

# 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

## Monday's Math Colloquium

Are you interested in finding an internship? Would you like to discover what careers might be ideal matches for someone with your skills and interests? Would you like to learn more about the career opportunities available for students majoring in mathematics and computer science? If so, then you'll want to attend our next colloquium. Ms. **Lou Ecken**, career planning coordinator in Alma College's Academic & Career Planning office, will be speaking on the services and resources available to students. **Don't miss it!**

*"Finding a Career: What will you do with YOUR life?"*

Presenter: Ms. Lou Ecken

Date: **Monday, November 2<sup>nd</sup>**

Time: 4:00

Place: SAC 216

*Refreshments at 3:50.*

## Registration for Winter Courses

Registration for winter term is just around the corner, and you're probably asking, "What math course(s) should I consider taking?" Below are a few recommendations based on the course you're currently taking.

Current course	Courses to consider for winter term
MTH 112	→ MTH 113, 121, or 120
MTH 121	→ MTH 122 and CSC 120
MTH 122	→ MTH 223 and 117
MTH 210	→ MTH 223, 211, and 117
MTH 310	→ MTH 421
MTH 341	→ MTH 342

## Career Focus: Biostatistician

Biostatisticians are statisticians who apply their skills in health-related fields. They typically collaborate with other researchers in the health disciplines, designing studies, collecting data, and analyzing datasets in pursuit of answers to specific questions. Such studies may provide information on how a disease progresses, the safety and efficacy of a new treatment or medication, or the impact of risk factors associated with a medical condition. Studies are also undertaken to estimate health care costs and quality of health care provided to aid those responsible for making health policy and quality assurance decisions.

Biostatisticians provide expertise in the planning stages (e.g. experimental design, sample size considerations), on data collection, on choosing and implementing appropriate methodologies, and interpreting the results. They work in hospitals, health care facilities, colleges and universities, industry, and in numerous sectors within the government. They often work as part of a team of scientists, which may include physicians and other health professionals, epidemiologists, health policy analysts, health econometricians, and computer programmers. For more info visit:

<http://ezinearticles.com/?A-Career-As-a-Biostatistician&id=2950929>

## Math 117

If you've not yet taken Linear Algebra (MTH 310), then I'd like you to consider taking Math 117 in the winter term. This is a 2-credit course in matrices and linear programming that provides an excellent foundation for MTH 310, a course that's required for the major.

## Did You Know ...

**B**asketball legend **Michael Jordan** started out as a math major at the University of North Carolina but switched majors during his junior year.

**D**o you want to be a lawyer? Did you know that a major in mathematics is a great preparation for law school? Mathematics majors consistently outscore almost every other major on the LSAT, the Law School Admissions Test.

This information was found at the website: [www.whenwilliusemath.com/](http://www.whenwilliusemath.com/).

## Computational Models Study Fear

**R**esearchers at the University of Missouri are using mathematical models of the brain to study the body's reaction to fear. The research is taking place in the Computational Neurobiology Center, which is part of the university's College of Engineering. Goushi Li, an electrical and computer engineering doctoral student involved in the research, hopes their research may help victims of post-traumatic stress disorder (PTSD). "Treatment for PTSD patients depends on which inhibitory connection stores the fear extinction memory and which circuit misfires," Li said. "With our model, we can figure out what specific connections store fear/extinction memory and how such connections are disrupted in the pathology of PTSD, which may lead to the suggestion of new drugs to treat the disease." Here's a link to the full article:

<http://campustechnology.com/articles/2009/10/08/u-missouri-researchers-use-computational-models-to-study-fear.aspx>.

## A Busy Weekend

**T**his weekend teams of math and computer science students will be representing Alma College in two competitions. **Dave Burwell, Kristyn Hagen, Becky Spitzley, and Stephen Sorensen** will compete in the MATH Challenge; **Jim Scheide, Lacey Best-Rowden, Mitch Loudenbeck, Adam Meininger, Chris Welcher, and Bryan Scheiber** will be competing in the

ACM Programming contest held at the University of Michigan.

## Puzzle of the Bi-week

**D**r. Molina is an avid bicyclist. During this past summer he decided to bike to one of his favorite destinations in Michigan. He got up early one morning and was able to make it to his destination at an average speed of 20 m.p.h. Later that day he returned home riding into a stiff headwind. As a result, he averaged only 10 mph on the return trip. What was his average speed for the round trip? It's *not* 15 mph.



The first student to submit a correct solution to Professor Sipka will receive a small (and I mean very small) prize.

Student assistant:	Matt Mansell
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 Matt Mansell (11mgmans) or Tim Sipka (sipka).*