

2007 Iowa MAA Meeting -- Drake University -- April 13-14

Friday, April 13, 2007

Registration and Exhibits Meredith 201

2:30-5:00

Concurrent Session 1 Meredith 235

3:00-3:20 *Strong Signals: $L(d,2,1)$ -Labeling on Simple Graphs*

* **Jean Clipperton**, Simpson College

3:30-3:50 *On the Weakly Sign Symmetric Matrix Completion Problems*

* **Jonathan Botts**, Drake University

Concurrent Session 2 Meredith 238

3:00-3:20 *Computer Explorations of Prime Conjectures Made by Marnell
Charles Ashbacher*, #none

3:30-3:50 *Why Do Students Have Textbooks?*
Mariah Birgen, Wartburg College

Break

3:50-4:10

Concurrent Session 3 Meredith 235

4:10-4:30 *Sign patterns that allow a positive or nonnegative left inverse*
In-Jae Kim, Minnesota State University, Mankato

4:40-5:00 *Minimum Rank of Powers of Some Special Graphs*
Luz De Alba Guerra, Drake University

Concurrent Session 4 Meredith 238

4:10-4:30 *Ethics and Standards*
Henry Walker, Grinnell College

4:40-5:00 *Optimal arrangement of digits*
Ronald Smith, Graceland University

Dinner

5:00-7:20

Plenary Session 1 Meredith 101

7:30-8:30 *Using groups and graphs to create symmetry patterns, Parts 1*
Joseph A. Gallian, University of Minnesota, Duluth

Reception Meridith Lobby

8:30--

Saturday, April 14, 2007

Registration and Exhibits Meredith 201

8:00-11:25

Plenary Session 2 Meredith 101

8:30-9:30 *Using groups and graphs to create symmetry patterns, Part 2*
Joseph A. Gallian, University of Minnesota, Duluth

Break

9:30-9:40

Workshop Meredith 124 B

9:40-11:20 *Teaching tools in the MAA digital library*
Erick Hofacker, University of Wisconsin - River Falls

Concurrent Session 5 Meredith 234

9:45-10:05 *Mathematics for Sustainable Living: Pre-Calculus Basics*
M Anne Dow, Maharishi University of Management

10:15-10:35 *The Possible Use of Wavelets in Digital Audio Upsampling*
Scott Searcy, Waldorf College

Concurrent Session 6 Meredith 235

- 9:45-10:05 *Assimilating Drifter Trajectories using Gradient Descent*
Neil Martinsen-Burrell, Wartburg College
- 10:15-10:35 *Connected goalies for convex polygons*
David Romano, Grinnell College

Concurrent Session 7 Meredith 238

- 9:45-10:05 *On a Group Associated With Projective Planes*
**** James Fiedler**, Iowa State University
- 10:15-10:35 *Farey Symbols and subgroups of $SL_2(\mathbb{Z})$*
**** Chris Kurth**, Iowa State University
- 10:45-11:05 *An algorithm for creating "equal" regions*
Mark Mills, Central College

Iowa MAA Business Meeting Meredith 101

11:25-12:10

Lunch

12:10-1:30

Concurrent Session 8 Meredith 234

- 1:35-1:55 *On the Mathematics of Juggling*
Stephen Willson, Iowa State University
- 2:05-2:25 *Linear Differential Equations*
Wolfgang Klemann, Iowa State University
- 2:35-2:55 *Preferential Attachment Random Graphs with General Weight Function*
Krishna B. Athreya, Iowa State University

Concurrent Session 9 Meredith 235

- 1:35-1:55 *Geometry for the Artist: A General Education Course*
Catherine Gorini, Maharishi University of Management
- 2:05-2:25 *The Mean-Median Map*
Marc Chamberland, Grinnell College
- 2:35-2:55 *Dots and Lines*
*** Thomas Britton**, Coe College

Concurrent Session 10 Meredith 238

- 1:35-1:55 *"Hex Play: Do board modifications make a difference in game outcome?"*
* **Evan Jones**, Coe College
- 2:05-2:25 *Mathematical Questions from the Classroom*
Wendy Weber, Central College
- 2:35-2:55 *Overview of the version of Mathematica currently in development*
Al Hibbard, Central College

Break

3:00-3:10

Concurrent Session 11 Meredith 234

- 3:10-3:30 *Counting the number of solutions in a finite group*
Siu-Hung (Richard) Ng, Iowa State University
- 3:40-4:00 *What I did on my sabbatical: Experiencing the "real world"*
Mark Mills, Central College

Concurrent Session 12 Meredith 235

- 3:10-3:30 *Historical Roots of Math and Physics in Germany*
* **Tim Schwickerath**, Wartburg College
- 3:40-4:00 *An Introduction to Minimum Rank of a Graph*
** **Rana Mikkelsen**, Iowa State University

Concurrent Session 13 Meredith 238

- 3:10-3:30 *Pseudo-Random Walks*
Christian Roettger, Iowa State University
- 3:40-4:00 *Using Oral Exams to Help Prepare Future Elementary Mathematics Teachers*
Russell Goodman, Central College

* denotes an undergraduate speaker and ** indicates a graduate student speaker