

# The 27<sup>th</sup> Annual Rose-Hulman Conference on Undergraduate Mathematics

## Detailed Daily Schedule

### Schedule of Events for Friday, 26 March 2010

**12:00 p.m. – 1:30 p.m.: Lunch in the Main Dining Room in the Hulman Memorial Union**

**1:30 p.m. – 1:40 p.m.: Welcome, E-104, Moench Hall**

Matt Branam, President of Rose-Hulman Institute of Technology

**1:40 p.m. – 2:40 p.m.: Invited Speaker Presentation, E-104, Moench Hall**

*From Differentials to Limits: Fleeting Flirtations and Lingering Loyalties*

Dr. Robert E. Bradley, Adelphi University

**2:45 p.m. – 3:15 p.m.: Coffee, Soda, and Snack Break, Room G-220, Crapo Hall**

#### **Contributed Student Papers**

|                         | <b>Room G-219, Crapo Hall</b>                          | <b>Room G-221, Crapo Hall</b>  | <b>Room G-222, Crapo Hall</b>  |
|-------------------------|--|--|--|
| <b>3:30 – 3:50 p.m.</b> | <i>Combating Noise in Imaging Systems</i><br>Bobby Arn | <i>Greater Than Sudoku and Partially Ordered Sets</i><br>Katherine Varga | <i>Examining the Relationship Between Teachers' Images of Mathematics and Their Mathematics History Knowledge.</i><br>Ryan Bowman & Kris Wease |
| <b>4:00 – 4:20 p.m.</b> | <i>Protein Structure Alignment</i><br>Kyla Lutz        | <i>A brief examination of the Dedekind Number</i><br>Michael Lopez       | <i>Mathematical Induction</i><br>Amanda McGlone  |

**4:20 p.m. – 4:40 p.m.: Coffee, Soda, and Snack Break, Room G-220, Crapo Hall**

#### **Contributed Student Papers**

|                         | <b>Room G-219, Crapo Hall</b>  | <b>Room G-221, Crapo Hall</b>       | <b>Room G-222, Crapo Hall</b>                          |
|-------------------------|--|-------------------------------------|--|
| <b>4:40 – 5:00 p.m.</b> | <i>A Model of Semi-Rational Behavior in Asset Markets</i><br>John Wang | <i>Algebraic Tori</i><br>Arnold Yim | <i>Vector Spaces and Their Impostors</i><br>Abby McKee |

**5:30 – 6:45 p.m.: Dinner in the Faculty Dining Room in the Hulman Memorial Union**

**7:00 – 8:00 p.m.: Invited Speaker Presentation, Room E-104, Moench Hall**

*Good News Everyone! Mathematical Morsels from The Simpsons and Futurama*

Dr. Sarah Greenwald, Appalachian State University

**8:30 – ?:** Student and Faculty Parties in the Hulman Memorial Union. The Student Party will be in the *Faculty Dining Room*, and the Faculty/Guest Party will be in the *Performing Arts Room*.

## Schedule of Events for Saturday, 27 March 2010

**8:00 – 8:55 a.m.: Donuts, coffee, and other snacks in Crapo-Moench Commons Area**

\* Book gifts for **student speakers** on display (submit list of preferences).

**9:00 – 10:00 a.m.: Invited Speaker Presentation, E-104, Moench Hall**

*Rubik's Cube Games on Spheres: Geometry of Spherical Orbifolds*

Dr. Sarah Greenwald, Appalachian State University

### **Contributed Student Papers**

|                         | <b>Room G-219, Crapo Hall</b>  | <b>Room G-221, Crapo Hall</b>   | <b>Room G-222, Crapo Hall</b>  |
|-------------------------|--|---|--|
| <b>10:10-10:30 a.m.</b> | <i>Matching Preclusion and Conditional Matching Preclusion for Bipartite Networks</i><br>Philip Hu                         | <i>Nearly Normal Tridiagonal Matrices</i><br>Ben Mackey   | <i>How generic is <math>2^n</math>? A computational approach.</i><br>Andrew Fork |
| <b>10:40-11:00 a.m.</b> | <i>Evaluation of a novel approach to the solution of the nonlinear Riccati equation</i><br>Eric Angelton & Tyler Foxworthy | <i>Undirected Graphs of Hermitian Matrices that Admit Only Two Distinct Eigenvalues</i><br>Matt Grimm | <i>Multi-touch methods</i><br>Joel Parrish                                       |

**11:00 – 11:20 a.m.: Coffee, Soda, and Snack Break, Room G-220**

### **Contributed Student Papers**

|                         | <b>Room G-219, Crapo Hall</b>                         | <b>Room G-221, Crapo Hall</b>   | <b>Room G-222, Crapo Hall</b>  |
|-------------------------|---|---|--|
| <b>11:20-11:40 a.m.</b> | <i>In Defense of the Pentagon</i><br>Robin Rice       | <i>Eigenvalue Density Distribution of Random Non-Hermitian Matrices with Purely Real Spectra</i><br>Bill Karr | <i>When does quarantine make things worse?</i><br>Krista Schaefer                          |
| <b>11:50-12:10 p.m.</b> | <i>A Simple Decagon Construction</i><br>Scott Rexford | <i>Cut-Sets in Zero-Divisor Graphs of Finite Commutative Rings</i><br>Darrin Weber                            | <i>Modeling Segregation of Neighborhoods with Three Types of Individuals</i><br>Mark Burek |

**12:15 – 1:30 p.m.: Lunch & Book Gifts in The Worx in the Hulman Memorial Union**

\*\*Access to the wireless network can be obtained by using the username and password: **mathconf-guest**

**We gratefully acknowledge support for this year's conference from funding through the MAA and the NSF grant DMS-0846477.**