student engagement and understanding of topics from Algebra I to Precalculus.

165 Creating a Thinking Classroom
3-5, 6-8
Allison Speece \& Darcie Pritchett, Clear Creek Middle School
Wildlife Ecology 1
This session is designed to help provide teachers with strategies and activities to build thinking classrooms. Participants will have a chance to participate in activities they can use in the classroom to help students think their way through challenging questions.

## 166 Art and Symmetry

Ryan Hoffpauir, Dalton State College
General Interest
Rend Willife Ecology 2
In this session, we will explore how art can be used to teach symmetry. We will explore mandalas and tessellations.

## 167 Making Sense of Decimal Operations: Let's Talk Money!

Dana Enriquez-Vontoure, Houston Area Schools
Join us to explore engaging and effective intervention strategies to help students from all backgrounds progress from whole numbers to decimal operations. Learn how to develop students' decimal fluency through numeracy routines and strategies that capitalize on their previous experiences with money and promote depth and conceptual understanding.

## 168 Mathematics of Industry and Government

Brian Swanagan, Floyd County College and Career Academy \&
Wildlife Ecology 4 Andrew Smith, Adairsville High School
Interested in teaching a mathematics course that models real world situations with engaging tasks that demonstrate application? Teachers will review some tasks created for the 4th year course, Mathematics of Industry and Government. Teachers will also have an opportunity to ask questions of presenters who designed and organized the tasks for this course.

## Concurrent Session I: 2:30 PM - 3:30 PM

169 GaDOE Update: Elementary K-2, 3-5<br>Jenise Sexton \& Denise Castleberry, Bankers<br>Georgia Department of Education<br>Come explore and engage with resources to support the implementation of our newly adopted Georgia K-12 Mathematics Standards for Grades K-5. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for Grades K-5. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

170 Crash Course: STEM/STEAM Camp
Julie Matthews, Rockdale Magnet School for
General Interest
Callaway
Science and Technology
One of my passion projects as a teacher at a STEM high school has been to lead a STEAM camp for 4th-8th grade students. This camp has given my students and me so many rewarding experiences and I would like to help others start their own camps!

## 171 Change The Story: Redefining Mathematics Instruction General Interest

 Skip Tyler, Collaborative Teaching and Learning Group Consulting Clover (in Dining Hall) Use Math Workshop and Building Thinking Classrooms to "change the story" about Tier 1 math instruction to meet the needs of ALL students.172 GaDOE Update: Middle School 6-8
Kenneth Golden, Georgia Department of Education Dining Hall C
Come explore and engage with resources to support the implementation of our newly adopted Georgia K-12 Mathematics Standards for Grades 6-8. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for Grades K-5. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

| $\mathbf{1 7 3}$ Learn to Teach the Hands-On Way |  |
| :--- | ---: |
| Bronze Sponsor: Jane Hannon, hand2mind | K-2, 3-5, 6-8, HE |
| The new standards will impact Georgia math instruction. Come see how to guide current and |  |
| prospective teachers in using manipulatives. |  |

174 Teacher Bag of Tricks: Escaping Common Formatives 3-5, 6-8, 9-12 Ebony Haskins, Savannah Christian Preparatory School EMC Senior Pavilion Find engaging ways to be intentional with your teaching practices. Let's create a gamified formative review through digital escape rooms. Teachers will leave with ideas and strategies to capture engagement for all students.

175 GaDOE Update: High School
9-12
Karla Cwetna \& Jacqueline Hennings,
Georgia Department of Education
Come explore and engage with resources to support the implementation of our newly
adopted Georgia K-12 Mathematics Standards for Grades 6-8. Engage with the Essential Instructional Guidance and learn evidence-based strategies to support the implementation of Georgia's K-12 Mathematics Standards for High School. The Georgia Early Numeracy Project, Georgia Inspire, new instructional units, interdisciplinary tasks and activities, and mathematical modeling experiences will be explored. Additionally, strategies to support learner variability will be shared.

176 Picture Perfect PLC
Tevin Smith, Paul D. West Middle School \&
Crystal Billingslea, Sandtown Middle School
Leaders will learn how to implement effective mathematical PLCs that support teacher and student learning in an engaging environment that fosters, promotes, and supports school improvement.

This session is part of a special coach / leader strand.

177 Exploring Connections Between Forms of
6-8, 9-12 Linear Equations

Krannert 1
Bronze Sponsor: Gina Wilson, Knowles Teacher Initiative
Derive forms of linear equations from the slope equation \& explore connections between those and absolute value and quadratic equations.

## 178 Let's Play Function of the Day!

6-8, 9-12, HE
Debra Richardson, Osceola County School District
Krannert 2
Function of the Day is an engaging method for teaching math vocabulary and concepts related to functions that is creative and fun. Function of the Day fosters verbalization and collaboration. Learn how to use Function of the Day interactive daily bell work with your students. It can be used with various levels of High School Math courses.

## Key Takeaways - Take a deliberate pause to REFLECT!

Whether you are attending as a team, a small group or an individual, prioritize time today to reflect on one key takeaway from each of the sessions.
$\qquad$
Point to Ponder: How will you incorporate any of the NEW ideas and/or strategies in your school, class, and life?

2023 Georgia Mathematics Conference Board

Conference Board Chair
2023 Program Chair
Conference Coordinator
Director of Exhibits
Director of Facilities
Director of Technology
Director of Promotions
Director of Records
Registrar
Director of Special Events
Director of Volunteers
Director of Volunteers Intern
Director of Information Technology
GCTM President
Executive Director
Treasurer

Tashana Howse, Georgia Gwinnett College
Nickey Ice, Wheeler High School
Kelly Edenfield, University of Georgia
Benita Brock, Retired
Lynlee Barrett, Grady County School District
Jenna Barton, Paulding County School District
Tamoco Hill, Bibb County School District
Billy Esra, Thomas County Central High School
Bonnie Angel, North Georgia RESA
Zacharel Veal, Bibb County School District
Richard Kilburn, Mercer University
Heidi Eisenreich, Georgia Southern University
Julie Matthews, Rockdale Magnet School
Tammy Donalson, Retired
Debbie Poss, Retired
Chuck Garner, Rockdale Magnet School

## Additional 2023 Program Committee Members

Wendy Sanchez, Kennesaw State University Malik Henry, Beyond MD

## 2023 Georgia Council of Teachers of Mathematics Executive Committee

GCTM President
GCTM Past President
Advocacy
Competitions
Constitution \& Policy
Honors and Awards
Regional Services
Secretary
NCTM Representative
Publications Editor
Information Technology
Membership Director
Executive Director
Treasurer
Summer Academies Director
Conference Board Chair
Office Manager

Tammy Donalson, Retired
Kim Conley, Deerfield-Windsor School
Tonya Clarke, Clayton County Public Schools
Bobby Stecher, Stratford Academy
Don Slater, Retired
Michelle Mikes, Cobb County School District
Melanie Williamson, Stone Mountain Middle School
Storie Atkins, Columbus High School
Don Brown, Georgia State University
Rebecca Gammill, Kennesaw Mountain High School
Julie Matthews, Rockdale Magnet School
Denise Huddlestun, Retired
Debbie Poss, Retired
Chuck Garner, Rockdale Magnet School
Jennifer Donalson, Grady County School District
Tashana Howse, Georgia Gwinnett College
Susan Imrie

## Serving as Regional Representatives

Abbey Allen
Wes Cooper
Gloria Beard
Jamesa Broome
Malik Henry
Carlene Basciano
Tynisha Robinson
Melanie Williamson

Northwest Region Representative
Northeast Region Representative
Southwest Region Representative
Southeast Region Representative
Central West Region Representative
Central East Region Representative
Metro West Region Representative
Metro East Region Representative

## Sponsors

Both Sides of Sutton Hall

Thursday 9 AM - 4:30 PM
Friday 9AM - 1 PM

## Platinum Sponsors

- STEMScopes
(Accelerate Learning)
- Texas Instruments (TI)


## Gold Sponsor

- American Book

Company

## Silver Sponsors

- Carnegie Learning, Inc.
- Derivita, Inc.
- Illustrative Mathematics
- ST Math / MIND

Education


## Bronze Sponsors

- Box Cars \& One-Eyed Jacks
- Brainingcamp
- BW Walsh
- Casio America
- CPM Educational Program
- Dreamworks
- EAI
- Georgia Association of AP Math Teachers
- Georgia College JHL College of Education
- Great Minds
- hand2mind
- Horace Smith
- Knowles Teacher Initiative
- Learning Wrap-Ups
- Mastery Education
- National Council of Teachers of Mathematics
- National Geographic / Cengage
- Riverside Insights
- Savvas
- Georgia Teacher Retirement System (TRS)
- University of Georgia Mathematics Education


## Thursday Session Grid

Lead speakers for each session are listed.

|  | 9:45-10:45 | 11:00-12:00 | 1:15-2:15 | 2:30-3:30 | 3:45-4:45 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bankers | Lorenzo <br> Robinson | Vinnie Prasad | Ashley Garner | Ron Lancaster | Ebony Haskins |
| Callaway | Rich Stuart | Shelli CaslerFailing | Kimberly Conley | David Hornbeck | David McMillon |
| Clover (Dining Hall) | Lori Tripplett | Richard Woods | Lisa Lindsey | Stefanie Frey | Jocelyn Robbins |
| Dining Hall C | Michael Wiernicki | Angie Meredith | Darcie Pritchett | Jamey Smith | Pamela Smith |
| Dining Hall $D$ | Shaina Bryant | Jane Hannon | Ryan Doughterty | Angela Summerford | Lisa Lindsey |
| EMC Sen. Pavilion | Allison Speece | Seyoung Holte | Gayle Herrington | Alesia Moldavan | Brittney Castanheira |
| Gas 1 | Jordan Moreno | India White | Kevin Dykema | Jane Hannon | Gerry Long |
| Gas 2 | Heidi <br> Eisenreich | Lateisha Andrews | Dana EnriquezVontoure | Lachandra <br> Thomas-Mole | Joshua Thurbee |
| Gas 3 | Chris Michael | Brandi Worsham | Janelle Duckett | Vince Kirwan | Christian <br> Kendrick |
| GA Power 1 | Basil Conway | Isabella Fairlamb | Sherri Abel | Ashley Boyd | Sherri Abel |
| GA Power 2 | Jennifer Tukes | Debra Richardson | Karen Hensen | Seyoung Holte | Chuck Garner |
| GA Power 3 | Julie Schirmer | Tynisha Robinson | Hope Phillips | Angie Meredith | David Hornbeck |
| Hastings | Hayley Gilbert | Hannah Blalock | Danielle Lanigan | Julie Matthews | Mandy Kelly |
| International Paper 2 | Tammy Donalson | Robert Gerver | Chuck Garner | Tonya Clarke | Brian Lack |
| Krannert 1 | Tom Reardon | Angela Leach | Abby Hughes | Kiawana <br> Kennedy | Tom Reardon |
| Krannert 2 | Susan Arnette | Susan Arntte | Susan Arnette | Susan Arnette | Susan Arnette |


|  | $\mathbf{9 : 4 5 - 1 0 : 4 5}$ | 11:00-12:00 | $\mathbf{1 : 1 5 - \mathbf { 2 : 1 5 }}$ | $\mathbf{2 : 3 0 - 3 : 3 0}$ | $\mathbf{3 : 4 5 - 4 : 4 5}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Krannert 3 | Dennis Wilson | Tom Reardon | Dennis Wilson | Daren Starnes | Daren Starnes |
| Wildlife <br> Ecology 1 | Cassie Martin <br> Reynolds | Rita Linnemann | Tom Reardon | Alan Clark | Curtis Martin |
| Wildlife <br> Ecology 2 | David <br> Hornbeck | Jalencia Turner | Christine King | Sallie Lunzmann | Tena Fulghum |
| Wildlife <br> Ecology 3 | Gina Wilson | Lisa Brown | Veronica Walton | Bobby Stecher | Robbi Brown |
| Wildlife <br> Ecology 4 | Michelle <br> Bateman | Savvas | George Lanier | India White | Emily Brett |

## Friday Session Grid

Lead speakers for each session are listed.

|  | 9:45-10:45 | 11:00AM - 12:00 | 1:15-2:15 | 2:30-3:30 |
| :---: | :---: | :---: | :---: | :---: |
| Bankers | Lori Triplett | Michelle Mikes | Andrel Sims | Jenise Sexton |
| Callaway | Ron Lancaster | Mary Garner | Mary Garner | Julie Matthews |
| Clover (Dining Hall) | Skip Tyler | Jaymon Glaze | Gwen Masch | Skip Tyler |
| Dining Hall C | Pamela Smith | Joshua Nelson | Lori Triplett | Kenneth Golden |
| Dining Hall $D$ | Rachel Tuck | Miranda Hull | Angel Abney | Jane Hannon |
| EMC Senior Pavilion | Ryan Hoffpauir | Mary Abele-Austin | Seyoung Holte | Ebony Haskins |
| Gas 1 | Daren Starnes | Daren Starnes | Daren Starnes |  |
| Gas 2 | Marshall Ransom | Dennis Wilson | Marshall Ransom |  |
| Gas 3 | Dennis Wilson | Storie Atkins | Julie Harrison |  |
| GA Power 1 | Roger Studdard | Mia Allen | Sherri Abel |  |
| GA Power 2 | Reggie Revere | Daniel Holte | Nikita Patterson |  |


|  | $\mathbf{9 : 4 5 - 1 0 : 4 5}$ | 11:0oAM - 12:00 | $\mathbf{1 : 1 5 - \mathbf { 2 : 1 5 }}$ | $\mathbf{2 : 3 0 - \mathbf { 3 : 3 0 }}$ |
| :---: | :--- | :--- | :--- | :--- |
| GA Power 3 | Lisa Arnholt | Keith Brown | Honora Wall |  |
| Hastings | Tynisha Robinson | Danielle Lanigan | Peter Anderson | Karla Cwetna |
| International <br> Paper 2 | Ashley Boyd | Heather Stechly | Shaffiq Welji | Tevin Smith |
| Krannert 1 | Chuchu Wu | Tom Reardon | Tom Reardon | Gina Wilson |
| Krannert 2 | Susan Arnette | Susan Arnette | Russell Lawless | Debra Richardson |
| Wrannert 3 | Beth Smith | Debbie Poss | Debbie Poss | Suzette Hermann |
| Wildlife Ecology 1 | Amira Alomran | Brooke Armesto | Allison Speece |  |
| Wildlife Ecology 2 | Lindsey Boozer | Montana Smithey | Ryan Hoffpauir |  |
| Wildlife Ecology 3 | Tena Fulghum | Sandra Scroggins | Dana Enrique- <br> Vontoure |  |
| Wildlife Ecology 4 | Karonda Foster <br> Mitchell | Latoya Byrd | Brian Swanagan |  |



Do you know an outstanding mathematics educator or supporter of mathematics education?

We are 100\% positive you do!
Wouldn't it be great if that person could be publicly recognized for their work?

Please consider nominating a colleague, mentor, or former student for one of the Georgia Council of Teachers of Mathematics Awards.

For more information, see www.gctm.org/awards and page 7 of this program book.

## Speaker Index

| Abel Abele- | $\begin{array}{r} 52,94, \\ 157 \\ 132 \end{array}$ | EnriquezVontoure Fairlamb | 50, 167 | Leach Lindsey | 36 45,89 | Smith, J. Smith, T. | 67 176 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Austin |  |  | 126 | Linnemann | 39 | Smithey | 145 |
| Abney | 152 | Mitchell | 126 | Long | 91 | Speece | 7, 165 |
| Allen | 136 | Frey | P5, 66 | Lunzmann | 82 | Starnes | 80, 101, |
| Alomran | 123 | Fulghum | 103, 125 | Martin | 18 |  | 112, |
| Anderson | 160 | Garner, M. | 128, 149 | Reynolds <br> Martin | 102 | Stecher | 133, 154 |
| Andrews | 29 | Garner, C. | 56, 95 | Masch | 150 | Stechly | 140 |
| Arnette | $\begin{aligned} & \text { 16, 37, } \\ & 58,79, \end{aligned}$ | Garner, A. | 43 | Matthews | 76,170 | Stuart | 3, 49 |
|  | 100, | Gerver | 35 | McMillon | 86 | Studdard | 115 |
| Arnholt | $\begin{array}{r} 121,142 \\ 117 \end{array}$ | Gilbert | 14 | Meredith | 25, 75 | Summer- <br> ford | 68 |
| Armesto | 144 | Glaze | 129 | Michael | 10 | Swanagan | 168 |
| Atkins | 135 | Golden | 172 | Mikes | 127 | Thomas- | 71 |
| Bateman | 21 | Hannon | $\begin{array}{r} 26,70, \\ 173 \end{array}$ | Moldavan | 69 | Mole <br> Thurbee | 92 |
| Blalock | 34 | Harrison | 156 | Moreno | 8 | Triplett | 4, 106, |
| Boozer | 124 | Haskins | 85, 174 | Patterson | 158 |  | 151 |
| Boyd | 73, 119 | Hensen | 53 | Phillips | 54 | Tuck | 110 |
| Brett | 105 | Hermann | 179 | Poss | P4, 143, | Tukes | 12 |
| Brown, L. | 41 | Herrington | 48 |  | 164 | Turner | 40 |
| Brown, R. | 104 | Hoffpauir | 111, 166 | Prasad | 22 | Tyler | 108, 171 |
| Brown, K. | 138 | Holte, D. | 137 | Pritchett | 46 | Wall | 159 |
| Bryant | 6 | Holte, S. | 27, 74, | Ransom | 113, 155 | Walton | 62 |
| Casler- | 23 |  | 153 | Reardon | 15, 38, | Welji | 161 |
| Failing |  | Hornbeck | $\begin{array}{r} 19,65, \\ 06 \end{array}$ |  | $141,162$ | White | 28, 84 |
| Castanheira | 90 | Hughes | 57 | Revere | 116 | Wiernicki |  |
| Clark, A. | 81 | Hull | 131 | Richardson | 32,178 | Wilson, G. | 20, 177 |
| Clarke, T. | 77 | Kelly | 97 | Robbins | 87 | Wilson, D. | P1, 17, |
| Conley | 44 | Kennedy | 78 | Robinson, | 2 |  | 59, 114, |
| Conway | 11 | King | 61 | L. ${ }_{\text {Robinson, }}$ | 33,118 | Woods | 134 24 |
| Cwetna | 175 | Kirwan | 72 | T. |  | Worsham | O |
| Donalson | 1 | Lack |  | Schirmer | 13 |  | 30 |
| Dougherty | 47 | Lancaster | 64,107 | Sexton | 169 |  |  |
| Duckett | 51 |  |  | Sims | 148 |  |  |
| Eisenreich | 9 | Lawigan |  | Smith, P. | 88,109 |  |  |

## , in Texas Instruments Add more to your math classes

## TI-Nspire ${ }^{\text {TM }}$ CX and Tl-84 Plus CE Python Ecosystems

The TI-Nspire ${ }^{\text {m }}$ CX II and TI-84 Plus CE python graphing calculators are the centerpiece of a suite of technologies and activities that fit together seamlessly to drive student achievement in math, science and STEM.


## Dedicated. Durable. Distraction-Free.

Beth Smith, Ed.S.
Education Technology Consultant 904.607.9030 bethsmith@ti.com https://education.ti.com

Texas Instruments is a GMC Platinum Sponsor

# A FRESH TAKE ON 

## Looking for innovative ways to enhance math skills and engage your students?

Look no further than STEMscopes Math, and Math Nation! These cutting-edge programs are designed to make math enjoyable and accessible, providing students with interactive experiences that promote deeper understanding and problemsolving skills. With our engaging math programs, your students will develop a strong foundation in mathematics while having fun along the way.

## STEMscopes Math

GRADES K-ALGEBRA।
STEMscopes Georgia Math is a standards-aligned K-Algebra I constructivist math program that uses the flexible 5E + Intervention \& Acceleration learning model. With real-world tasks, virtual manipulatives, and interactives games, you have everything you need to create a meaningful learning experience. Available in English and Spanish.

## Math Nation

GRADE 6-ALGEBRA II
Math Nation is a dynamic online resource that helps students master middle and high school mathematics. Math Nation provides 24 -hour access to high-quality instructional videos, workbooks, collaborative learning tools, and adaptive assessments and support. All include 24/7 access to virtual study experts in English and Spanish.

Scan the QR code or visit www.acceleratelearning.com to learn more about our math solutions!

## 5 <br> abck12.com

## Trust the Standards Experts

## Your All-Inclusive

## Print \& Digital Solution

in ELA, Math, Science \& Social Studies!

## OUR PROGRAM

## - Tools for You

ABC's Georgia workbooks include free eBooks, Online Testing administration, scoring, and data report features, plus Teacher's guides!

## - Data-Driven Instruction

Built-in analytics, mapped to current Georgia standards, help you provide data-driven instruction customized to your students' needs.

## Score-Improvement Guarantee

Our guarantee provides your score improvements - Risk Free! Contact us for more details.

## CONTACT US <br> 888.264.5877

georgia@abck12.com americanbookcompany.com/georgia
georgia.abck12.com/request

## ABOUT US

American Book Company's All-Inclusive Print \& Digital resources cover 100\% of GSE \& Georgia K-12 Mathematics standards in preparation for the Milestones \& BEACON assessments.

## ALL-INCLUSIVE

Every ABC Resource includes:

- Student Workbook
- eBook
- CourseWave Online Testing

Helping Georgia students understand the "why"

## CARNEGI三 L三ARNING

Every Georgia student is a math person. We've got you covered with comprehensive math solutions that will help get them there.


The Georgia Math Solution A research-proven 6-12 core math program customized to meet Georgia's K-12 Mathematics Standards.

ClearMath Elementary AK-5 research-driven solution that turns children's natural curiosity into meaningful math learning.

MATHia A 6-12 online math platform that personalizes instruction based on how your students learn over time.

MATHia Adventure K - 6 game-based math software that makes learning fun and personalized for every student.

MATHstream A 6-12 interactive math video streaming program that adapts to student progress and gets them excited about learning.


To learn more, contact your Georgia Account Representative:


Amanda Creswell
770-468-6995
acreswell(ancarneģielearning.com


iN
Creating a world where all learners know, use, and enjoy mathematics


## IM K-5

MATH真
IM 9-I2
MAT H"~Nan


Give all students the power of problem-solving.
It's scientifically proven our brains learn best by doing. For Prek-8 students, playing is doing. ST Math is the only learn-by-doing math program based entirely on how the brain learns.
$\mathbf{9 2 \%}$ of administrators agree ST Math effectively engages all students. And students across all groups who use ST Math obtain higher state scores.

## STMath.

Just play at stmath.com/play
ST Math created by MIND Education.



7 times any number is the same as $(5 \times n)+(2 \times n)$


We can help create custom manipulative kits to support Georgia Mathematics Standards! Contact us to get started!

800-770-8010 x7600 • sales@eaieducation.com • EAleducation.com

[^3]
## NEW FOR FALL $2023!$

# To Georgia's K-12 mathematics Standards GR只ADES 3-8 

## MASTER the NEW Standards using Measuring Up's easy 4-part lessons!



## INIRODUCHION

- Real-world examples connect what you're going to learn with what you already know
- Vocabulary in Action practice \& application


## GUID $=D$

- Built-in Tips/Hints build better grasp of standards towards mastery
- How am I doing? Midpoint prompts ensure understanding before moving ahead
- Students are exposed to test-like question format
- Starred items show critical thinking questions


## = Nrorcos

- Final check for understanding of skills \& standards before moving on to next lesson

Request Samples | Schedule Meeting | Receive Quote

## hand mind.

## Join our sessions and in-booth demos!

Learn how to use manipulatives to build conceptual understanding!


Georgia Council of Teachers of Mathematics

ATTENDANCE CONFIRMATION FORM 2023


Participant's Name: $\qquad$ School System: $\qquad$

| Session \# | Session Title and Presenter | Presenter <br> Initials |
| :--- | :--- | :--- |
| 1. |  |  |
| 2. |  |  |
| 3 |  |  |
| 4. |  |  |
| 5. |  |  |
| 6. |  |  |
| 7. |  |  |
| 8. |  |  |
| 9. |  |  |
| 10. |  |  |
| 11. |  |  |
| 12. |  |  |
| 13. |  |  |
| 14. |  |  |

I have attended the sessions as indicated.

## EMERGENCY INFORMATION

In case of a medical emergency, notify Rock Eagle staff to activate the facility emergency plan:

- During office hours ( $\mathbf{8} \mathbf{~ A M}-\mathbf{5} \mathbf{P M}$ ), use a cell phone to call the administrative office at 706-484-2899 or use a building phone and dial 2899.
- Outside office hours, use a cell phone to call 706-484-2821 to reach the person on duty in the guard house (front gate) or use a building phone to dial 2821.
- When the dining hall building is open, request the serving staff to notify the manager on duty. If outside of serving hours, walk into the back of the serving area to reach the dining hall office.
- AEDs are located in these buildings:
- Administrative Office
- Dining Hall
- Georgia Power
- Guard House (front gate)


Program Corrections and Changes

| Sponsors |
| :--- |
| Silver Sponsor: Derivita, Inc. |
| Correction: Dreambox Learning <br> (not Dreamworks) <br> Bronze Sponsor Additions: |



- 3 P Learning
- Amplify
- First in Math
- McGraw Hill Education


## Pre-Conference Presenters:

- K-5 Jennifer Donalson \& Caitlin Donalson
- 6-8 Wes Cooper


## Omissions from Speaker Index (in addition to changes noted on back):

- George Lanier, Session 38
- Joshua Nelson, Session 130
- Robyn Ovrick, Session 110

| Featured Session | Thursday 3:45pm | Callaway |
| :--- | :--- | :--- |
| Session 86 | The Mathematics of Justice |  |

## David McMillon, Emory University

Euclid famously asserted that two things which are equal to the same thing, are equal to each other. He viewed this as axiomatic, as "self-evident." Over 2000 years later, we find ourselves unable to rationalize the self-evident truth that all are created equal, with the long-term effects of historical and contemporary injustice. In Georgia, we have chosen to respond to this inequality of opportunity by imposing restrictions on the very people responsible for teaching children how to plant a just society from the ashes of our past. Not only will our response impact equitable access to mathematics-it turns out that mathematics can be harnessed to optimize our response.

In this session we will explore the mathematics of justice in three ways. First, we will examine how historical injustices impact inequitable access to mathematics education. Second, we will investigate how mathematics can be concretely harnessed to fight against injustices in public policy, education, economics, and law. Third (a call to action), we will draw on what mathematicians call the axiom to illustrate that joy is not something that must be rekindled-it is something that must be believed. Accepting joy as an axiomatic, spiritual gift affords us the perseverance we need to bend the moral arc of the universe towards justice, against seemingly insurmountable odds.

## Changes and Additions

Session 39 will be presented by Anna Houseman, Head of Group Marketing at Riverside Insights.
Session 97 Keeping YOU in the NEW with Mandy Kelly and Kayley Sanders is being replaced by
(NEW) Session 180 Empowering High School Minds Through Engaging Strategies \& Mathematical Modeling (Grades 9-12)
Kenneth Golden, Georgia Department of Education
In this interactive session, participants will explore engaging teaching strategies for high school math. Learn to incorporate mathematical modeling, effective mathematical teaching practices, and the standard for mathematical practice for more impactful classroom sessions. Leave inspired to transform your classroom and create a dynamic and stimulating learning environment that captures students' attention and fosters their active participation.

Session 158 "Hands-on" Activities for Preservice Teachers using Virtual Manipulatives with Nikita Patterson is being replaced by
(NEW) Session 184 The Beauty of the Double Number Line (Grades 6-8)
Kelly Edenfield, University of Georgia
The double number line is a powerful tool in middle school to help students develop and use number sense to solve ratio problems, graph equivalent ratios on a coordinate plane (leading to the study of proportionality and eventually slope), make sense of algebraic expressions, and solve multi-step problems. Let's double down with the double number line!

Session 159 Ah-HA! Games for the Brain with Honoria Wall is being replaced by
(NEW) Session 181 What's the Big Idea? (Grades 6-8)
Katie Laskasky, Tatiana Mirzaian, \& Cyndia Acker-Ramirez, CORE Learning
Prioritize and tell your grade level math story with the Big Ideas. Identify key concepts and representations that will strengthen student understanding and build mathematical thinking. Explore translating between representations.

Session 169 GaDOE Update: Elementary has been moved to Thursday at 9:45 am in the Auditorium. The session will be facilitated by Jenise Sexton of the GaDOE.

Sessions 172 \& 175 GaDOE Update: Middle School and GaDOE Update: Middle School have been combined to Middle and High School (grades 6-12) and moved to Thursday at 1:15pm in the Auditorium. The session will be presented by Karla Cwetna and Lya Snell of the GaDOE.
(NEW) Session 182 Interdisciplinary Tasks and Activities
Friday 2:30pm Bankers
Jacqueline Hennings \& Denise Castleberry, Georgia Department of Education
Come and join this interactive, hands-on session led by the GaDOE Math Team to learn more about how to best implement the standards to support student learning at high levels.

## Program Corrections and Changes

(Note: Any changes or corrections submitted by Friday, October 13 can be found on the Program Addendum on our website, which is also available at registration on green paper.)

Sponsor Name Correction: Horace Smith, listed in the program, is CSePub. Additional Bronze Sponsor: CKing Education

Featured Speaker Spelling Clarification: Dr. David McMillon's name (Session 86) was mistakenly spelled McMillion in the program. We sincerely apologize for the error.

## Omissions from Speaker Index:

- Byrd, 147
- Kendrick, 93
- Scroggins, 146


# SCROLL DOWN 

FRIDAY

## Cancellations:

- 2:30 PM - Session 174 Teacher Bag of Tricks: Escaping Common Formatives with Ebony Haskins - The session is being offered on Thursday at 3:45 PM


# Program Corrections and Changes 

## THURSDAY

## Additions:

- 1:15 PM - Session 185 Family Math Festival with Brian Lack Grades K-8 will be held in Gas 3
Learn how to strengthen community engagement around joyful and rigorous math play that builds logical/critical thinking skills and perseverance. In this session, you will get to experience several interesting low-floor, high-ceiling tasks and puzzles that can be used for family math events, or even as enrichment options in your classroom. You'll also get a blueprint for how to coordinate your own family math festivals on a shoestring budget.


## Cancellations:

- 1:15 PM - Session 51 Opening the Middle: Diverse Solution Paths to Enhance Mathematical Meaning with Janelle Duckett \& Brian Lack (due to illness)
- 1:15 PM- Session 62 Maintaining Your Balance by Rekindling Your Joy with Veronica Walton (due to a family emergency)
- 3:45 PM- Session 103 Eureka! Unlocking Word Problems in the K-3 Classroom with Tena Fulghum (due to family emergency) - Session will be held on Friday at 9:45 AM


## No Shows:

- 11:00 AM - Session 28 Equitable Math Instruction through Cultural Relevance with India White, Big Ideas Learning / NationalGeographie


## Program Corrections and Changes

As of 10:19am on 10/19, Cynthia Brantley is in the lead for our Scavenger Hunt!

Join in the fun: bit.ly/GMC23SH
Consider joining one of our Remind classes (other than GMC2023): www.remind.com/join/gme2023s wwu.remind.com/join/gmc2023e www.remind.com/join/gmc2023m www.remind.com/join/gmc2023o (that is lower-case o, not a zero) www.remind.com/join/gmc2023g


[^0]:    32 Let's Play Function of the Day!
    6-8, 9-12, HE
    Debra Richardson, Osceola County School District
    Georgia Power 2
    Function of the Day is an engaging method for teaching math vocabulary and concepts related to functions that is creative and fun. Function of the Day fosters verbalization and collaboration. Learn how to use Function of the Day interactive daily bell work with your students. It can be used with various levels of High School Math courses. Session repeats Friday at 2:30 PM.

[^1]:    38 Use TI-84 and TI-Nspire Graphing Technology
    9-12
    Creatively for Greater Success on the ACT and SAT
    Platinum Sponsor: Tom Reardon, Fitch High School /
    Krannert 3
    Youngstown State University (TI Instructor)
    Focus on conceptual understanding of "big ideas": linear equations, quadratics, multiple representations, thinking graphically, words to symbols, use structure, solve systems using creative technology integration. Obtain activities, strategies, exam questions that augment what you do for test prep. Address how differently ACT/SAT ask questions.

[^2]:    145 Enhancing Social Justice Math Lessons with Diverse Texts
    Montana Smithey \& Alesia Moldavan, Georgia Southern University diverse picture books for use in elementary classrooms.

[^3]:    *Code GCTMF23 must be referenced on purchase order to receive discount and free shipping \& handling (if order is $\$ 99.00$ or more). Exclusions apply. Visit EAleducation.com/exclusions for full terms and conditions. Cannot be combined with any other coupons, sales, offers, bids, or quote pricing. Valid until 12/15/2023.

