

Mathematical Association of America  
 MD-DC-VA Section, April 25-26, 2014  
 James Madison University – Harrisonburg, Virginia  
 Schedule of Speakers

---

Note that “HHS” refers to the Health and Human Services building on the JMU campus and ISAT/CS refers to the Integrated Science and Technology building. Both buildings are located on the East Side of the JMU campus.

The workshop Friday afternoon is held in Burruss Hall, on the West Side of the JMU campus.

**Friday, April 25**

*Friday activities for Section NExT will be held in ISAT/CS 259.*

<b>Time</b>	<b>Location</b>	<b>Event</b>
<b>2:00 – 3:40</b>	349 Burruss Hall	<b>Workshop Offering #1:</b> <i>3D-Printing Mathematical Objects</i>  <b>Laura Taalman</b> James Madison University
<b>4:00 – 5:40</b>	349 Burruss Hall	<b>Workshop Offering #2:</b> <i>3D-Printing Mathematical Objects</i>  <b>Laura Taalman</b> James Madison University
<b>4:15 – 5:45</b>	2117 HHS	<b>Section Officers Meeting</b>
<b>6:00 – 7:00</b>	Ballroom Festival Conference Center	<b>Registration</b>
<b>6:00 – 7:00</b>	Ballroom Festival Conference Center	<b>Reception</b>
<b>7:00 – 8:00</b>	Ballroom Festival Conference Center	<b>Welcoming Remarks</b> <b>Judith A. Dilts, Associate Dean, College of Science and Mathematics</b> James Madison University  <b>Banquet Dinner</b>
<b>8:00 – 9:00</b>	Ballroom Festival Conference Center	<b>Banquet Address:</b> <i>Mathematical Mystery Tour</i>  <b>Roland Minton</b> Roanoke College

**JMU Wifi Access Information:** Choose “JMU-Official-Events” and select “non-affiliate” if prompted.

**username:** JMUEvents  
**password:** T4khr\*nh2\$

## Schedule of Speakers

**Saturday, April 26**

*Saturday morning activities for Section NExT will be held in ISAT/CS 259.*

*Room 236, ISAT/CS, can be used as a lounge area, especially for students, anytime during the day Saturday.*

<b>Time</b>	<b>Location</b>	<b>Event</b>
<b>7:45 – noon</b>	Second Floor Alcove HHS	<b>Registration</b>
<b>7:45 – 9:00</b>	Second Floor Alcove HHS	<b>Coffee / Tea / Water</b>
<b>7:45 – 3:30</b>	Second Floor Alcove HHS	<b>MAA Book Sale and Section History Recordings</b>
<b>8:00 – 8:20</b>		<b>Contributed Papers, Session 1</b>
	2202 HHS	Nagaraj K. Neerchal, University of Maryland, Baltimore County Raji Baradwaj, University of Maryland, Baltimore County Michelle Danaher, University of Maryland, Baltimore County Liz Stanwyck, University of Maryland, Baltimore County Matthias K. Gobbert, University of Maryland, Baltimore County <i>The Math Gym: To Be on Top of Your Game, You Have to Work Out!</i>
	2203 HHS	Student: Ryan Sanford, The Catholic University of America Student: Nicholas Shields, The Catholic University of America <i>A Brief Introduction to Quantum Cryptography</i>
	2204 HHS	Boyd Coan, Norfolk State University Cherng-tiao Perng, Norfolk State University <i>Some Fun with Euclidean Geometry</i>
	2207 HHS	Student: Maria Annone, James Madison University <i>Weighing on Scales Uniquely: MacMahon's Perfect Partitions and their Generalizations</i>
	2208 HHS	Student: Ricky Haller, Virginia Military Institute Student: Ryan Poffenbarger, Virginia Military Institute <i>A Mathematical Approach to Determine the Greatest Coach in College Sports</i>
	2209 HHS	Godfred Yamoah, Norfolk State University <i>A Mass Conservatives Scheme for Adaptive Simulation: The <math>L^2</math> Projection Approach</i>
	2210 HHS	Kurt Ludwick, Salisbury University <i>Counting Melodies: A Musical Introduction to Recursion</i>
<b>8:25 – 8:45</b>		<b>Contributed Papers, Session 2</b>
	2202 HHS	Matthias K. Gobbert, University of Maryland, Baltimore County Raji Baradwaj, University of Maryland, Baltimore County Liz Stanwyck, University of Maryland, Baltimore County Nagaraj K. Neerchal, University of Maryland, Baltimore County <i>Course Redesign as a Strategic Tool to Consolidate Foundation Courses</i>

## Schedule of Speakers

	2203 HHS	Student: Justin Stine, St. Mary's College of Maryland Student: Carrie Winterer, St. Mary's College of Maryland Student: David Rice, St. Mary's College of Maryland <i>Modeling Traffic Flow with Overtaking</i>
	2204 HHS	Brian Heinold, Mount St. Mary's University <i>Automatic Differentiation</i>
	2207 HHS	Student: Victoria Kelley, James Madison University <i>A Linear Analysis of a Straight Rod under Tension, both with and without Drag</i>
	2208 HHS	Student: Junru Chen, Virginia Military Institute Student: Alexander Falcetti, Virginia Military Institute Student: Kristopher Wright, Virginia Military Institute <i>Make the Choice</i>
	2209 HHS	Bud Brown, Virginia Tech <i>Difference Sets, Singer Designs, and Singer Difference Sets</i>
	2210 HHS	Eve Torrence, Randolph-Macon College <i>Making Sunshine: A First Geometric Sculpture</i>
<b>8:50 – 9:10</b>		<b>Contributed Papers, Session 3</b>
	2202 HHS	Raji Baradwaj, University of Maryland, Baltimore County Matthias K. Gobbert, University of Maryland, Baltimore County Liz Stanwyck, University of Maryland, Baltimore County Nagaraj K. Neerchal, University of Maryland, Baltimore County <i>Implementation of Course Redesign to Improve Student Learning Outcomes</i>
	2203 HHS	Student: Gregory Houchins, James Madison University Student: Kirill Korsak, James Madison University Student: Taylor Meador, James Madison University <i>3D Printed Conformations of Knots through 7 Crossings</i>
	2204 HHS	Minah Oh, James Madison University <i>Introducing Proofs to Calculus Students</i>
	2207 HHS	Student: Joseph Foss, United States Military Academy <i>Understand Ultrafilters, Understand Schur's Theorem</i>
	2208 HHS	Student: Christopher Johnson, St. Mary's College of Maryland Student: Abiola Akaani, St. Mary's College of Maryland Student: Seth Baker, St. Mary's College of Maryland <i>Who is the All-Time Best Coach in College Sports?</i>
	2209 HHS	Ilhan Izmirlı, George Mason University <i>Interval Vectors</i>
	2210 HHS	Bryan Faulkner, Ferrum College <i>Shooting Turtles in the Classroom</i>
<b>9:15 – 9:35</b>		<b>Contributed Papers, Session 4</b>
	2202 HHS	Liz Stanwyck, University of Maryland, Baltimore County Matthias K. Gobbert, University of Maryland, Baltimore County Raji Baradwaj, University of Maryland, Baltimore County <i>iPads: In and Out of the Classroom</i>
	2203 HHS	Student: Jonathan Gerhard, James Madison University Student: Patrick Moran, James Madison University <i>How it's Made: 3D Printed Conformations of Knots through 7 Crossings</i>

## Schedule of Speakers

	2204 HHS	Bob Sachs, George Mason University <i>Similarities in a First Differential Equations Course</i>
	2207 HHS	Student: Zev Woodstock, James Madison University <i>Acoustic Oddities, JMU's "Squeaky" Quad &amp; Repetition Pitch</i>
	2208 HHS	Student: Steven Geyer, Virginia Military Institute <i>The Best of All Time: Comparing College Sport's Best Coaches</i>
	2209 HHS	Karin Saoub, Roanoke College <i>Dynamic Storage Allocation using Tolerance Graphs</i>
	2210 HHS	Edwin O'Shea, James Madison University <i>Divisibility Unified: A Common Method for Divisibility Tests</i>
<b>9:45 – 11:00</b>	2301 HHS	<b>Welcoming Remarks</b> <b>President Jonathan R. Alger</b> James Madison University  <b>Invited Address: Three Things That Don't Really Go Together</b> <b>Matthew Pons</b> North Central College
<b>11:10–12:00</b>	2301 HHS	<b>Meeting of the General Membership</b>
<b>11:10–12:00</b>	2204 HHS	<b>Radical Dash Teams and Volunteers: First Meeting</b>
<b>12:05 – 1:00</b>	Highlands Room Festival Conference Center	<b>LUNCH</b>
<b>1:00 – 2:00</b>	2301 HHS	<b>Student Jeopardy Competition</b>
<b>2:10 – 3:20</b>	Second Floor Alcove HHS	<b>Coffee / Tea / Water</b>
<b>2:10 – 3:20</b>		<b>Radical Dash Final Event</b> (20 minutes per team, schedule determined at the first meeting earlier in the day)
<b>2:10 – 3:30</b>	Second Floor Hallway Between HHS and ISAT/CS	<b>Student Poster Session</b> See Poster Session Schedule for a List of Presenters
<b>2:15 – 2:35</b>		<b>Contributed Papers, Session 5</b>
	2202 HHS	Abdinur Ali, Norfolk State University Mushtaq Khan, Norfolk State University <i>Cloud Computing and New Trends in Mathematics of Cryptography</i>
	2203 HHS	Student: Emily Hunt, James Madison University <i>A Matrix Population Model for Monarch Butterflies</i>
	2204 HHS	Amy Shell-Gellasch, Montgomery College <i>Ancient Indian Verse and the Powers of 2</i>
	2207 HHS	Student: Heather Cook, Roanoke College <i>Assessment of Water Quality in the Chesapeake Bay by Parameter Estimation</i>

## Schedule of Speakers

	2208 HHS	Student: Samantha Alpert, Virginia Military Institute Student: Rochelle McDaniel, Virginia Military Institute Student: Ryan Harner, Virginia Military Institute <i>Improving Traffic Safety and Efficiency</i>
	2209 HHS	Dan Kalman, American University <i>Companion Matrices and Difference Equations Part 1: Distinct Roots</i>
	2210 HHS	Bob Hanson, James Madison University <i>Regular Polygons in Taxicab Geometry</i>
<b>2:40 – 3:00</b>		<b>Contributed Papers, Session 6</b>
	2202 HHS	Hamid Semiyari, James Madison University <i>A Solution to Boundary Value Problems and Volterra Integral Equations with Parker and Sochacki Method</i>
	2203 HHS	Student: Alyssa Stine, St. Mary's College of Maryland <i>Comparison of SVD and PCA to Forecast Time-Series Data in the Financial Sector</i>
	2204 HHS	Barbara Franklin, James Madison University & Morgan State University <i>Understanding the Success and Failure of African American First Time Developmental Mathematics Students: A Racialized Perspective</i>
	2207 HHS	Student: Lacey Johnson, James Madison University <i>K-potent Groebner Bases and Sudoku</i>
	2208 HHS	Student: Matthew McCarthy, Christopher Newport University <i>Interesting Series Involving the Sum of Reciprocals of the Binomial Coefficient</i>
	2209 HHS	Trevor Richards, Virginia Tech <i>On Level Curves of Finite Blaschke Products and Polynomials</i>
	2210 HHS	Don Spickler, Salisbury University <i>Using Classical Cryptography and Cryptanalysis as an Enrichment Exercise in a First Course in Linear Algebra</i>
<b>3:05 – 3:25</b>		<b>Contributed Papers, Session 7</b>
	2202 HHS	Bonita Saunders, National Institute of Standards & Technology <i>WebGL: Interactive 3D Graphics on the Web without a Plugin</i>
	2203 HHS	Student: Katie Sipes, James Madison University <i>How the Worm Wiggles</i>
	2204 HHS	M. Leigh Lunsford, Longwood University <i>Slip Sliding Away</i>
	2207 HHS	Student: Daniel Carroll, St. Mary's College of Maryland <i>Maps and Mirrors: The History and Future of Global Selfies</i>
	2208 HHS	Student: Jon Marino, Roanoke College <i>Integer Compositions Applied to the Probability Analysis of Blackjack and the Infinite Deck Assumption</i>
	2209 HHS	Dina Yagodich, Frederick Community College <i>Chaos and the Chua Circuit</i>
	2210 HHS	Heidi Hulsizer, Hampden-Sydney College <i>Teaching Introductory Statistics with In-Class Data Collection</i>
<b>3:30 – 3:50</b>		<b>Contributed Papers, Session 8</b>
	2202 HHS	Lihua Chen, James Madison University Panayotis Giannakouros, James Madison University & University of

## Schedule of Speakers

---

		Missouri, Kansas City <i>Entropy, Data Compression, and Model Combination</i>
	2203 HHS	Student: Carson Maki, Hampden-Sydney College <i>Timbral Partial Orders</i>
	2204 HHS	Gregory Hartman, Virginia Military Institute <i>Getting Involved in the Open Textbook Movement</i>
	2207 HHS	Student: Erika Gerhold, Salisbury University <i>The Group of Units of <math>\mathbb{Z}_p[x]/\langle f(x) \rangle</math> when <math>f(x)</math> is a Reducible Polynomial</i>
	2208 HHS	Student: Molly McMillen, Christopher Newport University <i>Stochastic Simulation of a Collegiate Dining Hall</i>
	2209 HHS	Elizabeth Brown, James Madison University <i>An Accessible Proof of the Existence of an Uncountable Antichain in <math>\mathcal{P}(\mathbb{N})</math></i>
	2210 HHS	Emek Kose, St. Mary's College of Maryland <i>Art, Mirrors, and Math: A Mathematician's View of Images</i>
<b>4:00 – 4:55</b>	2301 HHS	<b>Invited Address:</b> <i>The Lamp Lighting Problem</i> <b>Bruce Torrence</b> Randolph-Macon College
<b>4:55 – 5:15</b>	2301 HHS	<b>Undergraduate Prize Session</b> Including Radical Dash

**JMU Wifi Access Information: Choose “JMU-Official-Events” and select “non-affiliate” if prompted.**

**username: JMUEvents**  
**password: T4khr\*nh2\$**