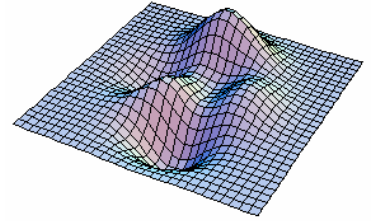
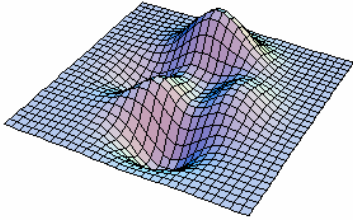


*Mathematics Department*  
*Student Newsletter*



Vol.12

Fall '07

**WELCOME NEW FACULTY MEMBER**

The Mathematics Department is welcoming a new faculty member this year. Here is a little about her, in her own words.

***Dr. Futaba Okamoto***

I was born in Nagoya, a large city in central Japan. After graduating from a high school, I came to the States and started my undergraduate study at Western Michigan University as a physics major. At that time, I thought mathematics was only a “tool” for studying more sophisticated physics. Since a minor in mathematics was required for a physics degree, I took a lot of courses in mathematics and realized how elegant and interesting mathematics itself really was. (I also like the fact that we only need a pen and some pieces of paper to do math – I enjoyed theoretical physics a lot but labs were not my favorite...) Among those math courses that I enjoyed very much was graph theory. I had two favorite professors in graph theory in the department, so I decided to stay there for additional 4 years after getting a B.S. and finally received my Ph.D. in June.

During my first interview with UWL at a conference in New Orleans, the department people showed me some beautiful postcards of La Crosse. The people were also so pleasant that I knew this was the place I was looking for starting my new career. I came to La Crosse in late January for a campus interview and it was extremely cold... but I know Michigan and believe I am well trained for cold weather.

I am very excited about joining this department. My office door is usually open when I'm in. Stop by anytime☺! I'm the very short person wearing a pair of red glasses!

**SAVE THIS DATE!!**

**SPECIAL INVITED SPEAKER**

On October 11<sup>th</sup> and 12<sup>th</sup>, UW-La Crosse's Mathematics Department will welcome a very special speaker:

*Dr. Sarah J. Greenwald*  
Appalachian State University  
Boone, NC

Dr. Greenwald is best known for her talks on mathematics in popular culture; in particular, math in “*The Simpson's*”. Watch for more information in the near future!

**STUDENT ACTIVITIES**

**Kirk Wienkes, Lee Wienkes, and Jarod Hart** competed in the COMAP Mathematical Contest in Modeling in February 2007. The UW-L team competed with over 500 institutions from around the world to construct a solution to a challenging real-world problem using mathematical modeling. The team spent 4 intense days working to construct a creative, mathematical solution to a gerrymandering problem. They were challenged to produce an algorithm for dividing states into “simply” shaped congressional districts where each district contains the same population. They then applied their algorithm to the state of New York. They presented their results at a department seminar in March 2007.

*(If you are interested in participating on a team in the 2008 competition, please contact Dr. Bennie).*

**Mike Fitzpatrick** had a busy summer. He was a Dean's Distinguished Fellow, which entailed a ten-week research experience with a select group of undergraduates in the College of Science and Health. His mentor was Dr. Kattchee. He worked with block monoids, which provide a convenient setting for studying the factorization theory of Krull domains. Among other things, Mike proved a very nice generalization of one of Dr. Kattchee's published results. All of the fellows attended a weekly seminar, where they gave talks on their work. Mike's talk was well-received, as was his poster at the poster session which capped the fellowship program. Now he is writing up his results and intends to submit them for publication as well as present them to a wider audience. In addition to his research experience, Mike also had a teaching experience with the on-campus Upward Bound program.

**Jarod Hart** worked on a game theory research project during the latter half of the summer with Dr. Bennie. They used stochastic game theory and Bayes' theorem to model interactions and interpret patterns within a market economy. Jarod focused on computing Bayesian probability distributions that reflected the incorporation of new information into the spending and saving strategies of individuals within the economy. He created simulations for estimating inflation within the economy over time under various conditions. Jarod is planning to present his results at an undergraduate research conference this fall.

**Sarah Rozner** began a research with Dr. Kelly concerning the life and thesis of the first woman to receive her Ph.D in Mathematics. Together they hope to write a paper on this topic. Watch the next newsletter for any updates.

**Trever Hallock, Jarod Hart, Joseph Lanska and Sarah Rozner** all attended a Research Experience for Undergraduates (REU) this summer. Jarod attended the NSF funded SUREPAM (Summer Research in Pure and Applied Mathematics) at UW-Eau Claire. Trever, Joseph and Sarah attended the UI VIGRE HEARTLAND REU at the University of Iowa. Ask them about it!

### ***FROM A RESEARCH PROJECT TO A SYSTEM WIDE INSTITUTE***

The *PRAXIS Wisconsin* project is a system-wide endeavor involving faculty, students, and technical support in the creation of innovative teaching and learning materials called digital Learning Objects (LOs). The LOs are interactive, self-contained online applications that include voice overs and Flash animation features, that allow for a variety of learning styles.

In 2006-2007, the focus of the project was on the creation of LOs to help students prepare for the PRAXIS II exams in mathematics and science. Potential teachers must pass these exams in order to be licensed in Wisconsin. Teams involving students and faculty members created over fifty, and \$12,500 was paid directly to students from UW-L involved in the project. The faculty and students enjoyed all aspects of the process. The content of future LOs will extend beyond PRAXIS to include areas such as remedial math and science, science misconceptions, placement exams, etc. The project will continue in 2007-2008 with up to 24 additional teams.

The UW-L math faculty and students involved last year are:

FACULTY: Hasenbank, Hoar, Kosiak, LeDocq, Skala

STUDENTS: *Aaron Mueller, Chelsea Simon, Jarod Hart, Robert Clark, Kelly Holmstadt, Kristin Radermacher, Maren Lau, Robert Clark, Caleb Stracke, Paige Campbell, Roos Needham, Gina Kaufman, Raemi Brandon, Melissa Wiehr, Katie Nakielski, Kristen Battan, Teresa Oyen, Garrett Berg, Marsha Swatosh, Jeremy Duggan, Kristi Nelson, Amanda Welter, Ariane Hooker, Megan Turner, Katie Schank, Traci Leis, Rachel Klinner, Ansack Banuvong.*

Evidence of the impact of the project is the recent creation of the UW System *Institute for Innovation in Undergraduate Research & Learning (IIURL)* at UW-La Crosse, with Bob Hoar (Mathematics) as Director. The Institute is being funded by the UW System Office of Learning and Information Technology and the PK-16 Initiative. Its mission is twofold. First, to develop, foster and support innovations that use student-contributed work along with digital technology to enhance undergraduate teaching, learning and research in the UW System. Secondly, the Institute will be responsible for constructing a registry and repository to make *very simple* the storage, retrieval and sharing of digital content for teaching. UW-L's Master of Software Engineering graduate students will address the technology needs of the project as it expands.

Further information is available at the project website [www.uwlax.edu/mathematis/PRAXIS](http://www.uwlax.edu/mathematis/PRAXIS) or contact Bob Hoar at 608-785-6617 or [hoar.robe@uwlax.edu](mailto:hoar.robe@uwlax.edu).

### ***EMPLOYMENT OPPORTUNITIES FOR YOU***

Do you enjoy helping your friends, roommates, classmates, etc. with their math homework? Would you like to get PAID for doing it?! The Mathematics Department has several opportunities for you to do just that. We are always on the lookout for good tutors to work in the Math Tutoring Center, but you may not be as aware of some other positions that are available. The Math Department hires students as:

- Tutors for the Math Tutoring Center
- Peer Graders
- Peer Teaching Assistants

You can also put your name on the Department's Private Tutor list which is given out to students looking for additional individual help. For more information on any of these programs, please ask your instructor or anyone in the Math Department. We're ALWAYS looking for good help!

### ***BE INFORMED...CHECK OUT THE WEBSITE***

The Mathematics Department website has lots of information and resources available for students. The site is located at:

<http://www.uwlax.edu/mathematics/>

On this website you will find links to the most up-to-date information on various topics including

- *Tutor Center and Tutor Schedule*
- *Weekly Coffees*
- *Upcoming talks*
- *Internships*
- *Faculty web pages*
- *UW-L Math Majors/Minors Guide*
- *UW-L Math Club*
- *Statistical Consulting Center*
- *Problem of the Week*
- 

And MUCH MORE. Be sure to check it out on a regular basis!!

### ***400 LEVEL COURSE OFFERINGS FOR SPRING 2008***

In order to help you begin to plan your schedule for Spring 2008, we thought it might be helpful to give you some information on the schedule for next semester.

The 400 level courses being offered next semester include:

- MTH 410 – Complex Analysis
- MTH 412 – Abstract Algebra II
- MTH 442 – Mathematical Statistics II
- MTH 447 – Nonparametric Statistics
- MTH 480 – Studies in Applied Mathematics