

Mark your calendar . . .

## Mathematics Colloquia Fall 2004

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

- Sept. 15 Introduction to colloquium and math faculty. Also, Lynda Olson, Center for Service, Work, & Learning
- Sept. 29 Dan Wolf, student, Augsburg College
- Oct. 13 Kevin Anderson, Carlson Companies**
- Oct. 27 Andy Mack, Trident Capital
- Nov. 10 Colloquium #5
- Dec. 1 Colloquium #6
- Dec. 15 Colloquium #7

## Statistics and Analysis at Carlson Marketing Group:

Using Quantitative Techniques to Drive Business Results

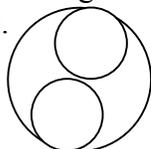
Kevin Anderson, Carlson Marketing Group.

Carlson Marketing Group's Measurement Strategy Consulting division is a team of 50+ statisticians

and others with quantitative backgrounds that uses statistical measurement and analysis to help our clients run world-class marketing programs. In this talk I'll describe our group, the services we provide to our clients, and the type of skills we seek in job candidates. I will provide examples from work we have done for a major financial services client to emphasize the types of insight we're often able to uncover.

## Puzzle 3: Tangent Circles

We say that two circles are *tangent* if they touch at exactly one point. Here are three circles each tangent to two others (and not sharing a common point).



Draw a set of circles such that each circle is tangent to exactly three others (and no three sharing a common point). Now draw a set of circles such that each circle is tangent to exactly four others and no three sharing

a common point. Can you draw a fundamentally different configuration for four?

## Problem 3: More tangents?

Can a set of circles be drawn where each circle is tangent to exactly  $n$  circles for  $n > 4$ ? Explain.

**Send your solutions (not just answers, please) to the editors at [haines@augsborg.edu](mailto:haines@augsborg.edu) or drop them in the "Puzzles & Problems" box in the Mathematics Department Suite, Science 137. Getting the Augarithms after we've published the answers? The puzzles are available at publication date on the web.**

*Thanks to David Wallace who illustrated how to turn out the lights (and for his subtle hint that the electrician might want to find a new job) and to Andy Held who correctly argued that four-at-a-time would make it impossible to turn out the lights.*

*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

2211 Riverside Avenue  
Minneapolis, MN 55454

Editors.....Su Dorée, Matt Haines  
e-mail address.....[doree@augsborg.edu](mailto:doree@augsborg.edu)  
.....[haines@augsborg.edu](mailto:haines@augsborg.edu)

## NASA Scholarships

Augsburg College's 2004 NASA Space Grant Undergraduate Scholarship Program supports students who are

- ✓ Majoring physics, chemistry, biology, mathematics, or math/science education;
- ✓ Demonstrating strong academic performance and leadership within their major area; and
- ✓ Showing an interest in contributing to NASA's mission.

This competitive program awards two Emerging Scholarships (\$750 each) and four Enhanced Scholarships (\$1,500 each) for spring 2005. More information is available on yellow flyers posted in the Science Building or by e-mail Jeanine Gregoire, [gregoire@augsborg.edu](mailto:gregoire@augsborg.edu). Applications are due November 5, 2004.



## Research Opportunities for Undergraduates

Are you really good at mathematics and enjoy working on challenging problems? If so, talk with your mathematics professor or advisor about getting involved in undergraduate mathematics research, working one-on-one with a mathematics professor on a problem. Doing research projects can make you a better student, and can help your chances of getting a good job after graduation or getting into the graduate program of your choice. In addition to on-campus opportunities, the U.S. government sponsors many off-campus research programs, most notably the National Science Foundation's Research Experiences for Undergraduates, called REUs for short.

More about past student research projects:  
<http://www.augsburg.edu/math/stu-research.html>

More information on summer programs:  
<http://www.augsburg.edu/math/summer-research.html>

**Upcoming GRE Workshops:** The Office of Undergraduate Research and Graduate Opportunity is sponsoring a series of GRE prep workshops. *Math Success Keys 2*. 6:00-8:00 p.m. October 12. Sessions on verbal and analytical writing will be held the following four Tuesdays. To register for the workshops, contact Dixie Shafer at [shafer@augsborg.edu](mailto:shafer@augsborg.edu). All sessions will be held in Science 123. For more info. on the exam itself see: <http://www.gre.org>

## Volunteer Opportunities

If you are looking to volunteer your time, there are many opportunities to help the community by tutoring mathematics. Here are just a few:

- Assist adult learners as they take GED preparation classes at various Minneapolis locations.
- Tutor 6-8 Grade at risk students at Cleveland Quality Middle School in St. Paul.
- Walk to tutor students from diverse cultural backgrounds at the Trinity tutoring program in the afternoons.
- Prepare high school seniors at Summit Academy in North Minneapolis prepare for the Wonderlich exam.
- Tutor K-12 students via the CSWL Tutoring Program

For more information on these or other volunteer opportunities, contact Matt Haines, [haines@augsborg.edu](mailto:haines@augsborg.edu).



Future foreign correspondent, Sayra Smith studies in Germany

### Unbounded Meeting with Free Pizza!

Tuesday, October 12,  
3:30-4:30 p.m. in Science 108.

✂ See // then eat it!

**Web Page Savvy?** The Mathematics Department is looking for a student to work part-time helping with our web page design and maintenance. Pays at "technical" rate. For more information see <http://www.augsburg.edu/hr/student/> or contact Nick Coult, [coult@augsborg.edu](mailto:coult@augsborg.edu)