

# The Almagest

The bi-weekly newsletter of the Department of Mathematics and Computer Science. Your trusted source for news.

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Alma College  
Alma, MI 48801

## Winter Term Colloquia

There will be ELEVEN colloquia during the winter term. On **February 7<sup>th</sup>**, **Dr. Aklilu Zeleke**, a math professor at M.S.U., will be giving a presentation on the research opportunities available to undergraduates this summer at M.S.U. On **February 20<sup>th</sup>**, **Ms. Megan Gibson**, a 2007 alumna, will describe her experiences in the *Math for America* program. And in March and April there will be NINE sessions (Tuesdays and Thursdays) of senior presentations. We hope you'll be able to attend some of these events.

## Road Trip to Auto-Owners Insurance

Auto-Owners Insurance Company is hosting an Information Technology & Actuarial Career Opportunity Day on **Friday, February 3<sup>rd</sup>**. The company is inviting all **juniors, seniors, and recent graduates** majoring in Computer Science, Information Systems, Actuarial Science, Mathematics, and Computer Engineering to come and see how their degree can be utilized in the insurance industry. If you are interested in attending the event, please see **Dr. Zhewei Dai**.

Location: 6101 Anacapi Blvd. Lansing, MI

Date: **Friday, Feb. 3, 2012**

Registration: 10:30-11:00

Event: 11:00-3:00 (Free Lunch)

## Important Dates for Seniors

**January 13:** Mandatory meeting @ 3:30 in SAC 216.

**January 27:** Topic of your presentation is due.

**March 9:** Your paper is due.

**March 13:** Presentations begin @ 4:00 and Senior dinner @ 5:30

## Focus on Faculty: Dr. Zhewei Dai

**D**r. Zhewei Dai is originally from central China where she attended Wuhan University and studied applied mathematics. Dr. Dai always enjoyed mathematics, so studying the subject that was applicable in real life made the most sense to her. Her first publication won an award from the Institute of Physics, and she has recently finished a paper, which is currently under review. Dr. Dai really enjoys teaching Calculus 2, Financial Mathematics, and her first year seminar, Discovering Mathematics.



Dr. Dai made her way to the Alma bubble in 2005 and commutes to and from downtown Lansing. In Lansing, Dr. Dai lives in an intentional community with three generations under one roof with her parents, husband, Michael, and her two children, Skyler, five, and Eleanor, who is almost three. Her mother and father are both retired, while her husband is an astrophysicist who works as a programmer. Her kids are currently in school and are both bilingual.

In her free time, Dr. Dai loves to take care of her organic garden, learn the piano alongside of Skyler, and staying in shape and relaxing in the swimming pool. When she ships her kids off to college, Dr. Dai has aspirations of traveling the world and seeing all the beauty it has to offer. If you would like to get to know Dr. Dai better she loves meeting new students and her door is always open.

*Jon Young*

## Mandatory Meeting For Seniors

All senior mathematics and computer science majors are required to attend a meeting on **Friday, January 13<sup>th</sup>** at 3:30 in SAC 216. At this meeting we'll provide details about the written and oral components of the senior presentations. Please put this important meeting on your calendar.

## The Time for an REU is NOW

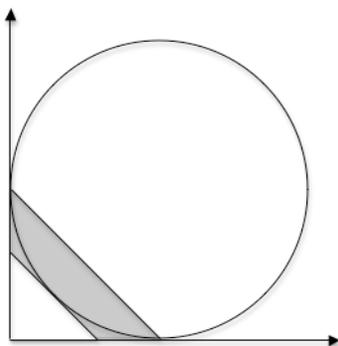
If you've ever thought about participating in a summer research experience for undergraduates (REU), then **now is the time to apply**. A summer REU is a great opportunity for you to get a glimpse of the types of research problems mathematicians and computer scientists wrestle with. In the typical REU you'll spend 7 or 8 weeks of the summer working on some interesting project in mathematics or computer science. And to make it even more attractive, you'll receive a stipend of approximately **\$2500-\$3000** in addition to free room and board. There are numerous REU's dealing with a wide variety of topics. There are 93 REU's in mathematics, five of which are in Michigan. Check out the 93 REU's by visiting:

[www.ams.org/employment/reu.html](http://www.ams.org/employment/reu.html)

The four Michigan REU's and their application deadlines are: **Hope College** (Feb. 24), **CMU** (Mar. 2), **U of M** (Mar. 18), **MSU** (Apr. 1), and **GVSU** (Feb. 24).

## Solution to Previous Problem

A circle of radius 2 and center (2,2) is shown below. A chord joins the points where the circle intersects the coordinate axes. Another segment is drawn tangent to the circle and parallel to the chord. What is the **exact area** of the shaded trapezoid?



**Ben Brow** was the first to solve the problem; his answer was  $8\sqrt{2} - 10$ . Also submitting correct solutions were **Alex Hegedus** and **Dr. Steuard Jensen**.

## Problem of the Bi-Week

For 10 days you must take exactly 1 *A* and 1 *B* pill at noon, or you will die. The pills are indistinguishable! All goes well until day 3. On this day, you shake 1 *A* and 2 *B* pills into your hand and do not know which is which. Can you survive? If so, how?



A prize of **\$2.00** will be awarded to the **FIRST** student who submits a correct solution to Prof. Sipka.

Student assistant:	Jonathan Young
Faculty advisor:	Tim Sipka
Distribution:	Deb Smith

*If you would like to submit an announcement or a short article, please send it via e-mail to Tim Sipka ([sipka@alma.edu](mailto:sipka@alma.edu)).*