

# The 28<sup>th</sup> Annual Rose-Hulman Conference on Undergraduate Mathematics

## Detailed Daily Schedule

### Schedule of Events for Friday, 25 March 2011

**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**

Dan Moore, Associate Dean of Faculty and Professor of Electrical and Computer Engineering, Rose-Hulman Institute of Technology

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

*Communication Complexity*

Dr. Bryan Shader, University of Wyoming

**2:45 p.m. – 3:00 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>3:10 – 3:30 p.m.</b>	<i>Wavelet Analysis and a Computational Time-Dependent Problems</i> Amber Brown	<i>Algorithmic Threshold Selection for the Peak-Over-Threshold Method</i> Sarah Jabon	<i>Compressed Zero-Divisor Graphs of Finite Commutative Rings</i> Lane Bloome
<b>3:40 – 4:00 p.m.</b>	<i>Yeast and Mathematics</i> Kyla Lutz	<i>Modified Fibonacci Sequence</i> Alicia DeHart	<i>A Preliminary Look at Compressed Zero-Divisor Graphs and Zero-Divisor Lattices</i> Darrin Weber

**4:00 p.m. – 4:20 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>Room G-317, Crapo Hall</b>
<b>4:20 – 4:40 p.m.</b>	<i>If Knot Theory and Knot Invariants, Then What?</i> Joseph Gasper	<i>Local Warming</i> Tim Ekl	<i>B-coloring in regular graphs</i> Taole Zhu	<i>Nice Numbers</i> David Irwin
<b>4:50 – 5:10 p.m.</b>	<i>Alhazen's Billiard Problem in Hyperbolic Geometry</i> Nathan Poirier	<i>Protein structure alignment and classification using dynamic programming</i> Jonathon Strauser	<i>Group Theory Applications to Rubik's Cube</i> Mark Bissler	<i>Using Data Mining to Determine Academic Success in College</i> Gina Luciano

**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**

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Dr. Travis Kowalski, South Dakota School of Mines

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

## **Schedule of Events for Saturday, 26 March 2011**

**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**

*Up with Determinants*

Dr. Bryan Shader, University of Wyoming

### **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>A formula for the integral of an inverse function in terms of the integral of the function</i> Brian McDonald	<i>Analysis of Keccak, A SHA-3 Finalist</i> Michael Pridal-LoPiccolo	<i>Minkowski Length of 3-D Polytopes</i> Matthew Grimm
<b>10:40-11:00 a.m.</b>	<i>Estimating bacterial lag phase: a branching process approach</i> Xin Ma	<i>Secret Sharing Schemes: An Application of Projective Geometry</i> Jack Pringle	<i>An overlooked reference from the last book of Euclid's Elements</i> Scott Rexford

**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>LEGO: The Intersection of Art and Engineering</i> Andy Milluzzi	<i>Tabulating Irreducible Polynomials over GF(2)</i> Steven Hayman	<i>Level density and level-spacing distributions of random, self-adjoint, non-Hermitian matrices</i> William Karr
<b>11:50-12:10 p.m.</b>	<i>Mathematics Vocabulary and Comprehension</i> Kelly Ruder	<i>Algebraic Solutions to Non-Linear Systems</i> Eric Crockett	<i>Explicit representations of characteristic polynomial coefficients associated with an <math>n</math>-by-<math>n</math> symmetric matrix</i> Tyler Foxworthy

**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**

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