

*Mark your calendar...*

## Mathematics Colloquia Spring 2005

Mathematics colloquium talks are Wednesdays 3:40-4:40 p.m. in Science 108. Refreshments are provided.

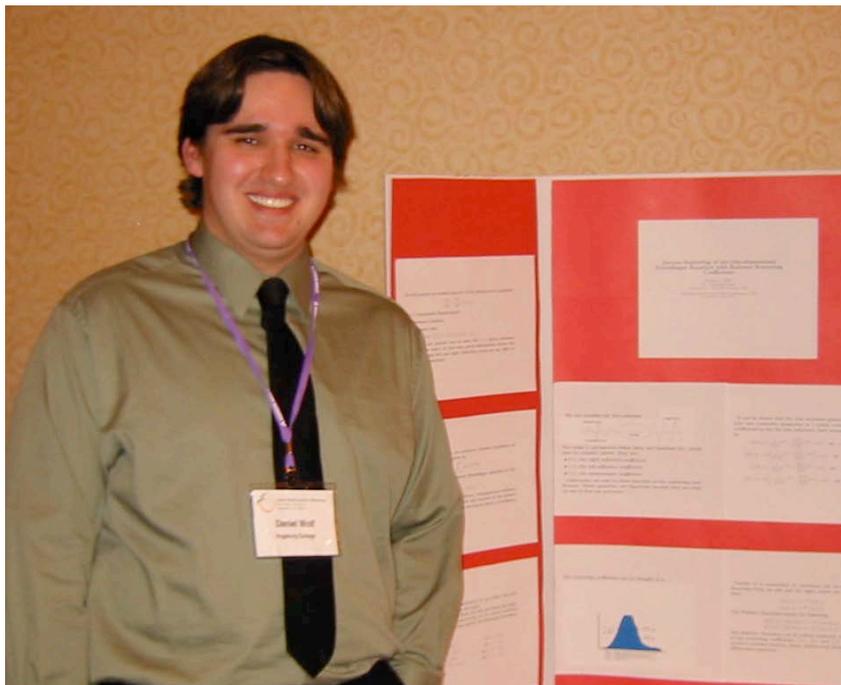
Jan. 26	Dr. Nicholas Coult, Augsburg College
Feb. 9	Dr. Terrance Hurley, Dept. of Applied Economics, University of Minnesota
Feb. 23	TBD
Mar. 9	TBD
Apr. 6	TBD
Apr. 13	TBD
Apr. 27	TBD

## Multi-scale Mathematics

**Dr. Nicholas Coult,**  
**Associate Professor**  
**Augsburg College**

The notion of scale in applied mathematics shows up in many forms. Fractal geometry exhibits self-similar structures across multiple scales, so that a fractal set appears the same whether viewed zoomed very far in or out. Complicated physical systems such as the Earth's atmosphere involve interacting phenomena ranging in scale

from the flap of a butterfly's wings to the massive energy of a hurricane; one of the challenges in constructing the associated mathematical models is to somehow represent these scales and their interactions. Similarly, digital photographs or other such data have short scale and long scale characteristics that could be exploited for analysis or efficient representation. The talk will illustrate some of the mathematical methods used in such problems, and discuss application areas including some of Professor Coult's own research interests.



Senior Dan Wolf presents his research at the Joint Mathematics Meetings in Atlanta, GA. (See *Peachy Mathematics*, p.2)

**Puzzles & problems  
are on hiatus until  
fall 2005.**

*Augarithms* is available on-line at  
[augsborg.edu/math/augarithms/](http://augsborg.edu/math/augarithms/).  
Click on the date you want to see.

### *Augarithms*

*The Bi-weekly Newsletter of  
the Department of  
Mathematics at Augsburg College*

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## Peachy Mathematics



Five mathematics faculty members and one student traveled to Atlanta, GA, for the annual MAA-AMS Mathematics Meetings January 4-8, 2005. The conference attracted over 5,000 mathematicians from around the world, mainly the U.S. and Canada. According to the AMS website (<http://www.ams.org>), there were over 1600 papers presented from all specialties of mathematics. In addition to talks on mathematical research, curriculum, and pedagogy, there were sessions offered on the mathematics involved in sports, biology, and the arts, current events in mathematics and mathematics education. At this year's meetings, mathematics/computer science double-major Dan Wolf presented a poster "Inverse Scattering of the One-Dimensional Schrodinger Equation with Rational Scattering" on the research he did this past summer at a Research Experience for

Undergraduates (REU). Tracy Bibelniaks and Nick Coult spoke about their industrial partnerships in "Optimizing the Retail Experience: A New Frontier for Applied Mathematics" (Tracy) and "A walk on the industry side: a mathematician takes on the seismic exploration business" (Nick). Tracy Bibelniaks and Matthew Haines spoke about their work with pre-service and in-service K-12 teachers with Linda Stevens (EDU) in "Enhancing the Mathematical Preparation of K-6 Teachers" and "Conceptual Mathematics Institute at Augsburg College". Su Dorée presented findings on Augsburg's MAT 105 students in "Who Takes Algebra in College and What Do They Need to Know? Case Study: Augsburg College". She also organized and facilitated a session on "Countering 'I can't do math' Strategies for Teaching Under-Prepared, Math-Anxious Students" with Bonnie Gold (Monmouth University) and Richard Jardine (Keene State). Blake Boursaw also attended the conference.



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## Join the fun at PME Student Conference

Interested in attending a mathematics conference? Join us for good company and fun mathematics at the Pi Mu Epsilon (PME) Undergraduate Research Conference at St. John's University, Collegeville, MN Friday April 15-Saturday April 16, 2005. This student conference is a great place to share interesting mathematics you've been working on. Not interested in giving a talk now? No problem, just come along and hear about the research projects that students at regional schools are exploring. For more information, check out: <http://www.csbsju.edu/math/pme.html> Or talk with Prof. Su Dorée or Matt Haines.

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### Math Solves Crimes

Come see clips from the new TV series *NUMB3RS* on Tuesday, February 1 in Science 108, and join the discussion sponsored by Augsburg's very own math club, *Unbounded*. *NUMB3RS* airs Fridays at 9 p.m. on CBS.

### Heard this one yet?

An infinite number of mathematicians walk into a bar. The first mathematician says, "I'll have a drink." "I'll just take half a drink," says the second. The third requests "a quarter of a drink." "Aw, just give me an eighth of a drink," says the fourth. As the bartender eyes the continuing line of mathematicians, she sighs, "I know where you're going with this." With that she pours two drinks and offers them to the mathematicians with the admonition "here, *you* work it out."

Thanks to history professor Phil Adamo for forwarding the joke.