Award Winning Presentations from the Undergraduate Student Paper Sessions
at MathFest 2010 in Pittsburgh, Pennsylvania, August 5-7

MAA Outstanding Presentation Awards
· **Thomas Crawford**, Williams College, *Knots in the Cubic Lattice*
· **Amanda Culiuc**, Mount Holyoke College, *A Numerical Analysis of the Non-Self-Adjoint Harmonic Oscillator*
· **Amanda Curtis** and **Rachel Messick,** Wellesley College and Brigham Young University, *Minimal Surfaces and Planar Harmonic Mappings*
· **Morgan Fincher**, Arkansas State University, *Arkansas Collegiate Performance Research*
· **Mary Kimberly**, Denison University, *A Combinatorial Exploration of a Kostka Matrix Identity for Partitions of Integers ≤ 5*
· **Brian Leventhal**, Clarkson University, *Understanding How the Brain Detects Threats*
· **Yifei Li**, Berea College, *Spacial Partitions Minimizing Interfacial Area, Edge-length, and Number of Vertices*
· **Richard Ligo**, Westminster College, *The Search for Extremal Graphs*
· **Laura Maki**, Winona State University, *Control Systems and Linear Algebra: The Electromagnetic Ball Suspension System*
· **Angelina Myers**, Dominican University, *Exploring Fractal Dimension Through the Analysis of Common Fractals*
· **Liem Nguyen**, University of Wisconsin-Oshkosh, *Congruences for Partition Function*
· **Raymond Perkins**, **Joshua Ritter**, and **Garrett Rodriguez,** Morehouse College, Michigan State University, and Alma College Paul Read, *Pursuit and Avoidance on Graphs*
· **Jacob Shapiro**, Denison University, *Knot Mosaics and Mosaic Number*
· **Andrew Snyder-Beattie** and **Kevin Groat**, University of Mary Washington, *Geometric Brownian Motion, a Safe Assumption?*
· **Ryan Viertel**, Brigham Young University, *Minimal Surface Transformations*
· **Philip Vu**, Williams College, *The Norm of the Resolvent of a Square Matrix*
· **Stephen Webster**, Williams College, *Pseudospectra of Matrices*
· **Nathaniel Zakahi**, Denison University, *Norm Characterizations of Operator Algebras*
· **Liyang Zhang**, Williams College, *Indicatrices of Knots*

BIO-SIGMAA Janet L. Andersen Award
· **Joseph Lombardi**, Marist College, Challenges in the Mathematical Modeling of Cholera

SIGMAA on Environmental Mathematics Awards
· **Nghiep Huynh**, Augsburg College, *Self-formation and Patterns of Arid Ecosystems*
· **Mark Minick**, Clarkson University, *Optimizing Aquifer Water Consumption and Maximizing Profit for Strawberry Farmers*

SIAM (Society of Industrial and Applied Mathematics) Awards
· **Dustin Brewer**, University of Texas at Arlington, *Computational Techniques for a One-Dimensional Magnetostatic Plasma Simulation*
· **Faye Stevens** and **Jamie Woelk**, Mount Holyoke College and Western State College, *Rank Disequilibrium in Multiple-Criteria Evaluation Schemes*

Council on Undergraduate Research (CUR) Award
· **Kenneth Ascher**, SUNY Stony Brook, *Systems of Polynomial Equations: Algorithms and Applications*