

## MathFest 2014 - Undergraduate Paper Session Award Winners

Submitted by Jennifer Bergner, Salisbury University

The MAA Undergraduate Student Paper Sessions at MathFest were again a great success with 98 presentations featuring 146 presenters. The tradition of recognizing student achievement at an ice cream social following the J. Sutherland Frame Lecture was continued. The winners of the various awards are as follows:

The Andersen Prize, awarded in memory of Janet Andersen by the Bio SIGMAA, recognizes an outstanding presentation and work in areas related to mathematical biology. This prize went to **Alexander Middleton** of Winthrop University and **Hannah Horner** of Whitman College for their presentation “A Nonlinear Model of Breast Cancer Treatment with Cancer Stem Cells.”

The SIAM (Society of Industrial and Applied Mathematics) Award was awarded to **Anna Grim** and **Kelsey Pearson** from University of St. Thomas for the presentation “Applications of Mathematical Modeling in Diagnosing Breast Cancer.”

We also presented 16 MAA Outstanding Presentation Awards for students who gave especially noteworthy presentations in any area of mathematics on original or learned topics. The winners of these awards (in no particular order) were:

- **Timothy O-Connor** of University of Minnesota and **Ryan Slechta** of University of St. Thomas for “Reassembling Humpty Dumpty: 3D Puzzles and Invariant Signature Curves”
- **Michel Alexis** of Northwestern University and **Davis Shurbert** of University of Puget Sound for “Clique Relaxed Competition Graph Coloring”
- **Ksenia Zakirova** of Harvey Mudd College and **Michael Cork** of Pomona for “Modeling and exploring chain fountain dynamics”
- **Brenna Baker** of Mills College and **Julia Dandurand** of California State University Northridge for “Equal Circle Packing on a Square Flat Klein Bottle”
- **Joshua Mireles** of University of Nebraska-Lincoln and **Adam Volk** of University of Dayton for “Gridline Graphs in Higher Dimensions”
- **Louis Mayer Gaudet**, **Theodore Weisman**, and **Nicholas Wawrykow** of Yale University for “Jacobians of Finite Graphs”
- **Patricia Josephine O’Brien** of University of Texas and **Elliot Alexander Kaplan** of Ohio University for “Knot Theory, Combinatorics, and Grid Diagrams”
- **Daniel Adams** and **Daniel Gulbrandsen** of Utah Valley University for “Exploring properties of  $Cay(\mathbb{Z}, \{\pm 2^k\})$  and  $Cay(\mathbb{Z}, \{\pm 3^k\})$ ”
- **Youkow Homma**, **Jun Hwan Ryu**, **Benjamin Tong**, and **Amanda Folsom** of Yale University for “On a Class of Partition Generating Functions”
- **Stephanie Jones** of Woodburn Wellness, Business, and Sports School, **Jessica Kawana** of Willamette University, and **Dana Lapidés** of Lafayette College for “Veto Interval Graphs”
- **Jeremy Meza** of Carnegie Mellon University for “A Numerical Analysis of the Non-Self-Adjoint Harmonic Oscillator”

- **Geoffrey Smith** of Yale University for “Positive Polynomials for Ample Toric Vector Bundles”
- **Feixue Gong** of Williams College, SMALL for “Pseudospectra of Matrices”
- **Derek Francour** of University of Wisconsin Madison for “Computing the Shape of Configuration Spaces”
- **John Rahmani** of Virginia Tech and **Matthew Allen Sutter** of University of Michigan – Flint for “Mixing times of Markov chains”
- **Robert Dorward** of Oberlin College, **Carlin Purcell** of Vassar College, and **Lindsey Reppuhn** of Kalamazoo College for “Patterns and Statistics in Set Partitions”

Congratulations to each of the winners. We also want to say a special thank you to all those that presented and to their advisers for all their efforts – job well done! We hope to see you at MathFest again next year and hope that you will encourage your classmates to consider presenting at MathFest 2015!

Of course, the awards are not possible without the generous help of volunteer judges. The following people volunteered their time and expertise to judge an undergraduate student paper session:

Tom Sibley, Therese Shelton, Jeremiah Bartz, Beth Skubak Wolf, JB Collins, Matt Stackpole, Lori Ziegelmeier, Mitch Keller, John Engbers, Nathan Warnberg, Michelle Ghrist, Chester Ismay, James Ricci, Corey Shanbrom, Michael Krebs, Jim Murray, Chase Smith, Afshin Ghoreishi, Alexander Atwood, Bill Higgins, David Taylor, Cayla McBee, Tina Garrett, Grant Lathrom, Dora Ahmadi, Peter Olszewski, Michael Nathanson, Emma Zbarsky, Deirdre Smeltzer, Aaron Lauve, Mutiara Sondjaja, Spencer Hamblen, Megan Heenehan, Jessica OShaughnessy, David Hammond, Andrzej Piotrowski, Sean Droms, Nathan Reff, Kathy Pinzon, Ashley Rand, Taylor Martin, Rachel Schwell, Aliza Steurer, Kathy Pinzon, Ed Aboufadel, Yanping Ma, Carolyn Yackel, Dan Roberts, Jenna Carpenter, Susan Crook, Jeanine Myers, and Katie Haymaker.

Thanks so much to all of you and we hope all of you will help judge again next year.