

2009 Joint Mathematics Meetings, Washington, DC MAA Undergraduate Student Poster Session, January 7 Outstanding Presentations

5. A Math Classic: The Tale of Three Links

Author(s): Samuel Jacob, Behrend Denison University

Advisor(s): Dr. Lew Ludwig, Denison University

8. Predicting Viscoelastic Properties of the Arterial Wall

Author(s): Kasey Crompton University of South Carolina - Columbia

Andrew Davis, Clarkson University

Satoru Ito, North Carolina State University

Gregory Morton, Morehouse College

Amanda Olsen, LaGrange College

Advisor(s): Dr. Mette Olufsen, Daniela Valdez-Jasso, Associate Professor of Mathematics of North Carolina

State University, Biomathematics Doctoral Student of North Carolina State University

13. On Possible and Probable Triangles in a 2-Edge-Colored Complete Graph

Author(s): Rebecca Ruth Payne, Pomona College Advisor(s): Ami Radunskaya, Pomona College

14. On Metric Trees and n-Widths

Author(s): Kyle E. Kinneberg, Claremont McKenna College Advisor(s): Asuman Aksoy, Claremont McKenna College

36. Multilievel and Multidimensional Hadamard Matrices

Author(s): Bryce Lee, Olin College

Caity Greeley, Olin College

Matthew Crawford, Olin College

Advisor(s): Dr. Sarah Spence Adams, Olin College

49. Wilf Equivalence in the Generalized Factor Order

Author(s): Daniel G. Glasscock, Rice University Min Xu, University of California, Berkeley

Advisor(s): Dr. Brian Miceli, Trinity University

51. Modeling Blood Flow in Time Dependence

Author(s): Bryant M. Watkins, University of Maryland Baltimore County

Bo Xu, Columbia University

Dezhi, Xu Wabash College

Advisor(s): Chad Westphal, Wabash College

58. On factorization properties of B(Z,S)

Author(s): Yiwei She, Northwestern University

Ryan Rodriguez, Texas A&M

Advisor(s): Scott Chapman, Trinity University

59. Zero-Divisor Graph Associated to a Semigroup

Author(s): Jonathan Peiyu Wang, Harvard University Advisor(s): Lisa DeMeyer, Central Michigan University

61. Obstacle Numbers of Graphs

Author(s): Hannah Alpert, University of Chicago

Christina Koch, St. Olaf College

Advisor(s): Joshua D. Laison, Willamette University

74. The Brain and Mathematical Modeling: Influence of Neuronal Geometry on its Repetitive Firing

Author(s): Harold L. Gomes, Queens College-CUNY

Advisor(s): Dr. Joshua C. Brumberg (Advisor & PI), Queens College, & The Graduate Center, CUNY

Dr. Nicholas T. Carnevale, Yale School of Medicine, Yale University

75. Application of a Coupled Oscillator Model to Sea Lamprey Locomotion

Author(s): Natalie Elizabeth Sheils, Seattle University / Penn State Erie

Advisor(s): Joseph Previte, Penn State Erie

77. Algebraic Methods for Phylogenetic Inference

Author(s): Andrew Howard, Sam Houston State University

Alexander Diaz, Sam Houston State University

Advisor(s): Luis Garcia, Frank Sottile, Sam Houston State Univerity, Texas A&M University

84. The Development of Mathematica Software Tools for the Analysis of Differential Equation Systems

Author(s): Amy D. Schmidt University of Minnesota, Duluth Advisor(s): Harlan W. Stech, University of Minnesota, Duluth

92. Controlling the Motion of Charged Particles in a Vacuum Electromagnetic Field from Boundary

Author(s): Luis R Suazo, University of Central Arkansas Advisor(s): Weijiu Liu, University of Central Arkansas

98. Geometric Methods in Voting and Agreement

Author(s): Michael Abrahams, Vassar College

Meg Lippincott, Vassar College

Advisor(s): Thierry Zell, Vassar College

100. The Effects of Maternal Age on the Prevalence of Autism

Author(s): Melissa Ann Bilbao, California State Polytechnic University, Pomona

Advisor(s): Baojun Song, Montclair State University

Xiaohong Wang, Arizona State University

101. The Algebraic Compatibility of Riemannian Operators' Voice-Leading Properties

Author(s): Maxx H. Cho, Swarthmore College

Advisor(s): Samuel R. Kaplan, University of North Carolina at Asheville

103. Intrinsically triple-linked graphs in RP3

Author(s): Emily R. Stark, Pomona College Kristin McNamara, James Madison University

Advisor(s): Joel Foisy, SUNY Potsdam

106. Variational symmetries and local conservation laws in general relativity

Author(s): Olabode M. Sule, University of Central Arkansas Advisor(s): Balraj Menon, University of Central Arkansas

116. Tiling 4n Rectangles with Tetrominoes

Author(s): Mindy M. Swancott, Houghton College

April Bowers, Houghton College

Advisor(s): Kristin Camenga, Houghton College

125. Properties and Topologies Created by Applying Linear Lebesgue Measure to Plane Sets with Concentric Circles

Author(s): Charles A. McEachern, St Olaf College

Advisor(s): Paul Humke and Wladislaw Wilczynski, St Olaf College and Lodz University, Poland

135. Extensions and Deformations of Associative Algebras

Author(s): Mitch Phillipson, University of Wisconsin - Eau Claire Advisor(s): Michael Penkava, University of Wisconsin - Eau Claire

140. Calculating class numbers of ray class extensions over imaginary quadratic fields

Author(s): Ila Varma, California Institute of Technology

Advisor(s): Matthias Flach, California Institute of Technology

147. A Sinkhorn-Knopp Fixed Point Problem: A Matrix and its Doubly Stochastic Equivalent

Author(s): William B. Cousins, Pepperdine University

Advisor(s): David Strong, Pepperdine University

150. Exploring Gassmann Triples

Author(s): Michael Robert DiPasquale, Wheaton College

Advisor(s): Robert Perlis, Louisiana State University

152. r-Reduced and Vertex Attrition of Multipartite Graphs

Author(s): Joshua M. Crunkleton, North Georgia College & State University

Dusti Amber Nisbet, North Georgia College & State University

Advisor(s): Brad Bailey, North Georgia College & State University

185. An Improved Bound on When Delta Sets of Numerical Monoids Become Periodic

Author(s): Anton S. Malyshev, Princeton University

Advisor(s): Scott Chapman, Sam Houston State University

189. Integral Formulas and Linking Numbers

Author(s): Stefan Sabo, University of Pennsylvania

Advisor(s): Dr. Dennis DeTurck, University of Pennsylvania

201. A Combinatorial Proof of the Characteristic Polynomial Roots Solution for a kth Order Linear

Homogeneous Recurrence Relation

Author(s): Halcyon C. Derks, Kalamazoo College Advisor(s): Michele Intermont, Kalamazoo College

208. Your Paths are Determined! Motzkin Numbers in Hankel Determinants

Author(s): Andrew C. M. Yip, Lewis and Clark College Advisor(s): Naiomi Cameron, Lewis and Clark College

213. Thin Film Evolution over The Porous Layers

Author(s): Kumnit Nong, George Mason University

Advisor(s): Dr. Daniel M. Anderson, George Mason University

214. KlustaKwik and Semi-Automatic Spike Sorting

Author(s): Gina-Maria Pomann, The College of New Jersey (Research conducted at Princeton University)

Advisor(s): Dr. Carlos Brody and Dr. Jeff Erlich, Princeton University