SOUTHEASTERN SECTION
102ND SECTION MEETING
MARCH 9-11, 2023
COASTAL CAROLINA UNIVERSITY

MAA
MATHEMATICAL ASSOCIATION OF AMERICA

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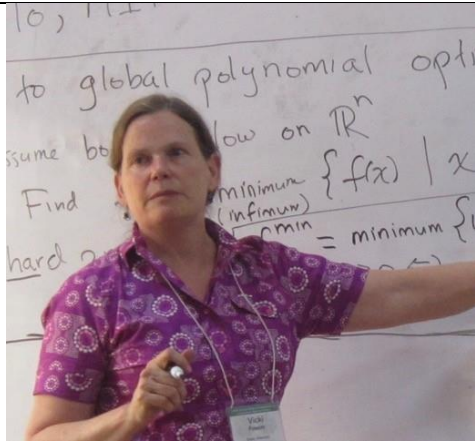
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MAA-SE 2023 Invited Speakers

Distinguished Lectures for Students

 Nicole Panza *Francis Marion University*	**Wave Hello to Mathematical Modeling** Mathematical modeling is an important area because it allows us to use mathematics in interesting and robust ways to address issues in the world that are too costly or unsafe to investigate in actuality. Modeling is used in biology to accomplish just that. Two or three ovarian follicle waves typically occur per menstrual cycle. Nonlinear differential equation models representing the hormonal regulation of the menstrual cycle for a two-wave and a three-wave cycle are presented. The model is used to explore phenomena such as early menopause and superfecundation. An overall introduction to modeling and differential equations and this specific model and its applications will be presented.
Aziza Jefferson *National Security Agency*	**Secret Lives of Mathematicians** Mathematics can be more than just a subject in school; it can be a career. The government is the number one single employer of mathematicians in the country. Many of those mathematicians end up at the National Security Agency, where they find careers in research, information assurance, and cryptanalysis. This talk will be an introduction to the roles of mathematicians at NSA, as well as basics of cryptography.

Plenary Speakers

Vicki Powers
Emory University
MAA-SE Section Lecturer
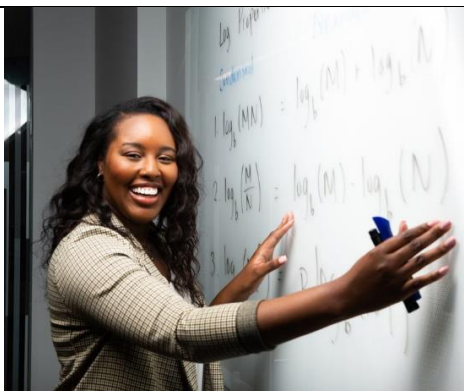
Think Positive, You Might Be a Square!

If a real polynomial f in n variables can be written as a sum of squares of real polynomials, then clearly f must take only nonnegative values in $\mathbb{R}^n$, since the square of a real number is always nonnegative. This simple but powerful fact and generalizations of it underlie a large body of theoretical and computational results concerning positive polynomials and sums of squares. A natural question, which goes back to work of David Hilbert in the late 19th century, is whether a polynomial that takes only nonnegative values in $\mathbb{R}^n$ can be written as a sum of squares. Hilbert showed that in general the answer is "no". In this talk we take a leisurely stroll through results on sums of squares and positive polynomials. We will discuss the history of this topic, look at some famous results, and discuss a few of the many applications.

Vicky Klima
Appalachian State University
MAA-SE 2022 Distinguished
Teaching Award Winner

Mathematics, Music Theory, and Mentoring

In this talk, I will highlight some connections between algebraic structures and microtonal music theory, which, like many of my professional interests, began with a question from an undergraduate student. Much of what I have learned about mentoring has been obtained experimentally, through listening to students, and working with them as we explore their ideas together. This talk will emphasize how those lessons may translate into today's classroom.

Building Students' Confidence in Introductory Mathematics Courses

It can be challenging to engage introductory level students who have a fear of math or believe they can never learn mathematics. Building an inclusive and encouraging classroom environment is at the forefront of my teaching approach. Entry activities for immediate participation along with group work and solution presentations build my students' confidence and provide a framework for solving problems on their own.

Toyin Alli
University of Georgia
2022 MAA-SE Distinguished
Beginning Teaching Award Winner

Can we make grace the norm in our classrooms?

For much of my life, I have been confused about the way that people perceive the relationship between students and instructors in the classroom, especially in mathematics. There is such an adversarial relationship that even sharing my career choice with strangers leads to groans and stories of trauma. I believe this is the impact of creating a classroom without grace. So, when we add grace the opposite should happen, right? During our time together, I hope to discuss with you the ways that I incorporate grace into my classroom… and why many people think it is radical. I invite everyone to attend and reflect on ways they can make grace the norm in their classrooms and spaces.

Candice Price
Smith College
MAA NAM Section Lecturer

MAA SOUTHEASTERN SECTION

102nd Annual Meeting

Coastal Carolina University
Conway, SC
Thursday–Saturday, March 9-11, 2022

Abstracts for all posters and presentations and additional meeting information available online at:
https://maasoutheastern.org/2023-section-meeting/

Thursday, March 9

1:00-6:00	**Registration,** Wall Building, 1st Floor Lobby
2:30-4:30	**Project NExT-SE,** WALL 304
	Open networking and discussion on neat teaching ideas and early career development strategies.
6:30–9:30	**Executive Committee Dinner and Meeting,** Wall Building Board Room (2nd Flr)
7:00–7:30	**Student Treasure Hunt Check-In**, Wall Building, 1st floor lobby
7:30-9:30	**Student Treasure Hunt,** Wall Building, various
	Organizers: Julie Barnes and Treasure Hunt Planning Team (see back of program for full listing)

Friday, March 10

7:30–4:30	**Registration,** Wall Building, 1st Floor Lobby
8:00–9:00	**Refreshments,** Wall Building Board Room (2nd Flr)
9:30–4:30	**Exhibits,** Wall Building Board Room (2nd Flr)
8:00-11:30	**Project NExT-SE Sessions,** WALL 304

	8:00–8:30	Arrival/networking
	8:30–9:20	Workshop: Motivating Student Learners
	9:30–10:20	*The Adjacent Possibility of Undergraduate Teaching and Research,* Dr. Jessica Sorrells (Converse University)
	10:30–11:20	*A First Attempt at Team-Based Inquiry Learning,* Dr. Jessie Hamm (Winthrop University

8:00–11:45 **Math Jeopardy!** WALL 308, 309, 317

8:00–11:00	**Preliminary Rounds** Rounds begin at 8:00, 8:55, and 9:50 as needed
11:00–11:45	**Semifinals**

9:00–11:00 **Distinguished Lectures for Students,** WALL 321

9:00, DS.1	*Wave Hello to Mathematical Modeling,* Nicole Panza (Francis Marion University)
10:00, DS.2	*Secret Lives of Mathematicians* Aziza Jefferson (National Security Agency)

9:00–11:15 **Workshops**

9:00-11:15 WALL 322	*Mathematical Card Magic,* Colm Mulcahy (Spelman College)
9:00-10:00 WALL 117	*Competency-Based Learning: Fostering a Mastery Mindset,* Kate Sharp, Educational Courseware Representative (Hawkes Learning)

11:15-12:00 **Lunch Break: Pizza (free for students):** CINO Grille, Student Union
Graduate School and Career Fair, Student Union A201
Networking, professional development, career planning, including:
  Augusta University
  Austin Peay State University
  Georgia State University
  University of Tennessee, Knoxville
MAA Section Offices Info Session, Student Union A214
Grab some pizza and join current and past MAA-SE officers over lunch to hear about what officers do and how you can make an impact in the Section!

12:15–1:15   GS.1 General Session I, Wheelwright Auditorium
Andy Miller, MAA-SE Vice Chair for Programs, presiding
Welcome from Coastal Carolina University
Dr. Chad Leverette, Dean, Gupta College of Science

Invited address:
"Think Positive, You Might Be a Square!"
Vicki Powers, Emory University
MAA-SE Section Lecturer

1:00–3:00   **Refreshments,** Wall Building Board Room (2nd Flr)
2:00–4:00   **Concurrent Special and Contributed Sessions**

2:00-3:00 PM, Roundtable Discussion, **WALL 208**
Facilitating Student Success in General Education Mathematics Courses: From Course Placement to Classroom Support and Strategies
Organizer: Kathryn Rasmussen (Brevard College)

Attendees will discuss current and best practices for student placement into general education mathematics courses (as well as any developmental prerequisite(s)) and methods to promote student success in those courses. Participants should come ready to share their experiences and learn about other opportunities for supporting students in general education mathematics. Mathematics faculty as well as faculty and staff involved in the placement of students into mathematics course(s) and the support of them in those courses are encouraged to attend.

Preparing Students for Mathematical Careers I, **WALL 307**
Organizers: Laurie Heyer (Davidson College, NC), Lauren Keough (Grand Valley State University, MI)

Time	No.	Title	Author	Affiliation
2:00 PM	CAR1.1	My Experience Teaching a PIC Math Course	Laura Steil	Mars Hill University
2:20 PM	CAR1.2	Preparing Students for Careers Through a Community Team Project Course	Becky Sanft	University of North Carolina Asheville
2:40 PM	CAR1.3	PIC Math - Community Engaged Scholarship	Bree Ettinger	Emory University
3:00 PM	CAR1.4	Infusing BIG preparation from lower-level classes to upper-level classes	Amy Langville	College of Charleston
		Additional author: Kathryn Pedings-Behling, College of Charleston		
3:20 PM	CAR1.5	Working with Students through the PIC Math Program	Laurie Zack	High Point University

History and Philosophy of Mathematics, **WALL 319**				
Organizers: AbdelNaser Al-Hasan (Newberry College, SC), Brian Beasley (Presbyterian College, SC)				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	HPH.1	Classical Constructions and Quadrature in Euclidean Geometry	Dr. Ryan Thomas	Charleston Southern University
		Additional author: Maddy Parsons, CSU undergraduate		
2:20 PM	HPH.2	Verrocchio's Palla and Spherical Geometry	Doug Daniel	Presbyterian College
2:40 PM	HPH.3	Approximating the Master: Reconciling Euler's Power Rule Proof with Modern Infinitesimal Analysis	C. Bryan Dawson	Union University
3:00 PM	HPH.4	What is Mathematics: a la G. H. Hardy and Friends?	Andrew Simoson	King University
3:20 PM	HPH.5	Al-Khawarizmi Project through the MAA/HOM, A Call for Inclusivity	AbdelNaser Al-Hasan	Newberry College

Modeling with Undergraduates I, **WALL 321**				
Organizers: Rachel Grotheer (Wofford College, SC), Anastasia Wilson (Augusta University, GA)				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	MOD1.1	Modeling Change in a Preparation for Calculus Course	Rachel Grotheer	Wofford College
2:20 PM	MOD1.2	Understanding Mathematical Models	Rodica Cazacu	GCSU
2:40 PM	MOD1.3	Developing an Undergraduate Math Modeling Course: Perspectives from a Professor and Student	Anastasia Wilson	Augusta University
		Additional author: Kayli Hendricks*, Augusta University (undergraduate)		
3:00 PM	MOD1.4	Designing and Running an Undergraduate Research Program in Mathematical Modeling	Zach Abernathy	Winthrop University

Contributed Paper Session I, **WALL 205** Moderator: Joe Barrera (Converse University)				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	CP1.1	Perspectives on Secondary and Postsecondary Math Education from Educators Between Boundaries	Jessica Kingsley	University of Tennessee-Knoxville
		Additional author: Anne Ho, Charlotte Beckford- University of Tennessee Knoxville		
2:20 PM	CP1.2	Encouraging Students to Write Mathematics: LaTeX and Mathematica	Jeff Clark	Elon University
2:40 PM	CP1.3	Landing Planes, Marble slides and the Unit Circle. Using Desmos activities in Undergraduate Pre-Calculus Class	Kevin D. LoPresto	Francis Marion University
3:00 PM	CP1.4	Course Development using Open Educational Resources and Pedagogical Practices	Laura Lembeck	Western Carolina University
3:20 PM	CP1.5	Disrupting the Expectation of Grades in Math Education	Brandon Samples	Georgia College & State University
3:40 PM	CP1.6	Project-based programming in a mathematics course	Joe Barrera	Converse University

Contributed Paper Session II, **WALL 206** Moderator: Tom Lewis (Furman University)				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	CP2.1	Triangular and hexagonal Tangles	Douglas A. Torrance	Piedmont University
2:20 PM	CP2.2	A New Two-Person Magic Trick	Colm Mulcahy	Spelman College
2:40 PM	CP2.3	A Trek through Old-Growth Mathematics and New: How I designed a beautiful analog computer for the apparent solar time of sunrise and sunset	Damon Scott	Francis Marion University
3:00 PM	CP2.4	How many cards should you lay out in the card game EvenQuads?	Timothy E. Goldberg	Lenoir-Rhyne University
		Additional authors: Julia Crager, Bard College, Felicia Flores, Bard College, Lauren L. Rose, Bard College, Daniel Rose-Levine, Bard College, Darrion Thornburgh, Bard College, Raphael Walker, Université Paris Saclay		

Time	No.	Title	Author	Affiliation
3:20 PM	CP2.5	HACKENBUSH	Cannon McIntosh	University of Tennessee Knoxville
3:40 PM	CP2.6	Random Arrays of Toothpicks	Tom Lewis	Furman University

Contributed Paper Session III, WALL 224
Moderator: Thomas Hoffman (Coastal Carolina University)

Time	No.	Title	Author	Affiliation
2:00 PM	CP3.1	Two Ways of Looking at Limits	Barrett Walls	Georgia State University
		Additional author: Iason Rusodimos - Georgia State University		
2:20 PM	CP3.2	Existence and multiplicity results for classes of elliptic boundary value problems	Nalin Fonseka	Carolina University
		Additional authors: R. Shivaji (University of North Carolina Greensboro), Byungjae Son (Ohio Northern University), K. Spetzer (University of North Carolina Greensboro)		
2:40 PM	CP3.3	Convexity and Inequalities	Risto Atanasov	Western Carolina University
3:00 PM	CP3.4	Properties and Artistic Qualities of the Iterates of Complex Poles and Critical Points	Julie Barnes	Western Carolina University
		Additional author: Beth Schaubroeck, United States Air Force Academy		
3:20 PM	CP3.5	Initiating Undergraduates to Mathematical Research: Case of the Simplified One-Dimensional Saturation Equation	Koffi B Fadimba	University of South Carolina Aiken
3:40 PM	CP3.6	Monotonicity results for fractional difference operators	Raj Dahal	Coastal Carolina University

Contributed Paper Session IV, WALL 225
Moderator: David Duncan (Coastal Carolina University)

Time	No.	Title	Author	Affiliation
2:00 PM	CP4.1	A Systematic Method to Model Natural Variability and Uncertainty in Diffusive Transport	Martin L. Tanaka	Western Carolina University
		Additional authors: John Wagaman - Western Carolina University, Cullowhee, NC USA; David M. Saylor - US Food and Drug Administration, Silver Spring, MD, USA		
2:20 PM	CP4.2	The Mathematics of Options Trading: How to become successful in the Stock Market	Robert S. Owor	Albany State University

2:40 PM	CP4.3	Cost-Benefit Analysis of Two Retirement Products – ROTH IRA and IUL	Jayanti Rani Saha	Albany State University
		Additional author: Jasane M. Baker, Arun Kumar Saha, Albany State University		
3:00 PM	CP4.4	Modeling effects of matrix heterogeneity on population persistence at the patch-level	Dustin Nichols	UNC Greensboro
		Additional authors: Nalin Fonseka (Carolina University), Jerome Goddard II (Auburn University at Montgomery), Alketa Henderson (UNC Greensboro), Ratnasingham Shivaji (UNC Greensboro)		
3:20 PM	CP4.5	On the effects of density-dependent dispersal on ecological models with logistic and weak Allee type growth terms	Alketa Henderson	University of North Carolina Greensboro
		Additional authors: Ananta Acharya (University of North Carolina Greensboro), Nalin Fonseka (Carolina University), Jerome Goddard II (Auburn University Montgomery), R. Shivaji (University of North Carolina Greensboro)		
3:40 PM	CP4.6	The diffusive Lotka-Volterra competition model in fragmented patches I: Coexistence	Ananta Acharya	UNC Greensboro
		Additional author: S. Bandyopadhyay (UNC Greensboro) , J. Goddard II (Auburn University Montgomery) , A. Muthunayake (Weber University), R. Shivaji (UNC Greensboro)		

Undergraduate Paper Session I, **WALL 209**				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	UT1.1	The Good and Bad of Sequences I	Ernest James	The Citadel
2:20 PM	UT1.2	The Good and Bad of Sequences II	William Boyd	The Citadel
2:40 PM	UT1.3	An analysis of the sequence $x(n+2) = imx(n+1) + x(n)$	Jensen Meade	Coastal Carolina University
		Additional authors: Prashant Sansigry, Ogul Duncan, David Duncan, Coastal Carolina University		
3:00 PM	UT1.4	Finite Difference Scheme for the one-dimensional saturation equation	Artis Carter	Augusta University
		Additional authors: Jonathan Acuna-Robles (Augusta University), Alexandria Carter (Augusta University), Dr. He Yang (Augusta University)		
3:20 PM	UT1.5	Homotopy Analysis Method for the One-Dimensional Saturation Equation	Jonathan Acuna Robles	Augusta Univeristy
		Additional authors: Alexandria Carter: Augusta University, Artis Carter: Augusta University, He Yang: Augusta University		

Undergraduate Paper Session II, **WALL 210**				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	UT2.1	Utilizing Entropy and Volatility for Machine Aided Classification of Atrial Fibrillation	Arnav Gupta	Ravenscroft School
		Additional author(s): Luke Ni, Chapel Hill High School, High School Student		
2:20 PM	UT2.2	Harvesting-mediated emigration can affect community structure in a competitive system	Savannah Humphries	Auburn University Montgomery (AUM)
		Additional author(s): Jacob Garrett (AUM), Hamza Abusammour (AUM), Jerome Goddard II (AUM)		
2:40 PM	UT2.3	Using Machine Learning to Predict the Number of Times Aid is Requested from a Local Nonprofit Agency	Sydney Wilson	Converse University
3:00 PM	UT2.4	Exploratory Analysis of Playoff Overtime in the NFL	Tyler Rielly	Coastal Carolina University
		Additional author(s): Dr. Nicholas Pritchard, Coastal Carolina University		
3:20 PM	UT2.5	Modeling Predator-Prey Relationships in the Presence of a Multi-Species Parasite	Andalib Samandari	Georgia State University
		Additional author(s): Daniel Dale, Undergraduate Student, Clemson University		
3:40 PM	UT2.6	Linear Models for Arrival Delay of Flights	Michael Hendrix	Coastal Carolina Student
		Additional author(s): Dr. Lindsey Bell - Faculty Dr. Joseph Njuki - Faculty		

Undergraduate Paper Session III, **WALL 211**				
Time	**No.**	**Title**	**Author**	**Affiliation**
2:00 PM	UT3.1	Group Theory Structures in Bobbin Lace	Riley Beam	Coastal Carolina University
		Additional author(s): Dr. Thomas Hoffman, Coastal Carolina University		
2:20 PM	UT3.2	REALIZABLE POSETS OF SOME MONOMIAL IDEALS	Joseph Clark	Lander University
		Additional author(s): Trevor Leach, Lander University		
2:40 PM	UT3.3	Semigroups that are closed under differences	Dmitry Demin	Georgia State University
		Additional author(s): Dr. Florian Enescu, The Department of Mathematics and Statistics at Georgia State University		
3:00 PM	UT3.4	Fibonacci Shapes and Patterns	Angela Brobson	Converse University

3:20 PM	UT3.5	A Developmental Analysis of Problem-Solving Skills in an Introduction to Proofs Course	Madelyn Parsons	Charleston Southern University
		Additional author(s): Dr. Ryan Thomas, Charleston Southern University, Dr. Emily Thomas, Charleston Southern University		

4:45–5:45   GS.2 General Session II, Wheelwright Auditorium
Sarah Raynor, MAA-SE Section Chair, presiding. Section Awards.

Invited addresses:
"Mathematics, Music Theory, and Mentoring,"
Vicky Klima, Appalachian State University
2022 Distinguished Teaching Award Winner
"Building Students' Confidence in Introductory Mathematics Courses,"
Toyin Alli, University of Georgia
2022 Distinguished Beginning Teaching Award Winner

6:00–6:30   MAA-SE Business Meeting, Wheelwright Auditorium
The MAA-SE Executive Committee invites you to stay for some brief section business.

7:30–10:30	**Registration,** Wall Building, 1st Floor Lobby
8:00-9:00	**Refreshments,** Wall Building Board Room (2nd Flr)
8:00-1:00	**Exhibits,** Wall Building Board Room (2nd Flr)

8:45–9:45   GS.3 General Session III, Wheelwright Auditorium

Caroline Maher-Boulis, MAA-SE Section Chair-Elect, presiding

Invited Address:
"Can we make grace the norm in our classrooms?"
Candice Price, Smith College
MAA NAM Section Lecturer

7:30–10:10	**Undergraduate Poster Setup,** Student Union Rotunda
10:10–10:45	**Undergraduate Poster Judging,** Student Union Rotunda
10:45–12:00	**Undergraduate Poster Session,** Student Union Rotunda
	Organizer: Karen O'Hara (High Point University)

Undergraduate Poster Titles

No.	Title	Author	Affiliation
UP.1	On Topology and Projective Geometry - the Effect Curvature has on Accurate Rendering	Lydia Mount	Gardner-Webb University
	Additional author(s): Dr. Robert Bass, Gardner-Webb University		
UP.2	Classical Solutions of the Fornberg-Whitham Equation	Georgia Burkhalter, Madison Waldrep	University of North Georgia
	Additional author(s): Dr. Ryan Thompson, University of North Georgia		
UP.3	Stability Analysis of Semi-Implicit Methods for Transport	Kayli Hendricks	Augusta University
	Additional author(s): Anastasia Wilson (Augusta University)		
UP.4	How Confident Are You, Really? Simulated vs. Stated Confidence in One-Proportion Intervals	Devyn Willey	Coastal Carolina University
	Additional author(s): Dr. Lindsey Bell, PhD- Coastal Carolina University		
UP.5	Modeling and Predicting Swimming Event Times for Elite Female Competitors	Jovana Mitic	Converse University
	Additional author(s): Dr. Amanda Mangum, Mentor and Adviser		
UP.6	The Solvability of Magic Square Type Sliding Games	Vigneswaran Madappan Chinnasami	University of South Carolina
	Additional author(s): Dr. Wei-Kai Lai, University of South Carolina Salkehatchie		

UP.7	An Agent-Based Modeling Simulation of DNA Self-Assembly and Design Strategies for Dipyramidal Graphs	Ryleigh Henderson	Converse University
	Additional author(s): Abbigale Outlaw - Converse University, Dr. Jessica Sorrells - Converse University		
UP.8	Techniques for Solving Linear Programs including the Simplex Method and Extensions to Quadratically Constrained Quadratic Programs	Savanah Crone	University of Tennessee at Martin
	Additional author(s): Larissa Renshaw (University of Tennessee at Martin)		
UP.9	Two Probabilistic Methods of Dealing With Missing Values in a Data Set	Mark Britt	Francis Marion University
UP.10	Defining trajectories from recursive pairing between zeros and critical points of derivatives of random polynomials with independent roots	Nickolos Monk	Appalachian State University
	Additional author(s): Faculty Mentor, Noah Williams, Assistant Professor at Appalachian State University		
UP.11	PIC Math Results	Jordan Schmucker	Mars Hill University
	Additional author(s): John Moss and Claudia Chandler		
UP.12	Ramsey Theory on The Integers: The "L" Problem	William Smith	Davidson College
UP.13	An Exploration into the Efficacy of Virtual Homework in an Introduction to Proofs Course	Madelyn Parsons	Charleston Southern University
	Additional author(s): Dr. Emily Thomas, Charleston Southern University, Dr. Ryan Thomas, Charleston Southern University		
UP.14	Coordinates and Geometry in the Card Game EvenQuads	Demmi Ramos	Lenoir-Rhyne University
	Additional author(s): MacKenzie Hulsey, Lenoir-Rhyne University		
UP.15	A Numerical Study of expanded SEIR model for West Nile Virus Dynamics	Jiwon Choi	Savannah State University
	Additional author(s): Vinodh Chellamuthu, Ph.D., Utah Tech University, Abhinandan Chowdhury, Ph.D., Savannah State University		
UP.16	The effect of the financial crisis of 2007 and 2008 on Germany's economy	Muriel Schindler	Converse University
	Additional author(s): Supervising professor: Dr. Joeseph Barrera		
UP.17	The Morphology of Z[Sqrt[n]].	Hope Lissitz	King University
UP.18	The Mathematics that Built the Great Pyramid	Emily Thigpen	Francis Marion University
UP.19	The Guide to Success in STEM	Brianna Bradley	Francis Marion University
	Additional author(s): Minerva R. Brauss, Research Advisor		

10:00–12:00   Concurrent Special and Contributed Sessions

Preparing Students for Mathematical Careers II, **WALL 307**
Organizers: Laurie Heyer (Davidson College, NC), Lauren Keough (Grand Valley State University, MI)

Time	No.	Title	Author	Affiliation
10:00 AM	CAR2.1	From Anywhere to Here: Secondary teaching opportunities for the next school year	Ryan Fox	Belmont University
10:20 AM	CAR2.2	Teaching Opportunities for Undergraduate Mathematics Students	Blake Dunshee	Belmont University
10:40 AM	CAR2.3	XPLoring Career Opportunities	Laurie Heyer	Davidson College
11:00 AM	CAR2.4	Guiding Students to Data-Driven Solutions for a Local Nonprofit through a PIC Math Course	Amanda Mangum	Converse University
11:20 AM	CAR2.5	Talk Back	Caroline Maher-Boulis, Ph.D.	Lee University

Modeling with Undergraduates II, **WALL 321**
Organizers: Rachel Grotheer (Wofford College, SC), Anastasia Wilson (Augusta University, GA)

Time	No.	Title	Author	Affiliation
10:00 AM	MOD2.1	Research Experience for Undergraduates (REU) mentoring success story at Ursinus College	Eric Takyi	Ursinus College
10:20 AM	MOD2.2	Modeling the Effects of Media on COVID-19 Transmission	Eric Numfor	Augusta University
10:40 AM	MOD2.3	Stochastic Modeling and Forecasting of Covid 19 Deaths: Analysis for the Fifty States in the United States	Olusegun Michael Otunuga	Augusta University

Contributed Paper Session V, **WALL 205**
Moderator: Adam Graham-Squire (High Point University)

Time	No.	Title	Author	Affiliation
10:00 AM	CP5.1	A Remark on Linear-Quadratic Problems in Sequence Spaces	Zephyrinus Okonkwo	Albany State University
		Additional author(s): Anil Devarapu, Department of Mathematics, University of North Georgia, Gainesville, GA		
10:20 AM	CP5.2	Properties of Ulam Sequences	Breeanne Baker Swart	The Citadel
		Additional author(s): Antara Mukherjee, The Citadel; Aaron Reynolds, The Citadel, undergraduate student		

Time	No.	Title	Author	Affiliation
10:40 AM	CP5.3	Application of Shooting Method to Unsteady Mixed Convection Problem	Anil Devarapu	University of North Georgia
		Additional author(s): Zephyrinus Okonkwo		
11:00 AM	CP5.4	Mathematical model of erosion and deposition in porous media with branching structure.	Emeka Peter Mazi	Georgia State University
		Additional author(s): Hamad El Kahza, Department of Mathematical Sciences, University of Delaware, Prof. Pejman Sanaei, Department of Mathematics and Statistics, Georgia State University		
11:20 AM	CP5.5	How frequent are voting anomalies in US Ranked-Choice elections?	Adam Graham-Squire	High Point University
		Additional author(s): David McCune, William Jewel College		

Contributed Paper Session VI, **WALL 206** Moderator: Rachel Epstein (Georgia College)				
Time	**No.**	**Title**	**Author**	**Affiliation**
10:00 AM	CP6.1	Math Hands -- Geometry	L. Jeneva Clark	University of Tennessee, Knoxville
		Additional author(s): Philip Rosenbalm (undergraduate, University of Tennessee)		
10:20 AM	CP6.2	Demystifying Logarithms by Introducing Log Notation Before Log Concepts	Kelly Buch	Austin Peay State University
10:40 AM	CP6.3	Too Much of a Good Thing: How to Navigate the Overabundance of Online Resources	Denise Dawson	Charleston Southern University
		Additional author(s): Emily Thomas, Charleston Southern University		
11:00 AM	CP6.4	Math Teachers' Circle's: Connect with your Community	Brandon Rupinski	Western Carolina University
11:20 AM	CP6.5	Some Positive Impacts of the Study Table Project at Albany State University	Zephyrinus Okonkwo	Albany State University
		Additional author(s): Robert S. Owor		
11:40 AM	CP6.6	Addressing the Challenges of Using Standards-Based Grading in Precalculus	Rachel Epstein	Georgia College

Contributed Paper Session VII, **WALL 224**				
Moderator: Deepak Basyal (Coastal Carolina University)				
Time	**No.**	**Title**	**Author**	**Affiliation**
10:00 AM	CP7.1	Simple Solution to an Old Problem (Graph Theory)	Anil K. Saxena	Coastal Carolina University
		Additional author(s): Subhash C. Saxena, Distinguished Professor Emeritus		
10:20 AM	CP7.2	Examining clusters in chromatic and Tutte polynomial data	Dan Scofield	Francis Marion University
		Additional author(s): Radmila Sazdanovic, North Carolina State University		
10:40 AM	CP7.3	A Note on the Largest Clique in a Graph	Earl Barnes	Georgia Tech
11:00 AM	CP7.4	Mathematical challenges - first impressions	George Cazacu	Georgia College
11:20 AM	CP7.5	From CMJ to CMC: Group of Four KenKen	Stephen Davis	Davidson College
11:40 AM	CP7.6	A comparative study of elementary mathematics textbooks from three countries based on the topic of fractions	Deepak Basyal	Coastal Carolina University

Contributed Paper Session VIII, **WALL 225**				
Moderator: Doug Ensley (Shippensburg University)				
Time	**No.**	**Title**	**Author**	**Affiliation**
10:00 AM	CP8.1	Circulant Quaternionic Hadamard matrices of order 5	Chase Worley	Lander University
		Additional author(s): Logan Higginbotham, Campbell University		
10:20 AM	CP8.2	The Ax-Grothendieck Theorem and its Strange Proof	Alex Foster	University of North Carolina at Chapel Hill
10:40 AM	CP8.3	Thin Groups	Cannon McIntosh	University of Tennessee Knoxville
11:00 AM	CP8.4	Exact zero-divisor subgraphs	Justin Hoffmeier	Florida Polytechnic University
11:20 AM	CP8.5	Set-Valued Dynamical Systems and thier Inverse Limits	Tavish Dunn	Emory University Oxford College
		Additional author(s): David Ryden		

11:40 AM	CP8.6	Some identities in generalized arithmetic triangles	Doug Ensley	Shippensburg University
		Additional author(s): Jesica Hoover (student) and Ji Young Choi, both of Shippensburg University		

12:15–1:15   **Math Jeopardy! Final Round,** Wheelwright Auditorium
Thanks to Ron Taylor and the Math Jeopardy! Team (see back of program for full listing)
Announcement of Student Prize Winners

Index of Speakers

Only first authors listed; for undergraduate posters see pp. 14–15.

Legend:

CAR	Preparing Students for Mathematical Careers	CP	Contributed Paper Sessions
HPH	History and Philosophy of Mathematics	UT	Undergraduate Paper Sessions
MOD	Modeling with Undergraduates		

Last	First	Talk No.	Day	Time	Email
Abernathy	Zach	MOD1.4	Fri	3:00	abernathyz@winthrop.edu
Al-Hasan	AbdelNaser	HPH.5	Fri	3:20	naser.alhasan@newberry.edu
Atanasov	Risto	CP3.3	Fri	2:40	ratanasov@wcu.edu
Baker Swart	Breeanne	CP5.2	Sat	10:20	bbaker2@citadel.edu
Barnes	Earl	CP7.3	Sat	10:40	earl1942barnes@yahoo.com
Barnes	Julie	CP3.4	Fri	3:00	jbarnes@email.wcu.edu
Barrera	Joe	CP1.6	Fri	3:40	joseph.barrera@converse.edu
Basyal	Deepak	CP7.6	Sat	11:40	dbasyal@coastal.edu
Beam	Riley	UT3.1	Fri	2:00	rebeam@coastal.edu
Boyd	William	UT1.2	Fri	2:20	wboyd4@citadel.edu
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Buch	Kelly	CP6.2	Sat	10:20	buchk@apsu.edu
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Dahal	Raj	CP3.6	Fri	3:40	rdahal@coastal.edu
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Foster	Alex	CP8.2	Sat	10:20	aofoster@live.unc.edu
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Lembeck	Laura	CP1.4	Fri	3:00	lslembeck@wcu.edu
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Mangum	Amanda	CAR2.4	Sat	11:00	amanda.mangum@converse.edu
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Okonkwo	Zephyrinus	CP5.1	Sat	10:00	Zephyrinus.Okonkwo@asurams.edu
Okonkwo	Zephyrinus	CP6.5	Sat	11:20	Zephyrinus.Okonkwo@asurams.edu
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Owor	Robert S.	CP4.2	Fri	2:20	robert.owor@asurams.edu
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Rielly	Tyler	UT2.4	Fri	3:00	tmrielly@coastal.edu
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Rupinski	Brandon	CP6.4	Sat	11:00	brupinski@wcu.edu
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Samandari	Andalib	UT2.5	Fri	3:20	asamandari1@student.gsu.edu
Samples	Brandon	CP1.5	Fri	3:20	brandon.samples@gcsu.edu
Sanft	Becky	CAR1.2	Fri	2:20	bsanft@unca.edu
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Last	First	Talk No.	Day	Time	Email
Scofield	Dan	CP7.2	Sat	10:20	daniel.scofield@fmarion.edu
Scott	Damon	CP2.3	Fri	2:40	DScott@FMarion.edu
Simoson	Andrew	HPH.4	Fri	3:00	ajsimoso@king.edu
Steil	Laura	CAR1.1	Fri	2:00	lsteil@mhu.edu
Takyi	Eric	MOD2.1	Sat	10:00	etakyi@ursinus.edu
Tanaka	Martin L.	CP4.1	Fri	2:00	mtanaka@wcu.edu
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Walls	Barrett	CP3.1	Fri	2:00	bwalls@gsu.edu
Wilson	Anastasia	MOD1.3	Fri	2:40	anawilson@augusta.edu
Wilson	Sydney	UT2.3	Fri	2:40	slwilson001@converse.edu
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Thank you to the following!

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Organizer

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Moderators

Mike Berry	UT Knoxville
Timothy Goldberg	Lenoir-Rhyne University

Question Writers

Jeffrey Powell	Samford University
Ron Taylor	Berry College
Brian Wagner	UT Martin

GA State Luncheon @

Saturday, April 15, 2023, 11am-3pm

Speaker: Dr. David W. Boyd, Professor Emeritus

Website with link to RSVP:
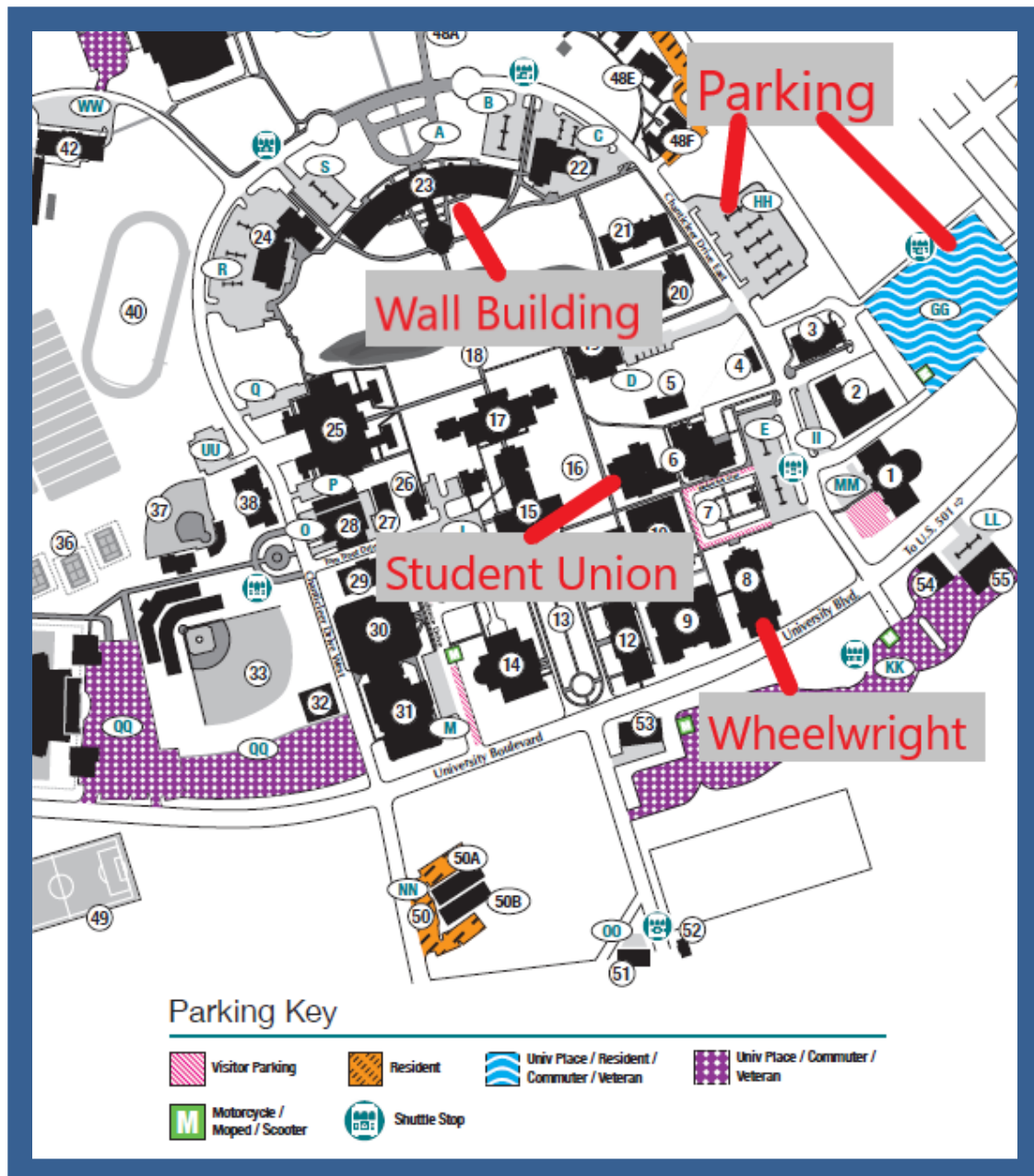**https://www.valdosta.edu/math/events/maa-se-ga-state-luncheon1.php**

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March 14-16, 2024

Notes