Annual Conference

Mathematical Association of America, Southeastern Section

http://sections.maa.org/southeastern/maase/conference/

Ninety-first Annual Meeting

Clayton State University
Morrow, GA
Friday—Saturday, 9—10 March 2012

Sessions will be held in the James M. Baker University Center (UC) and Student Activities Center (SAC). Social events will be in the Continuing Education (CE) building.

Thursday, 8 March

1:45 – 3:00 pm	**Registration, UC Lobby**
2:00 – 5:00 pm	**Project NExT-SE Activities, UC 262**
6:15 – 8:00 pm	**Registration, UC Lobby**
6:30 – ?	**Executive Committee Dinner and Meeting**: **H. S. Downs Center for Continuing Education, First Floor Atrium and CE-101**

Student Treasure Hunt. UC Lobby for Check-in. Organizer: Julie Barnes

7:00 pm	**Check-in**
7:30 pm – 9:30	**Activities**

Friday, 9 March

7:00 – 4:30	**Registration: UC Lobby**
8:00 – 11:30	**Refreshments available, UC Main Street (2nd Floor)**
8:00 – 11:30	**Project NExT-SE Activities, UC 262**
8:00 – 12:00	**Math Jeopardy Preliminary Rounds, UC 265, 267, and 327**
11:00	**Semifinals: UC 265, 267, and 327**

Organizers: Ron Taylor (Berry College), Mike Berry (UT Knoxville), Jeffrey Powell (Samford University) and Brian Wagner (UT Martin).

Moderators: Mike Berry (UT Knoxville), Tim Chartier (Davidson College) and Brian O'Connor (Tennessee Tech).

8:30 – 11:30   Short Courses and Workshops

- **UC 409:** *Hands-on Activities for use in the Secondary or Middle Grades Mathematics Class*, Carroll Wells, Amy Nelson, and Gary Hall (Lipscomb University)
- **UC 420:** *Introduction to Knot Theory*, Ramanjit K. Sahi, (Austin Peay State University)
- **UC 424:** *Shortest, Quickest, or Best: An Introduction to Variational Calculus*, Jeffrey Ehme (Spelman College)
- **UC 425:** *Helping Statistics Students Develop Understanding and Communication about Statistical Inference*, Jennifer Kaplan, (University of Georgia)

UC 416. Contributed Session on General Math Education. Session Chair: Queen Harris, Georgia Perimeter College.

❀	9:00	GME.1	*Are our students prepared for College Mathematics - An effort to raise the preparedness level of freshmen at Coastal Carolina University*, Keshav Jagannathan, Coastal Carolina University
❀	9:20	GME.2	*Tracking Student Resource Usage*, Edward Johnson, UNC Asheville
	9:40	GME.3	*Common Core State Standards: What's a Mathematics Educator to do?*, Nathan Borchelt, Western Carolina University, Anthony Stinson, Clayton State University
❀	10:00	GME.4	*A Fresh Start in Mathematical Literacy*, Cindy Box, Ray Collings, Georgia Perimeter College
❀	10:20	GME.5	*Political Science and Mathematics*, Daniel C. Biles, Belmont University
❀	10:40	GME.6	*Math Circles for Students and Teachers*, Virginia Watson, Mary Garner and Beth Rogers, Kennesaw State University

UC 268. Contributed Session on General Research I. Session Chair: Keith Driscoll, Clayton State University.

❀	9:00	RES1.1	*CNUC graphs*, Sarah Holliday, Southern Polytechnic State University, Kelly Bragan, Peter Johnson, Auburn University, Matthew Walsh, Indiana University/Purdue University Fort Wayne
❀	9:20	RES1.2	*Permutation Ups and Downs*, William Griffiths, Daniel Karasek, Southern Polytechnic State University
	9:40	RES1.3	*A Measure Associated with a Nonlinear Operator on a Banach Lattice*, Jessica Stovall, University of North Alabama
❀	10:00	RES1.4	*His boy Elroy: A descriptive approach to geometric phase*, Jeffrey Lawson, Matthew Rave, Western Carolina University
❀	10:20	RES1.5	*A Relation Between Triangular Numbers and Prime Numbers*, Leandro Junes, Rigoberto Florez, University of South Carolina Sumter
❀	10:40	RES1.6	*GCD Properties in Hosoya's Triangle*, Rigoberto Florez, Leandro Junes, University of South Carolina Sumter

UC 322. Distinguished Lectures for Students. Session Chair: Laurie Heyer, Davidson College.

❀	9-9:45	DSL.1	*The Most Interesting Numbers and Neatest Problems*, David Stone, Georgia Southern University
❀	10-10:45	DSL.2	*Too Good to be True*, Ben Klein, Davidson College

9:30 – 4:00   Exhibits, UC Main Street (2nd Floor)

11:45 – 12:30 Graduate School and Career Fair: UC Commons, sponsored by Georgia Power. Networking, professional development, career planning and free pizza for undergraduates.

❀ Indicates a faculty/professional presentation suitable for students

11:30 – 12:30 Lunch available at UC Laker Dining Hall -- salad bar, pre-made sandwiches, entree and sides, drink, dessert; fixed price $6.50

11:30 – 12:30 Liaisons' Lunch. UC 416 Sponsored by Pearson.

12:45 – 1:45   General Session I, SAC Ballrooms A - C, Jeff Knisley, MAA-SE Chair, presiding.

Welcome from Clayton State University: President Thomas (Tim) J. Hynes, Jr. and Provost Micheal Crafton

Invited addresses:
TBD
Barry Spieler, Birmingham-Southern College, 2011 Section Teaching Award Recipient

"Determinant, Trace and Fred?"
Tom Hoffman, Coastal Carolina University, 2011 Section Teaching Award for Beginning Faculty Recipient

2:00 – 4:00   Refreshments available, UC Main Street (2nd Floor)

2:00 – 4:00   Concurrent Special and Contributed Sessions

UC 268. Special Session on Presentations by Beginning Faculty. Organizer Ron Taylor, Berry College.

	2:00	BF.1	*Minimal Zero-Dimensional Extensions*, Marcela Chiorescu, Georgia College, Fred Richman, Florida Atlantic University
❋	2:20	BF.2	*Computing arithmetic invariants of P-adic fields*, Chad Awtrey, Elon University
❋	2:40	BF.3	*Optimal Control of Treatments in a Two-Strain*, F.B. Agusto, A. Adeshina, Austin Peay State University
	3:00	BF.4	*Energy Decay Rates of Potential Well Solutions to a Nonlinear Wave Equation with p-Laplacian Damping*, Zahava Wilstein, Berry College, Mohammad Rammaha and Daniel Toundykov, University of Nebraska-Lincoln
	3:20	BF.5	*Beginning Research with Undergraduates*, Jill Cochran, Berry College
❋	3:40	BF.6	*Order Accessibility of the Non-negative Rational Numbers*, Patrick Taylor, Clayton State University, Joseph Neggers, University of Alabama

UC 265. Special Session on Discrete Mathematics and its Applications I. Organizers Colton Magnant and Hua Wang, Georgia Southern University.

❋	2:00	DM1.1	*Using Google's PageRank to Motivate Student Study of Markov Chains*, Jeffrey Clark, Elon University (Note: this is a 35 minute presentation)
❋	2:40	DM1.2	*Metropolis for the Metropolis*, Michael Mossinghoff, Davidson College
❋	3:00	DM1.3	*Toy Stories and Combinatorial Identities*, Dennis Walsh, Middle Tennessee State University
❋	3:20	DM1.4	*Graph Theory in Sports*, Mark Ginn, Appalachian State University
❋	3:40	DM1.5	*Cospectral Mate of a Random Tree,* Hua Wang, Georgia Southern University, Stephan Wagner, Stellenbosch University

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UC 416. Special Session on Inquiry-Based Learning in Undergraduate Classrooms I. Organizers Joshua Roberts and Hope Menzel, Piedmont College.

❋ 2:00 IB1.1 *Using Guided Worksheets to Introduce Inquiry Based Learning in a Practical Flexible Way*, Jack Bookman, Duke University
❋ 2:20 IB1.2 *Students Doing the Unthinkable: Coming to class ONE HOUR early! (Increasing Student Success in Calculus I)*, Queen Harris, Georgia Perimeter College
❋ 2:40 IB1.3 *Teaching Abstract Algebra Through Discovery, Conjectures, and Proof*, Steve Nimmo, Piedmont College
❋ 3:00 IB1.4 *Revatalizing a Business Calculus Course*, Ben Ntatin, Austin Peay State University
❋ 3:20 IB1.5 *An Inquiry Based First Differential Equations Course*, Andy Q. Yingst, University of South Carolina Lancaster

UC 327. Special Session on Teaching Mathematical Modeling to Lower-Level Undergraduates. Organizers Stacey Ernstberger, LaGrange College and Tessa Weinstein, Coastal Carolina University.

❋ 2:00 MLU.1 *Mathematical Modeling in the Everyday*, Sam Kaplan, UNC Asheville
❋ 2:20 MLU.2 *Mathematical Models in Real World*, Rodica Cazacu, Georgia College
❋ 2:40 MLU.3 *Mowing the Lawn: An Introductory Modeling Activity*, Andy Miller, Belmont University
❋ 3:00 MLU.4 *A First Year Modeling Course*, Tessa Weinstein, Coastal Carolina University
❋ 3:20 MLU.5 *But I'm an English major!*, Shemsi Alhaddad, University of South Carolina Lancaster
❋ 3:40 MLU.6 *Instructional Technology: Using a Graphing Utility in a Mathematical Modeling Classroom*, Aaron A. Rafter, Clayton State University

UC 425. Special Session on Best Practices in Teaching Statistics. Organizers Pat Humphrey, Georgia Southern University and Jennifer Kaplan, University of Georgia.

❋ 2:00 STA.1 *Are You Getting Your Daily Dose of Data?*, William Notz, The Ohio State University
❋ 2:20 STA.2 *Bored with the Board: Collecting Data for Introductory Statistics*, John Wagaman, Western Carolina University
❋ 2:40 STA.3 *Incorporating Writing Into an Introductory Statistics Course Focused on Sports and Games*, Joe DeMaio, Amy Hillen, Kennesaw State University
❋ 3:00 STA.4 *Critical Thinking in Introductory Statistics Class*, Cathy Whitlock, UNC Asheville
❋ 3:20 STA.5 *Probability Facts, Fallacies and Flim Flam*, Patricia Humphrey, Georgia Southern University
❋ 3:40 STA.6 *Simulations, Clickers and Conceptual Understanding of Statistical Inference*, Jennifer Kaplan, University of Georgia

UC 420. Contributed Session on Modeling. Session Chair: Virginia Watson, Kennesaw State University.

❋ 2:00 MOD.1 *Choice of Technology and Industrial Pollution*, Aniekan Ebiefung, The University of Tennessee at Chattanooga
   2:20 MOD.2 *Modern applications hysteresis phenomenon in economics*, Tatiana Rudchenko, Kennesaw State University
   2:40 MOD.3 *Population models with diffusion, strong Allee effect, and nonlinear boundary conditions*, Jerome Goddard II, Auburn University at Montgomery, E. Lee and R. Shivaji
   3:00 MOD.4 *Dynamical Polysystems viewed as closed relations*, George Cazacu, Georgia College

❋ Indicates a faculty/professional presentation suitable for students

UC 424. Contributed Session on General Mathematics Education Teaching Ideas. Session Chair: Linda Nash, Clayton State University.

❋ 2:00   TID.1   *A project on Geometry and Art*, Daniel Pinzon, Georgia Gwinnett College
❋ 2:20   TID.2   *My Experiences with Using Origami in Teaching*, Josie Ryan, Lander University
❋ 2:40   TID.3   *An origami manipulative for undergraduate mathematics*, Alan Russell, Elon University
❋ 3:00   TID.4   *Using Conway's Game of Life to Teach Problem Solving and Iterative Processes*, Robin Lovgren, Glenn Acree, Belmont University
❋ 3:20   TID.5   *Transforming the Hidden Curriculum to Promote Mathematical Success*, Tonya Adkins, Johnson & Wales University - Charlotte
❋ 3:40   TID.6   *An Instructional Design Using Computer Programming to Improve Mathematical Reasoning*, Cynthia Stenger, James Jerkins and Janet Jenkins, University of North Alabama

UC 272. Contributed Session on Technology. Session Chair: Ray Collings, Georgia Perimeter College.

❋ 2:00   TEK.1   *How much does touch screen technology help under-prepared students in science and math classes?*, Wanjun Hu, Albany State University, Xiaomei Zheng and K. C. Chan, Albany State University
❋ 2:20   TEK.2   *Spicing up Linear Algebra with visualization*, Lothar A. Dohse, UNC Asheville
   2:40   TEK.3   *WebAssign Testing in Precalculus: NO GRADING NECESSARY*, Lisa Townsley, University of Georgia
❋ 3:00   TEK.4   *An Interactive Sampler for Mathematics*, Lila F. Roberts, Clayton State University
❋ 3:20   TEK.5   *Enhancing your Mathematics Courses with Camtasia, Both Inside the Classroom and Out*, Catherine Matos, Clayton State University
❋ 3:40   TEK.6   *Online Instructions in College Mathematics*, Shinemin Lin, Savannah State University

UC 409. Graduate Student Papers. Session Chair: Barrett Walls, Georgia Perimeter College.

❋ 2:00   GS.1   *Congruences for Restricted Compositions*, James Diffenderfer, Andrew Sills, Georgia Southern University
❋ 2:20   GS.2   *Controlling the chaotic Lorenz system*, Dan Jones, Georgia Institute of Technology and Colorado State University, Yan Wu, Georgia Southern University
❋ 2:40   GS.3   *Graceful labeling of graphs of diameter 4*, Alex Collins, Colton Magnant, and Hua Wang, Georgia Southern University
❋ 3:00   GS.4   *Inverted classroom: A Pre-calculus experience*, Marco V. Martinez, The University of Tennessee
❋ 3:20   GS.5   *Math Videos: Teaching Outside the Classroom*, Ashley Rand, University of Tennessee, Knoxville

UC 267. Undergraduate Papers Session A. Algebra, Number Theory and Topology. Organizer Laurie Heyer, Davidson College.

   2:00   UGA.1   *Rational Decomposition of Polynomials*, Steven Carter, Doug Riley, Birmingham-Southern College
   2:20   UGA.2   *Total Efficient Dominating Sets in Cayley Graphs*, Keegan Gary, Mari Castle, and Joe DeMaio, Kennesaw State University
   2:40   UGA.3   *Solving Robot Arm Problems with Groebner Bases*, K. J.. Cox, Samford University
   3:00   UGA.4   *My Fascinating Journey with Perfect Numbers*, Daniel Heslop, Julain Rayford, Savannah State University
   3:20   UGA.5   *The primality of one*, Yeng Xiong, Angela Reddick, University of Tennessee at Martin
   3:40   UGA.6   *On the Design of Simplified DES Based on Elliptic Curves*, Andrew Kimball, Western Carolina University, Liljana Babinkostova and Kameryn Williams, Boise State University, Alyssa Bowden, Loyola Marymount University

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UC 262. Undergraduate Papers Session B. Applications and Optimization. Organizer Laurie Heyer, Davidson College.

2:00 UGB.1 *Where to Park a Spaceship: Lagrange Points and Their Stability*, Kevin Kern, Coastal Carolina University

2:20 UGB.2 *Modeling the Hypothalamic Pituitary Adrenal Axis System for Dexamethasone Treatment*, Carolyn Drobak, Rhodes College

2:40 UGB.3 *Real-Time Physics Simulation in a Cube-Based Game World*, Zachary Shore, High Point University

3:00 UGB.4 *Removing Constant Volatility From The Black-Scholes Model*, Trevis Elser, Southern Polytechnic State University

3:20 UGB.5 *Analyzing Optimality Criterion for RNA Secondary Structures Prediction*, Stephen Nanney, Western Carolina University, Christine Heitsch, Svetlana Poznanovik, and M. Shel Swenson, Georgia Institute of Technology

3:40 UGB.6 *What's for Dinner: Linear Analysis of Nutritional Data and an Application to Community Health*, Halcyon Garrett, Michael Friedrich and Patrick Bahls, University of North Carolina Asheville

UC 322. Undergraduate Papers Session C. Combinatorics and Graph Theory I. Organizer Laurie Heyer, Davidson College.

2:00 UGC.1 *Cryptography and Combinatorics: A Prime Form of Communication*, Katie Milhous, Georgia Southern University

2:20 UGC.2 *A Connection Between Fibonacci Numbers and Lucas Numbers*, Shannon Michaels Areford, University of South Carolina Sumter

2:40 UGC.3 *Combinatorial Proofs of Fibonacci Identities by Means of the Path Graph*, John Jacobson, Joe DeMaio, Kennesaw State University

3:00 UGC.4 *Decomposing Kn into Cycles of Lengths 3 and 4*, Rachel Griffin, Samford University

3:20 UGC.5 *On some relations between chemical indices on trees*, Marcus Bartlett, Elliot Krop, Clayton State University

3:40 UGC.6 *On new bounds for the monophonic number of Cartesian products of graphs*, Michael Ngo, Elliot Krop, Clayton State University

UC 331. Undergraduate Papers Session D. Combinatorics, Graph Theory and Modeling. Organizer Laurie Heyer, Davidson College.

2:00 UGD.1 *A Discrete Fractal in Z Related to Pascal's Triangle*, Kevin Adams, Nick Foil, Alexander Rice, Furman University

2:20 UGD.2 *Gamma Graph Disconnectedness*, Elise Prete, Clarisse Quandt, Furman University

2:40 UGD.3 *Generalizing the Channel Assignment Problem on Cayley Graphs*, Lauren Dubuke, Patrick Bahls, University of North Carolina, Asheville

3:00 UGD.4 *Developing a Mathematical Demand Function Model using Hysteresis Phenomena*, Nicole Dowling, Tatiana Rudchenko, Kennesaw State University

3:20 UGD.5 *Rating Systems Applied to Major League Baseball*, Will Decker, Jordan Lyerly, Rob Picardi, Aaron Markham, Furman University

3:40 UGD.6 *Who's on First? A Rating System for MLB Pitchers and Batters*, Jordan Lyerly, Will Decker, Rob Picardi, Aaron Markham, Furman University

❋ Indicates a faculty/professional presentation suitable for students

> **4:15 – 5:20** **General Session II, SAC Ballrooms A - C, Laurie Heyer, MAA-SE Student Activities Coordinator, presiding. Awards.**
>
> **Invited address: "March Mathness"**
> **Tim Chartier, Davidson College, 2011-2012 Section Lecturer**

5:30 – 6:15 **Kappa Mu Epsilon Meet & Greet, Spivey Board Room, CE 201**

6:30 pm **Conference Dinner, H. S. Downs Center for Continuing Education, First Floor Atrium**

8:15 pm **"A Musical Sample", Spivey Hall**
A collection of performances by the CSU Gospel Choir, Clayton State University Music students, and Clayton State University Music faculty

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Saturday, 10 March

7:30 – 10:30 **Registration, UC Lobby**

7:50 – 8:35 **MAA Business Meeting, SAC, Ballroom C**

8:00 – 1:00 **Exhibits, UC Main Street (2nd Floor)**

> **8:45 – 9:45** **General Session III, SAC Ballrooms A - C, Tim Chartier, MAA-SE Section Lecturer, presiding.**
>
> **Invited Address: "Algorithms Meet Art, Puzzles, and Magic"**
> **MAA Pólya Lecturer Erik Demaine, MIT**

9:30 – 12:00 **Refreshments available, UC Main Street (2nd Floor)**

10:00 – 11:30 **Department Chairs' Meeting, UC 424**

7:30 – 10:10 **Undergraduate Poster setup, UC Commons, First Floor**

10:10 – 10:45 **Undergraduate Poster judging, UC Commons, First Floor**

10:45 – 12:00 **Undergraduate Poster Session, UC Commons, Organizers: Catherine Matos, Clayton State University and Sarah K. Mason, Wake Forest University.**

UGP.1   *Solving Cubic Equations Using Direct Factoring in Complex Field*, Nichelle'le K. Carrington, Shinemin Lin, Savannah State University
UGP.2   *Rook Polynomials*, Thomas Tilson, King College
UGP.3   *Computer Aided Gameplay: Checkerboard Recognition*, Zane Cochran, Berry College
UGP.4   *Fourier Series*, Ian Kelly, Nipissing University

✳ Indicates a faculty/professional presentation suitable for students

UGP.5   *Survey of the KdV Equation*, Jarvis Turner, Clayton State University
UGP.6   *Minimizing the area between two tangent curves*, Max Emory, University of South Carolina Lancaster
UGP.7   *Mancala as Nim*, Josh Kincannon, King College
UGP.8   *The Stratification of the Inertia Space of the $SO(2n)$-action on $\Box^{2n}$*, John Wells, Rhodes College
UGP.9   *Communicating Classes and the Classification of Vertices of a Digraph*, Stephanie Brownell, Coastal Carolina University
UGP.10   *Exponential Domination of Triangular Grid Graphs*, Aaron Ostrander, Terry Henderson, Berry College
UGP.11   *Exponential Domination of Planar Graphs*, Jordan Box, Brevard College
UGP.12   *Egyptian Fractions*, Amanda Justus, King College
UGP.13   *Low Rank Matrix Approximation and Its Applications in Image Processing*, Kuo-Wei Yao, Mei-Qin Chen, The Citadel
UGP.14   *Data Clustering and Movie Recommendations*, Daniel Bernstein, Davidson College
UGP.15   *Exploring the Isoperimetric Problem: Insight for Optimizing Solar Cells*, Ismael Dondasse, Savannah State University
UGP.16   *Integral Transforms and Selected Highlights of their Applications*, Ian Zeller, Zane Troyer, Viral Patel, Robert Taylor and Irina Viktorova, Clemson University
UGP.17   *Modeling Allele Frequencies in a Population*, Melissa Coquelin, Rhodes College
UGP.18   *Sensitivity Comparison of Two Seasonally Forced Epidemic Models*, Jessica Lunsford, Ariel Cintron-Arias, East Tennessee State University
UGP.19   *A Study of Meeting Time Availability for Departmental Committees*, Kathryn Dugan, J. Todd Lee, Elon University
UGP.20   *Pell's Equations Through Dynamical Systems*, Austin Mack, Timothy Sawicki, University of North Carolina Asheville
UGP.21   *P-adic Numbers,* Trevor Edwards, Chad Awtrey, Elon University
UGP.22   *Distance and Area on a Torus,* Nicholas Mills, University of South Carolina Lancaster
UGP.23   *The Leslie Matrix and Female Population in the United States,* Brittney Nelson, Denise T. Reid, Antonija Tangar & José A. Vélez-Marulanda, Valdosta State University

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UC 312. 10:00—11:50 Publisher Presentations.

PUB.1 10:00 - 10:50 *"Mastering Math, Not the System"* Reade Snellings,
            Hawkes Learning Systems
PUB.2 11:00 - 11:50 *"Innovative Technology for Enhancing Students' Experience in Introductory Statistics"* Karen Carson and Cara LeClair, **W. H. Freeman**, and Bill Notz, **The Ohio State University**

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

UC 265, Special Session on Discrete Math and its Applications II. Organizers Colton Magnant and Hua Wang, Georgia Southern University.

❈ 10:00   DM2.1   *Clawfreeness of powers of graphs*, Patrick Bahls, University of North Carolina, Asheville, Nicole Gin, North Carolina State University (Note: this is a 35 minute presentation)
    10:40   DM2.2   *Spectral Conditions for Some Stable Properties of Graphs*, Rao Li, University of South Carolina Aiken
    11:00   DM2.3   *3-connected, claw-free, generalized net-free graphs are hamiltonian*, Susan Janiszewski, Ronald J. Gould, Emory University
❈ 11:20   DM2.4   *Improved upper bounds for Gallai-Ramsey numbers of paths and cycles*, Martin L. Hall, Georgia Southern University
❈ 11:40   DM2.5   *Edge-colorings without a rainbow triangle behave much like 2-edge-colorings*, Colton Magnant, Georgia Southern University

❈ Indicates a faculty/professional presentation suitable for students

UC 416. Special Session on Inquiry-Based Learning in Undergraduate Classrooms II. Organizers Joshua Roberts and Hope Menzel, Piedmont College.

✿ 10:00 IB2.1 *Inquiry-Based Instruction and the Standards for Mathematical Practice*, Bernadette Mullins, Birmingham-Southern College, Faye Clark, Ann Dominick, and Sherry Parrish, University of Alabama at Birmingham

✿ 10:20 IB2.2 *How much Moore can Precalculus students take? Part 1*, Brad Bailey, Karen Briggs, North Georgia College & State University

✿ 10:40 IB2.3 *How much Moore can Precalculus students take? Part 2*, Karen Briggs, Brad Bailey, North Georgia College & State University

✿ 11:00 IB2.4 *Inquiry-based Sessions in Developmental Algebra and Their Learning Impacts*, John C. Mayer, William O Bond, University of Alabama at Birmingham

✿ 11:20 IB2.5 *Using Inquiry-Based Activities in a Primarily Lecture-Based Intro Statistics Class*, Chis Duncan, Kevin Dove and Andre Lubecke, Lander University

✿ 11:40 IB2.6 *Creating a Service Learning Project for Statistics and Calculus students*, Queen Harris, Georgia Perimeter College

UC 327. Special Session on Teaching Mathematical Modeling to Upper-Level Undergraduates. Organizers Jon Ernstberger, LaGrange College and Janine Haugh, UNC Asheville.

✿ 10:00 MAU.1 *Dams and Pendulums - Working With Calculus I Concepts*, Zahava Wilstein, Berry College

✿ 10:20 MAU.2 *Connecting the Mathematical Dots*, Ramanjit K. Sahi, Austin Peay State University

✿ 10:40 MAU.3 *Modeling the Atmospheric Carbon Dioxide Over the United States*, Wesley Long, Jon M. Ernstberger, LaGrange College

✿ 11:00 MAU.4 *Designing a final project for math modeling students: Vampires, iPods, rabid dogs, and more*, Janine M. Haugh, UNC-Asheville

✿ 11:20 MAU.5 *Individual (Agent) Based Models in Mathematical Modeling*, Erin McNelis, Western Carolina University

✿ 11:40 MAU.6 *Reflections on the Initiation of a Modeling-Focused Undergraduate Research Program*, Jon M. Ernstberger, LaGrange College

UC 425. Special Session on Mathematical Finance and Game Theory. Organizer Carl Yerger, Davidson College.

✿ 10:00 MFG.1 *Does knowing more hurt? A surprising effect of information asymmetry*, Jan Rychtar, University of North Carolina Greensboro

✿ 10:20 MFG.2 *Boxing in Basketball: A Round-By-Round Analysis of the College Game*, Carl Yerger, Paul Britton, Davidson College

✿ 10:40 MFG.3 *Most Likely Path to the Shortfall Risk in Long-Term Hedging with Short-Term Futures Contracts*, Jing Chen, Zhijian Wu, University of Alabama

✿ 11:00 MFG.4 *Capping the Variance of Cash Flow of Hedging Strategy*, Maydison Ginting, University of West Alabama, Zhijian Wu, University of Alabama at Tuscaloosa

UC 331. Contributed Session on Algebra and Geometry. Session Chair: Scott Bailey, Clayton State University.

✿ 10:00 AG.1 *One hundred years of Infinite Group Theory: The legacy of Max Dehn*, David Peifer, UNC Asheville

   10:20 AG.2 *Equal Quasi-Partition of p-groups*, Risto Atanasov, and Tuval Foguel, Western Carolina University and Andrew Penland, Texas A&M

✿ 10:40 AG.3 *Investigating Musical Groups*, Vicky Klima, Appalachian State University

✿ 11:00 AG.4 *Complementary trapezoids living in the same circle*, John Hawkins, David Stone, Georgia Southern University

9   ✿ Indicates a faculty/professional presentation suitable for students

❋ 11:20   AG.5   *Using Topology to Solve a Geometric Existence Question*, Paul Baker, Catawba College
❋ 11:40   AG.6   *An Elementary Visual Proof of the Euler Number of a Convex Polyhedron*, Robert E. Clay, Jason Schmurr, Dalton State College

UC 409. Contributed Session on Applications. Session Chair: Alice Pierce, Georgia Perimeter College.

❋ 10:00   APP.1   *An Application of Google's PageRank to NFL Rankings*, Laurie Zack, High Point University
❋ 10:20   APP.2   *Mathematical March Madness: A Case Study*, Hope McIlwain, Mercer University
❋ 10:40   APP.3   *Determination of the Volume of Interstitial Cavities*, J. Gregory Bell, Undergraduates D. Addison Smith and Daniel T. Hoagland, James W. Hall (Chemistry faculty), Wingate University
❋ 11:00   APP.4   *Packing of Spheres in Interstitial Cavities*, J. Gregory Bell, Undergraduates D. Addison Smith and Daniel T. Hoagland, James W. Hall (Chemistry faculty) , Wingate University
❋ 11:20   APP.5   *A spherical color model*, Tieling Chen, University of South Carolina Aiken
❋ 11:40   APP.6   *Thoughts on Collatz' Conjecture,* Barrett Walls and Iason Rusodimos, Georgia Perimeter College

UC 267. Contributed Session on Pre-Calculus and Calculus. Session Chair: Ray Collings, Georgia Perimeter College.

❋ 10:00   CAL.1   *Ball toss, crackers & cheese, and line dancing: Concrete ways to help students understand functions in precalculus*, Julie Barnes, Western Carolina University
❋ 10:20   CAL.2   *A Hands-On Writing Project for Pre-Calculus*, Kathy Pinzon, Georgia Gwinnett College
❋ 10:40   CAL.3   *Make Trignometry Fun With a Cheapo Clinometer*, Nathan Borchelt, Western Carolina University, Kelli Nipper, Clayton State University
❋ 11:00   CAL.4   *The Three Stooges, Ellipses, Implicit Differentiation, and Perspective*, Robert Davidson, East Tennessee State University
❋ 11:20   CAL.5   *Unrealistic Calculus Problems*, Leigh Atkinson, UNC-Asheville
❋ 11:40   CAL.6   *Spurtacular fountains*, Andrew Simoson, King College, Charles Groetsch, The Citadel

UC 420. Contributed Session on General Research II. Session Chair: David Williams, Clayton State University.

❋ 10:00   RES2.1   *Some new bounds for edge-magic graphs*, Christopher Raridan, Keith Driscoll, Elliot Krop, and Scott M. Bailey, Clayton State Unviersity
  10:20   RES2.2   *Characterization of interior 2-caterpillars*, Shilpa Dasgupta, University of North Alabama, David E Brown, Utah State University and J. Richard Lundgren, University of Colorado
  10:40   RES2.3   *Visibility: Finding the Staircase Kernel in Orthogonal Polygons*, Tzvetalin Vassilev, Stefan Pape, Nipissing University
❋ 11:00   RES2.4   *Active Incipient Fault Detection With Multiple Concurrent Faults*, Martene Fair, Tennessee State University, Stephen Campbell, North Carolina State University
❋ 11:20   RES2.5   *Introduction to Applied Algebraic Topology*, Joshua Roberts, Piedmont College
❋ 11:40   RES2.6   *Character Difference Graphs and Generalized Ramsey Numbers*, Mark Budden, Western Carolina University

     ❋ Indicates a faculty/professional presentation suitable for students

UC 268. Undergraduate Papers Session E. Analysis, Logic, and Proofs, Organizer Laurie Heyer, Davidson College.

10:00	UGE.1	*Ford's Condition for Pairwise Comparisons*, Elizabeth Bentley, J. Todd Lee, Elon University
10:20	UGE.2	*Real Data Fitting with Complex Analysis*, Samantha Allen, High Point University
10:40	UGE.3	*Singular Third Order Boundary Value Problems on Purely Discrete Time Scales*, Courtney DeHoet, Ashley Martin (student) and Curtis Kunkel, University of Tennessee at Martin
11:00	UGE.4	*Solving the Shallow-Wave Equations on an Unequally-Spaced Cartesian Grid with Irregular Domain*, Sarah Sexton, Coastal Carolina University
11:20	UGE.5	*Connections between illustrations and mathematical beliefs*, Stephanie Jessie, Austin Peay State University

UC 322. Undergraduate Papers Session F. Combinatorics and Graph Theory II. Organizer Laurie Heyer, Davidson College.

10:00	UGF.1	*Minimizing the Atom Bond Connectivity Index of Chemical Trees*, Laura Huntington, Nipissing University
10:20	UGF.2	*A Modified Network Flow Algorithm for Intergovernmental Spending*, Mary Beth Edwards, Nathan Dunn and Hua Wang, Georgia Southern University
10:40	UGF.3	*Independence polynomials of regular caterpillars*, Gregory Ferrin, Western Carolina University, Michaela Stone (also presenting), Alfred University
11:00	UGF.4	*On Cartesian products of graphs and the Roman domination function*, Tony Yaacoub, Elliot Krop, Clayton State University
11:20	UGF.5	*Quantifying the Tower of Hanoi Graphs*, Ryan Campbell, Wofford College

UC 262. Undergraduate Papers Session G. Probability, Statistics, and History, Organizer Laurie Heyer, Davidson College.

10:00	UGG.1	*Little Man Tate and Other Great Minds*, Maria Morales-Beale, Kelli Nipper, Clayton State University
10:20	UGG.2	*Markov's Wonderland*, Liliana Alvarez, Anne French, Austin Peay State University
10:40	UGG.3	*A Simulation Study of Estimators Using Contaminated Data*, Keyona Osborne, Elon University
11:00	UGG.4	*Unwrapping Rap*, Karen Larson, Davidson College
11:20	UGG.5	*Blackjack Card Counting Techniques*, Aaron Smith, Coastal Carolina University
11:40	UGG.6	*Using Random Walk to find a General Equation for Stationary Probabilities*, Kwasi O. Platt, Savannah State University

12:15—1:15 Math Jeopardy Final Round: SAC, Ballrooms A - C

Announcement of Student Prize Winners

❋ Indicates a faculty/professional presentation suitable for students

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Slate of Nominees for Offices
Southeastern Section of the Mathematical Association of America

Election of officers to open positions shall be at a business meeting held at the Annual Meeting of the Section. A person nominated and seconded from the floor by any Section member shall be added to the Nominating Committee's slate providing the person nominated has agreed to serve if elected. Election shall be by majority vote of the members of the Section present and voting at the business meeting. Terms of newly elected officers shall begin at the adjournment of the Annual Meeting in which they are elected. (Southeastern Section Bylaws, Article III.4)

The Nominating Committee (Jim Gleason (AL), Patricia Humphrey (GA), Ellen Kirkman (NC), Charlotte Knotts-Zides (Chair) (SC), Jeff Knisley (TN)) has prepared a slate of candidates for offices to be elected at the Annual Meeting. The persons nominated below have all agreed to serve if elected to their respective positions.

Office:	Nominee
Chair Elect:	Queen Harris, Georgia Perimeter College (GA)
Vice Chair for Two Year Colleges:	Larry Bouldin, Roane State Community College (TN)
Newsletter Editor:	Sarah Raynor, Wake Forest University (NC)
Section Lecturer:	Hugh Howards, Wake Forest University (NC)
NC State Director:	Patrick Bahls, UNC-Asheville
SC State Director:	James Solazzo, Coastal Carolina University
AL State Director:	David Dempsey, Jacksonville State University
GA State Director:	Catherine Matos, Clayton State University
TN State Director:	Andy Miller, Belmont University

All other officers continue (except Governor, to be elected via MAA on-line) see:
http://sections.maa.org/southeastern/maase/section/officers.php

Nominating Committee:
Jim Gleason
Pat Humphrey
Ellen Kirkman, Chair
Jeff Knisley
Antara Mukherjee