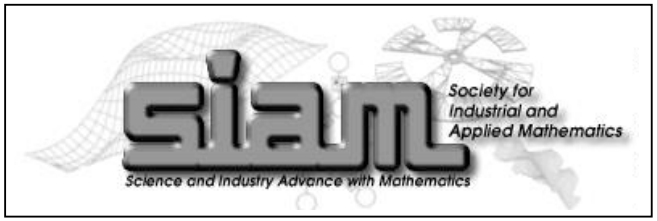
MAA Southeastern Section



SIAM Southeast-Atlantic Section

Joint Regional Meeting

March 21 - 22, 2003
Clemson University
Clemson, South Carolina

SIAM Southeast-Atlantic Section Officers

President
Jacalyn Huband
The University of West Florida
huband@cs.uwf.edu

Secretary/Treasurer
Prashant Sansgiry
Coastal Carolina University
sansgirp@coastal.edu

MAA Southeastern Section Officers

Chair
Ray Collings
Georgia Perimeter College
rcolling@gpc.peachnet.edu

Vice-Chair for 2-year Colleges
Patty Monroe
Greenville Technical College
monroepgm@gvltec.edu

Chair-Elect
Stephen Davis
Davidson College
stdavis@davidson.edu

Secretary/Treasurer
Martha Abell
Georgia Southern University
Martha@gasou.edu

Section Lecturer 2002-2003
John Baxley
Wake Forest University
baxley@mthcsc.wfu.edu

Section Lecturer 2001-2002
Robert Bryant
Duke University
bryant@math.duke.edu

Governor
Theresa Early
Appalachian State University
earlyte@conrad.appstate.edu

Newsletter Editor
Virginia Watson
Kennesaw State University
vwatson@kennesaw.edu

Vice Chair for Programs
Joe Wimbish
Huntingdon College
jwimbish@huntingdon.edu

State Director--AL
Jeff Dodd
Jacksonville State University
jdodd@jsucc.jsu.edu

State Director--GA
Sabrina Hessinger
Armstrong Atlantic State University
hessina@mail.armstrong.edu

State Director--NC
Bob Bernhardt
East Carolina University
bernhardtr@mail.ecu.edu

State Director--SC
Subhash Saxena
Coastal Carolina University
saxenas@coastal.edu

State Director--TN
Gary Hall
Lipscomb University
gary.hall@lipscomb.edu

Non-voting Members:

Historian
Joe Albree
Auburn University at Montgomery
joe2@strudel.aum.edu

Director of Project NExT_SE
John Harris
Furman University
john.harris@furman.edu

Webmaster
Sid Stubbs
Huntingdon College
sstubbs@huntingdon.edu

Program Outline

All events are in Brackett Hall unless otherwise noted

Friday

8:00-4:30	Registration	Atrium
8:30-11:30	Project NExT	122
8:30-11:30	Short Courses (by pre-registration)	

Short Courses

SC.01	*Miles of Tiles - Patterns in the Plane;* Steve Edwards (sedwards@spsu.edu), Southern Polytechnic State University	114
SC.02	*Perfect Partners: Mathematical Modeling, Discrete Dynamical Systems and Technology;* William P. Fox (wfox@fmarion.edu), Francis Marion University	438
SC.03	*Algebra and Number Theory in Cryptography;* Shuhong Gao (gao@clemson.edu), Clemson University	121
SC.04	*Computational Genomics;* Laurie Heyer (laheyer@davidson.edu), Davidson College	Martin M305
SC.05	*Computational Modeling in Service of Undergraduate Teaching;* Holly Hirst (hph@math.appstate.edu), Appalachian State University, and Daniel Warner (warner@clemson.edu), Clemson University	Martin M306
SC.06	*Enhancing Logical Reasoning through Lego Robotics;* Nieves McNulty (nmcnulty@colacoll.edu) and Madeleine Schep (mschep@colacoll.edu), Columbia College	112

9:00-11:00	Math Jeopardy Contest Preliminary Rounds I and II	100
11:15-12:45	TA Rush/Career Fair	213 and 214
12:00-5:00	Exhibits	Atrium
1:00-2:10	General Session I	100
1:30-5:00	Refreshments - Sponsored by Addison/Wesley, Brooks/Cole, Houghton Mifflin, and Prentice Hall	Atrium
2:20-3:20	Math Jeopardy Contest Preliminary Round III	100

2:20-4:20	Concurrent Sessions	
2:20-4:20	Number Theory	111
2:20-4:20	Algebra and Discrete Mathematics	113
2:20-4:00	Matrix Theory and Numerical Linear Algebra	212
2:20-4:00	The Teaching of Statistics	211
2:20-4:15	Commercial Presentations I	114
2:20-4:15	Commercial Presentations II	121
2:20-4:20	Undergraduate Student Papers I	224
2:20-4:20	Undergraduate Student Papers II	220
2:20-4:00	Graduate Student Papers I	213
2:20-4:20	Special Session on Discrete Mathematics I	120
2:20-4:20	Special Session on History of Mathematics I	122
2:20-4:20	Special Session on Integrating Applied Problems I	214
3:20-4:20	REU Roundtable Discussion	100
4:30-5:30	General Session II	100
5:30-5:50	MAA Awards Presentation	100
5:30-5:50	SIAM Business Meeting	100
6:00-9:00	Bar-B-Que Dinner	Clemson House

Saturday

7:30-8:45	Continental Breakfast - Sponsored by Addison/Wesley, Brooks/Cole, Houghton Mifflin, and Prentice Hall	Atrium
8:00-3:00	Exhibits	
8:00-8:45	MAA Business Meeting	
9:00-10:00	General Session III	100
10:20-12:20	Concurrent Sessions	
10:20-12:20	Differential Equations, Dynamical Systems, Numerical Methods	121
10:20-12:20	Mathematics Teacher Development	113
10:20-12:20	Statistics and Probability	111
10:20-12:20	The Teaching of Mathematics	114
10:20-12:20	Student Poster Session	Second-floor Hallway
10:20-11:40	Undergraduate Student Papers III	213
10:20-11:40	Undergraduate Student Papers IV	224
10:20-12:20	Graduate Student Papers II	220
10:20-12:20	Special Session on Discrete Mathematics II	120
10:20-12:20	Special Session on History of Mathematics II	122
10:20-12:20	Special Session on Integrating Applied Problems II	214
12:20-1:00	Boxed Lunch	Atrium
1:00-2:00	General Session IV	100
2:00-2:15	SIAM Awards to Student Presenters	100
2:20-3:20	Jeopardy Finals	100

2:20-3:20	Concurrent Sessions	
2:20-3:20	Geometry	111
2:20-3:00	Graph Theory	113
2:20-3:20	Applied Mathematics	114
2:20-3:20	Miscellaneous I	121
2:20-3:20	Miscellaneous II	214
2:20-3:20	Special Session on Discrete Mathematics III	120
2:20-3:20	Special Session on History of Mathematics III	122

TA/Career Rush Participants

Organized by Doug Shier (shierd@clemson.edu)

Auburn University
Clemson University
East Tennessee State University
Georgia Tech
University of Georgia
University of North Carolina - Charlotte
University of South Carolina (Epidemiology and Biostatistics)
University of South Carolina (Mathematics)
University of Tennessee
Virginia Tech
Wake Forest University
Western Carolina University
National Security Agency
SIAM University Chapters/AWM Student Chapters

Program - Friday

General Session I

1:00 Brackett 100 — Jackie Huband, President, SIAM-SEAS Presiding

Optimization Is Everywhere
Margaret Wright
Courant Institute of Mathematical Sciences, New York University

Concurrent Sessions

Number Theory (NT) — **Brackett 111**

2:20 NT.11 *Determining Mills' Constant and a Note on Honaker's Problem;* Chris K. Caldwell (caldwell@utm.edu) and Yuanyou Cheng, University of Tennessee at Martin

2:40 NT.12 *A Connection Between Ordinary Partitions, Rogers-Ramanujan Partitions, and 2-Color Frobenius Partitions;* Louis W. Kolitsch (lkolitsc@utm.edu), University of Tennessee at Martin

3:00 NT.13 *What Is Special About The Kaprekar Routine?;* Hari Pulapaka (hpulapak@stetson.edu), Stetson University, and Kevin Peterson, Lynchburg College

3:20 NT.14 *Structural Properties of $c(Z_{pq})$-Sets;* Michael Freeze (freezem@uncw.edu), University of North Carolina at Wilmington

3:40 NT.15 *The Bracelet Problem -- Fibonacci Numbers mod m;* David R. Stone (drstone@gsvms2.cc.gasou.edu), Georgia Southern University

4:00 NT.16 *On 1 (mod 3) Prime Numbers;* Shan Manickam (mnkm@email.wcu.edu), Western Carolina University, and Swarnameenakshi Manickam, Yale University

Algebra and Discrete Mathematics (AD) — **Brackett 113**

2:20 AD.11 *Parsing Permutations;* Jeff Clark (clarkj@elon.edu), Elon University

2:40 AD.12 *What the Heck Are Rado Numbers?;* Carl Mueller (cmueller@canes.gsw.edu), Georgia Southwestern State University

3:00 AD.13 *On the Capability of a Metacylic Group;* Jim Beuerle (jbeuerle@elon.edu), Elon University

3:20 AD.14 *A Trick for Introducing Algebraic Coding Theory;* Jeffrey Ehme (jehme@spelman.edu) and Colm Mulcahy, Spelman College

3:40 AD.15 *Grünbaum Colorings of Triangulations of the Sphere;* Eric Gottlieb (gottlieb@rhodes.edu) and Kennan Shelton, Rhodes College

4:00 AD.16 *Counting on Hypercubes;* Stephen Davis (stdavis@davidson.edu), Davidson College

Matrix Theory and Numerical Linear Algebra (MX) — **Brackett 212**

2:20 MX.11 *Spectra of Leslie Adjacency Matrices with Applications;* Bruce W. Atkinson (bwatkins@samford.edu), Samford University

2:40 MX.12 *Subproper and Regular Splittings for a Restricted Rectangular System;* Xiezhang Li (xli@gsu.cs.gasou.edu) and Yimin Wei, Georgia Southern University

3:00 MX.13 *The Superiority of a New Type (2,2)-Step Iterative Method over the Related Chebyshev Method;* Mei-Qin Chen (mei.chen@citadel.edu) and Xiezhang Li, The Citadel

3:20 MX.14 *Inertia Sets of Symmetric Sign Pattern Matrices;* Frank J. Hall (fhall@mathstat.gsu.edu) and Zhongshan Li, Georgia State University

3:40 MX.15 *The Recursive Inverse Eigenvalue Problem;* Marina Arav (marav@mathstat.gsu.edu), Georgia State University

The Teaching of Statistics (TS) — **Brackett 211**

2:20 TS.11 *The Availability Misconception in Probability and Statistics: An Investigation of High School Students;* Rhonda C. Porter (rhonda.porter@mail.famu.edu), Florida A & M University

2:40 TS.12 *Teaching Statistics: When is the Sample Size Large Enough?;* Richard Stephens (richard.stephens@uas.alaska.edu), University of Alaska Southeast

3:00 TS.13 *FreeCell, Common Sense and Statistics;* Paul Baker (pbaker@catawba.edu), Catawba College

3:20 TS.14 *Incorporating Activities and Web-Based Materials into Post-Calculus Probability and Statistics, A Preliminary Report;* M. Leigh Lunsford (leigh.lunsford@athens.edu), Athens State University, Tracy Goodson-Espy, University of Alabama in Huntsville, and Ginger Holmes Rowell, Middle Tennessee State University

3:40 TS.15 *Teaching an Introductory Statistics Course on the Internet;* Lothar A. Dohse (dohse@unca.edu), University of North Carolina at Asheville

4:00 TS.16 *If Technology Has Revolutionized the Teaching of Statistics, Why Are We Still Teaching Essentially the Same Course?;* Patricia Humphrey (phumphre@gsaix2.cc.gasou.edu), Georgia Southern University

Commercial Presentations I (P1) — **Brackett 114**

2:20 - 3:15 P1.11 *Houghton Mifflin MathSpace;* Kelly Huskey (Kelly_Huskey@hmco.com) and Barbara Siry (Barbara_Siry@hmco.com), Houghton Mifflin

3:20 - 4:15 P1.12 *Features of BCA, Brooks Cole Assessment*

Commercial Presentations II (P2) — **Brackett 121**

2:20 - 3:15 P2.11 *The Virtual Math Lab by Addison Wesley Publishing;* Dinya Floyd (dinya.floyd@aw.com), Addison Wesley

3:20 - 4:15 P2.12 *A Journey with the Voyage 200;* Peg Greene (pgreene@fccj.edu), Texas Instruments

Undergraduate Student Papers I (U1) — **Brackett 224**

2:20 U1.11 *Generalizations and Analogues of the Pythagorean Theorem;* Jessica Munley (jmunley@elon.edu), Elon University

2:40 U1.12 *An Investigation of Excevians and Extriangles;* J. Brian Parker (jparker@elon.edu), Elon University

3:00 U1.13 *Binomial Coefficients, Trinomial Coefficients and the Pascal Triangle;* Jeanette Olli (jolli@elon.edu), Elon University

3:20 U1.14 *Vertex Magic;* Katherine Cunningham (kcunningham@elon.edu), Elon University

3:40 U1.15 *Factoring Large Permutation Groups;* Kathleen Iwancio (kiwancio@elon.edu), Elon University

4:00 U1.16 *Random Growth of Cell Blocks;* Joseph A. Johnson (zjaj14@imail.etsu.edu), East Tennessee State University

Undergraduate Student Papers II (U2) — **Brackett 220**

2:20 U2.11 *Modeling the Laundry Problem using Circle Maps;* Stuart Bateman (smbateman@charter.net), University of North Carolina at Asheville

2:40 U2.12 *Paths That Turn at a Constant Rate: Special Curves in the Hyperbolic Plane;* Rob McLean (romclean@davidson.edu), Davidson College

3:00 U2.13 *Strategies for Re-establishment of the American Chestnut in the Appalachians;* Amelia Nutter (amelianutter@yahoo.com), University of North Carolina at Asheville

3:20 U2.14 *Assessment of Lead Levels in Dust, Soil and Paint in Durham, North Carolina;* Alyssa Dillow (apdillow@bulldog.unca.edu), University of North Carolina at Asheville

3:40 U2.15 *An Investigation of the Ordered "Look-and-Say" Sequence;* Jason Grigsby (jdgrigsb@bsc.edu), Birmingham-Southern College

4:00 U2.16 *Geometry and Monte Carlo Simulation in Election Modeling;* Emily Marcato (ecmarcat@samford.edu), Samford University

Graduate Student Papers I (G1) — **Brackett 213**

2:20 G1.11 *Numerical Method for Sand Pile Formation;* Christopher Kuster (cmkuster@unity.ncsu.edu), North Carolina State University

2:40 G1.12 *Cone-Based Modeling of Preferences in Multicriteria Optimization;* Brian J. Hunt (bhunt@clemson.edu), Clemson University

3:00 G1.13 *The Fractional Advection Dispersion Equation;* John Paul Roop (roop@clemson.edu), Clemson University

3:20 G1.14 *Numerical Simulation of Diffusion of Second Messengers in Visual Transduction;* Harihar Khanal (hkhanal@math.utk.edu), University of Tennessee

3:40 G1.15 *Using Quantitative Methods To Improve Your Tennis;* Chris Valis (vmanwr86@yahoo.com), Wake Forest University

Special Session on Discrete Mathematics I (D1) **Brackett 120**

Organized by Robert Jamison (rejam@clemson.edu) and Renu Laskar (rclsk@clemson.edu)

2:20 D1.11 *Generalizing Pancyclic and k-Ordered Graphs;* Ronald J. Gould (rg@mathcs.emory.edu), Emory University

2:50 D1.12 *Cylindrical Braids;* Dave Peifer (dpeifer@unca.edu), University of North Carolina at Asheville

3:20 D1.13 *Splitting Numbers of Grids;* Dwight Duffus (dwight@mathcs.emory.edu), Emory University

3:50 D1.14 *Monster in a Box: The Interplay of Integer Sequences;* Evan B. Wantland (wantland@warren-wilson.edu), Warren Wilson College

Special Session on the History of Mathematics I (H1) **Brackett 122**

Organized by Robert Jamison (rejam@clemson.edu)

2:20 H1.11 *Raymond Pearl and the Logistic Curve;* Bob Fray (bob.fray@furman.edu), Furman University

2:50 H1.12 *Queen Dido's Hide and the Minimal Arc-length Problem in Calculus;* Wally Javier (wrjavier@subr.edu), Southern University-Baton Rouge

3:20 H1.13 *The Influence of Neighboring Scientists and Faculty on the Development of Mathematical Sciences at Clemson University;* T. Gil Proctor (proctor@clemson.edu), Clemson University

3:50 H1.14 *Understanding Mathematical Proof: The Four-Color Problem and a Math Forum MidPoW;* Craig Bach, (bachcn@drexel.edu), Drexel University

Special Session on Integrating Applied Problems into the Undergraduate Curriculum I (A1) **Brackett 214**

Organized by Angela Shiflet (shifletab@wofford.edu)

2:20 A1.11 *Applied Mathematics for Undergraduates at UT;* Suzanne Lenhart (lenhart@math.utk.edu), University of Tennessee Knoxville

2:50 A1.12 *Mathematical Modeling of the Terror Bird;* William P. Fox (wfox@fmarion.edu), Francis Marion University

3:20 A1.13 *Using the Historical Development of Predator-Prey to Motivate Modeling;* Holly Hirst (hph@math.appstate.edu), Appalachian State University

3:50 A1.14 *National Computational Science Institute: Modeling in the Classroom;* Daniel Warner (warner@clemson.edu), Clemson University

REU Roundtable Discussion (REU) **Brackett 100**

3:20 - 4:20 REU.1 *REU Roundtable Discussion*

Participants:
Neil Calkin (calkin@clemson.edu), Clemson University,
Chris Cox (clcox@clemson.edu), Clemson University,
Anant P. Godbole (godbolea@mail.etsu.edu), East Tennesse State University, Kevin James (kevja@clemson.edu), Clemson University, and Suzanne Lenhart (lenhart@math.utk.edu), University of Tennessee Knoxville

General Session II

4:30 Brackett 100 — Stephen Davis, Chair-Elect, MAA-SE Presiding

RISKY BUSINESS: Investigating the Connection Between Mathematics and Business Concepts
Ronald Harshbarger, USC - Beaufort
Southeastern Section Teaching Award Winner

MAA Awards Presentation

5:30 Brackett 100 — Ray Collings, Chair, MAA-SE Presiding

Southeastern Section Award for Distinguished College or University Teaching of Mathematics;
Southeastern Section Distinguished Service Award

SIAM Business Meeting

5:30 Brackett 111 — Jackie Huband, President, SIAM-SEAS Presiding

Social and Dinner

6:00 Bar-B-Que Dinner — Clemson House

Program - Saturday

7:30 Continental Breakfast - Sponsored by Addison/Wesley, Brooks/Cole, Prentice Hall, and Houghton Mifflin — Atrium

8:00 - 3:00 Exhibits — Atrium

MAA Business Meeting

8:00 Brackett 100 — Ray Collings, Chair, MAA-SE Presiding

General Session III

9:30 Brackett 100 — Patty Monroe, Vice-Chair, MAA-SE Presiding

The Adventure of Mathematical Ideas
John Baxley, Wake Forest University
Section Lecturer

Concurrent Sessions

Mathematics Teacher Development (MT) — **Brackett 113**

10:20 MT.21 *College Algebra Computer Lab - Friend or Foe?;* Cynthia Sikes (cynsikes@gsvms2.cc.gasou.edu) and Deborah Evans, Georgia Southern University

10:40 MT.22 *Breaking the Cycle of Mediocrity: Developing a Profound Understanding of Fundamental Mathematics among Future Teachers;* Betsy Darken (betsy-darken@utc.edu), University of Tennessee at Chattanooga

11:00 MT.23 *An Open, Flexible, Collaborative Web Homework System;* Stephen Kuhn (Stephen-kuhn@utc.edu) and Terry Walters, University of Tennessee at Chattanooga

11:20 MT.24 *Successful and Unsuccessful Proposal Writing Efforts in the East Tennessee State University Mathematics Department;* Anant P. Godbole (godbolea@mail.etsu.edu) and Jeff Randall Knisley, East Tennessee State University

11:40 MT.25 *Using a Coteaching Module in a Mathematics Methods Class for Elementary Preservice Teachers: Reflections on Practice;* Lisa Carnell (lcarnell@highpoint.edu), High Point University

12:00 MT.26 *A Mixed Approach to Teaching Linear Algebra;* Skip Allis (clyde@math.elon.edu), Elon University

Differential Equations, Dynamical Systems and Numerical Methods (DE) — **Brackett 121**

10:20 DE.21 *Continuous Gauss-Newton-type Algorithm for Nonlinear Ill-posed Operator Equations with Simultaneous Updates of the Regularized Frechet Derivative;* Alexandra Smirnova (matabs@suez.cs.gsu.edu), Georgia State University

10:40 DE.22 *Interactive Generation of Orbits in the Restricted Circular Planar Three-body Problem;* Jack R. Pace (jpace@spsu.edu), Southern Polytechnic State University

11:00 DE.23 *A Summary of Results Pertaining to Multicomponent, Viscoelastic Fluid Flow;* Will Miles (wmiles@clemson.edu), Clemson University

11:20 DE.24 *Regularisation and Control of Self-focusing in the 2D Cubic Schrödinger Equation by Attractive Potentials;* Brenton leMesurier (lemesurierb@cofc.edu), College of Charleston, Peter Christiansen, Technical University of Denmark, Yuri Gaididei, Bogolyubov Institute for Theoretical Physics, Ukraine, and Jens Juul Rasmussen, Risø National Laboratory, Denmark

11:40 DE.25 *Optimal Harvesting in an Integro-difference Population Model;* Hem Raj Joshi (joshi@math.utk.edu), Suzanne Lenhart and Holly Gaff, University of Tennessee Knoxville

12:00 DE.26 *Summing Formal Power Series Solutions to Advanced and Delayed Differential Equations;* Michael J. Spurr (spurrm@mail.ecu.edu) and David W. Pravica, East Carolina University

The Teaching of Mathematics (TM) — **Brackett 114**

10:20 TM.21 *Maple Illustrations of Selected Topics from Undergraduate Analysis;* John Ziegler (jziegler@spsu.edu), Southern Polytechnic State University

10:40 TM.22 *Visualization of an Affine Transformation;* Subhash Saxena (scsaxen@yahoo.com), Coastal Carolina University

11:00 TM.23 *Introductory Analysis: Synthesizing R, R^n, Metric Spaces and Topological Spaces;* Robert Gardner (robert_gardner2@yahoo.com), East Tennessee State University

11:20 TM.24 *An Online Multivariable Calculus Course;* Jeff Knisley (knisleyj@etsu.edu), East Tennessee State University

11:40 TM.25 *Summing k-th powers of Consecutive Positive Integers: An Elementary and Generalizable Approach for the Calculus I Classroom;* Gregory M. Boudreaux (gboudreaux@unca.edu), University of North Carolina at Asheville

12:00 TM.26 *Addressing the Issue of Retention of Mathematics Majors: Seminar for Freshmen and New Mathematics Majors. Preliminary Report;* Patricia Shelton (sheltonp@ncat.edu) and Janis Oldham, North Carolina Agricultural and Technical State University

Statistics and Probability (SP) **Brackett 111**

10:20 SP.21 *Needed: A Standard Measure for Comparing Distributions;* James Kropa (jkropa@spsu.edu), Southern Polytechnic State University

10:40 SP.22 *The Multivariate Local Time Intensities of Regenerative Sets;* Hussain Elalaoui-Talibi (talibi@tuskegee.edu), Tuskegee University

11:00 SP.23 *Half Way Through* e^x*;* Donald Francis Young (dyoung@spsu.edu), Southern Polytechnic State University

11:20 SP.24 *Inequalities for Renewal-Type Integrals with Applications;* Broderick O. Oluyede (boluyede@gasou.edu), Georgia Southern University

11:40 SP.25 *The Singled Out Game;* Kennan Shelton (shelton@rhodes.edu), Rhodes College

12:00 SP.26 *Boogie Baby Bounce: A Game of Chance;* Dennis Walsh (dwalsh@mtsu.edu), Middle Tennessee State University

Undergraduate Student Poster Session (PS) **Second-floor Hallway**

Organized by Bob Bernhardt (bernhardtr@mail.ecu.edu) and Gretchen Matthews (gmatthe@clemson.edu)

PS.1 *Spaceships: A Look at Video Games and Student Motivation;* Susan Edwards, Meredith College

PS.2 *Checking for Substructures in Graphs of Fixed Pathwidth;* Jarrett Walsh (elsewhereman@hotmail.com), Armstrong Atlantic State University

PS.3 *A Small Cover for Convex Unit Arcs;* Joseph A. Johnson (zjaj14@imail.etsu.edu), East Tennessee State University

PS.4 *An Examination of a Queuing Model;* Evelyn Thomas (evyland@yahoo.com), Spelman College

PS.5 *A Comparison of Centrality Estimators;* Jamie McCreary (jkm5933@tntech.edu), Tennessee Tech

PS.6 *The Parameter Space for the Iteration of Cubic Polynomials;* Jack Senechal (jssenech@bulldog.unca.edu), University of North Carolina at Asheville

PS.7 *The Dynamics of* $F_c(x) = cx(1-x)$*;* Tammeca Rochester (tammeca930@yahoo.com), Spelman College

PS.8 *The Relationship Between Primes and Perfect Squares;* Charles N. Glover, Morehouse College

PS.9 *The Hamming (7,4) Code;* Aminah Perkins (aminahfp@yahoo.com) and Andrea Warren, Spelman College

PS.10 *A Relationship Between General and Second Order Linear Recurrences;* Daniel C. Morton (mortdc0@wfu.edu), Wake Forest University

PS.11 *Missile Launching: A Simplified Statistical Model;* Jamie Chatman (jeceve@hotmail.com), Spelman College

PS.12 *An Algorithm for Counting Finite Topologies;* Sean Rae (raes@ruby.winthrop.edu), Winthrop University

Undergraduate Student Poster Session (PS) [Cont.] **Second-floor Hallway**

Organized by Bob Bernhardt (bernhardtr@mail.ecu.edu) and Gretchen Matthews (gmatthe@clemson.edu)

PS.13 *Error-Correcting Codes;* Hatshepsitu Tull (h_tull@hotmail.com) and Kamilah Mooney, Spelman College

PS.14 *The Effect of Academic Achievement on Self-Esteem of an Early Adolescent;* Christy DeWees (deweesc@meredith.edu), Meredith College

PS.15 *Mathematical Models of HIV Disease Pathogenesis;* Karen Herman (kh_7091@yahoo.com), North Carolina Agricultural and Technical State University

PS.16 *On the Difference Equation:* $X_{n+1} = p + X_{n-1}/X_n$*;* Allison Carter (carter1881@hotmail.com), Coastal Carolina University

PS.17 *Numerical Solutions to the 1-D Schrodinger Equation;* Shaun Wood (spwood@edisto.cofc.edu), College of Charleston

PS.18 *KdV 2-Solitons;* Kevin Young (kcyoung1@edisto.cofc.edu), College of Charleston

PS.19 *Computations of the Partition Function, p(n);* Elizabeth Perez (pereea03@wfu.edu), Wake Forest University, and Jimena Davis, Clemson University, Clemson University REU

PS.20 *Analyzing the Contractions of Vorticella sp.;* Karoline Pershell (karppers@mars.utm.edu), University of Tennessee-Martin and Florida State University REU

PS.21 *2002 Penn State Erie REU in Mathematical Biology;* Meghan O'Malley (msomalle@unity.ncsu.edu), North Carolina State University and Penn State Erie REU

PS.22 *Infinite Dimensional Lagrangian Reduction;* Luke Cherveny (lecherve@unity.ncsu.edu), North Carolina State University and REU at Trinity University, San Antonio

PS.23 *Applications of Algebra to Knot Theory;* Nancy Lin (deiphobe@cwru.edu), Case Western Reserve University and University of Tennessee REU

PS.24 *A Predator-Prey Model with Disease Dynamics;* Chris Flake (jcflake@unity.ncsu.edu), North Carolina State University and University of Nebraska-Lincoln REU

Undergraduate Student Papers III (U3) **Brackett 213**

10:20 U3.21 *Random Growth Of Caterpillar Graphs;* Gabriel Zimmer (ElGringoAmable@netscape.net), East Tennessee State University

10:40 U3.22 *Fibonacci Vectors;* Ena Salter (enasalter@hotmail.com), Georgia Southern University

11:00 U3.23 *Colors, Clusters and Approximating the SVD;* Nick Orlowski (nrorlows@unity.ncsu.edu), North Carolina State University

11:20 U3.24 *Normalized Circular Bernstein-Bezier Curves;* Mary Beth Cole (mecole@samford.edu), Samford University

Undergraduate Student Papers IV (U4) **Brackett 224**

10:20 U4.21 *Homothetic Triangles with Coincident Euler and Nagel Lines;* Robert Davis (rdavis@elon.edu), Elon University

10:40 U4.22 *Flipping Geometry;* Shaun Lynott (slynott@elon.edu), Elon University

11:00 U4.23 *Upside-Down Numbers…Upside-Down;* Chaska Mendoza (cmendoza@elon.edu), Elon University

11:20 U4.24 *A Rate Dependent Preisach Operator for Modeling a Piezoelectric Stack Actuator;* Jeremy Poling (jpoling@ferrum.edu), Ferrum College

Special Session on Discrete Mathematics II (D2) **Brackett 120**

Organized by Robert Jamison (rejam@clemson.edu) and Renu Laskar (rclsk@clemson.edu)

10:20 D2.21 *Domination in Triangulated Chessboard Graphs;* Charles Wallis (cwallis@wpoff.wcu.edu), Western Carolina University

10:50 D2.22 *Total k-Subdominating Functions on Graphs;* Johannes H. Hattingh (jhattingh@gsu.edu), Georgia State University

11:20 D2.23 *Locally Restricted Compositions;* Rodney Canfield (erc@cs.uga.edu), University of Georgia

11:50 D2.24 *Long Cycles in 3-connected Graphs;* Guantao Chen (gchen@cs.gsu.edu), Georgia State University

Special Session on the History of Mathematics II (H2) **Brackett 122**

Organized by Robert Jamison (rejam@clemson.edu)

10:20 H2.21 *Euclid's Elements, How Should We Approach the Text?;* John Poole (john.poole@furman.edu), Furman University

10:50 H2.22 *Transformational Geometry in Art and Architecture of Pre-Columbian Latin America;* Elizabeth C. Rogers (b.rogers@prodigy.net), Piedmont College

11:20 H2.23 *H.S.M. Coxeter: His Life and His Romance with Symmetry;* F. Arthur Sherk (sherk@ces.clemson.edu), University of Toronto and Clemson University

11:50 H2.24 *History of Topology;* Artur Gorka (agorka@ces.clemson.edu), Clemson University

Graduate Student Papers II (G2) **Brackett 220**

10:20 G2.21 *Orthogonal Quadruple Systems and 3-frames;* Brian Muse (musewib@mallard.duc.auburn.edu), Auburn University

10:40 G2.22 *Maximal Sets of Hamilton Cycles;* Sasha Logan (logansl@mallard.duc.auburn.edu), Auburn University

11:00 G2.23 *Periodic Solutions in an Elastoplastic Model for Granular Flow;* Bob Wieman (rewieman@eos.ncsu.edu), North Carolina State University

11:20 G2.24 *Performance-based Decisions under Uncertainty for Complex Systems;* Sundeep Samson (ssamson@clemson.edu), Clemson University

11:40 G2.25 *The Ship Captain's Problem;* Sarah Holliday (heusssh@auburn.edu), Auburn University

12:00 G2.26 *Green's Function for an Equivalent Cable Model;* Scott La Voie (zsll9@imail.etsu.edu), East Tennessee State University

Special Session on Integrating Applied Problems into the Undergraduate Curriculum II (A2) **Brackett 214**

Organized by Angela Shiflet (shifletab@wofford.edu)

10:20 A2.21 *Internships for Undergraduates: Opportunities and Resources;* Angela B. Shiflet (shifletab@wofford.edu), Wofford College

10:50 A2.22 *Environmental Mathematics;* Bernard A. Fusaro (fusaro@math.fsu.edu), Florida State University

11:20 A2.23 *A Second-year Course on an Introduction to Applied Mathematics;* R. E. White (white@math.ncsu.edu), North Carolina State University

11:50 A2.24 *Solving a Social Problem with the Transportation Algorithm;* Laurie Heyer (laheyer@davidson.edu), Davidson College

Lunch

12:20 Boxed Lunch Atrium

General Session IV

1:00 Brackett 100 Theresa Early, Governor, MAA-SE Presiding

Guessing Secrets

Ronald Graham, University of California at San Diego

President of the MAA

Presentation of SIAM Awards to Student Presenters

2:00 Brackett 100 Jackie Huband, President, SIAM-SEAS Presiding

Concurrent Sessions

Geometry (GE) **Brackett 111**

2:20 GE.31 *Sums of Squares and Cubes: Proofs Without Many Words;* Stephen Curry (scurry@gcsu.edu), Georgia College and State University

2:40 GE.32 *Tangent Sweeps and Tangent Clusters on the Sphere and in the Hyperbolic Plane;* Irl Bivens (irbivens@davidson.edu), Davidson College

3:00 GE.33 *A Generalization of Kasner's Theorem;* John Zerger (jzerger@catawba.edu), Catawba College

Graph Theory (GT) **Brackett 113**

2:20 GT.31 *Decompositions of the Complete Digraph into Orientations of Cycles;* Gary Coker (gcoker@fmarion.edu), Francis Marion University

2:40 GT.32 *Hamiltonicity of 2-Connected Quasi-Claw-Free Graphs;* Rao Li (raol@usca.edu), University of South Carolina Aiken

Applied Mathematics (AM) **Brackett 114**

2:20 AM.31 *The Green's Function Alternative in Industrial and Applied Mathematics;* Pascal Roubides (roubides@netscape.net), Georgia Tech

2:40 AM.32 *A Maple Application of Splines and the Function* $x^p + y^p = 1$, $1<p<2$ *in the Determination of the Quality of Coal;* Lyndell Kerley (kerleylm@mail.etsu.edu), East Tennessee State University

3:00 AM.33 *Pricing American Options via Monte Carlo: A Variance Reduction Technique;* Tracey Tullie (tatullie@ncat.edu), North Carolina Agricultural and Technical State University

Miscellaneous I (M1) **Brackett 121**

2:20 M1.31 *Crash Course in Context-Oriented Mathematical Logic;* Damon Scott (dscott@fmarion.edu), Francis Marion University

2:40 M1.32 *Inverse Iteration of Elliptic Functions;* Mark McClure (mcmcclur@bulldog.unca.edu), University of North Carolina at Asheville

3:00 M1.33 *Weighted Weak Type Inequalities for Hardy Operator When* $p = 1$; Tieling Chen (TielingC@usca.edu), University of South Carolina Aiken

Miscellaneous II (M2) **Brackett 214**

2:20 M2.31 *Paper Folding and an Angle Limit: A Surprising Result;* Scotty Fairbairn (dfair@clemson.edu), Clemson University

2:40 M2.32 *Hesiod's Falling Anvil;* Andrew Simoson (ajsimoso@king.edu), King College

3:00 M2.33 *Light Beam Switching at the Interface of Two Nonlinear Optical Media;* Rajah P. Varatharajah (rajah@ncat.edu), North Carolina Agricultural and Technical State University

Special Session on Discrete Mathematics III (D3) **120**

Organized by Robert Jamison (rejam@clemson.edu) and Renu Laskar (rclsk@clemson.edu)

2:20 D3.31 *Real Number Channel Assignments with Distance Conditions;* Jerrold R. Griggs (griggs@math.sc.edu), University of South Carolina

2:50 D3.32 *Real Number Graph Labeling for Paths and Cycles;* Teresa Xiaohua Jin (jin2@math.sc.edu), University of South Carolina

Special Session on the History of Mathematics III (H3) **122**

Organized by Robert Jamison (rejam@clemson.edu)

2:20 H3.31 *Comparing the van Hiele Model to the Piaget Model;* Rachel Keller (rachelk@clemson.edu), Clemson University

2:50 H3.32 *Reflections on Zeno's Paradoxes;* Dan Sloughter (dan.sloughter@furman.edu), Furman University

Refreshments have been provided by

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