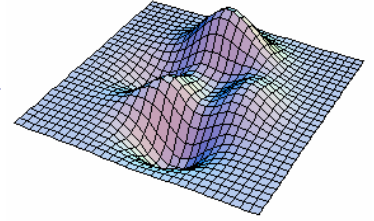
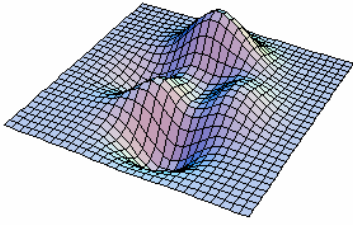


Mathematics Department

Student Newsletter



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WELCOME NEW FACULTY MEMBER

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

Dr. Ted Wendt: I was born and raised in Waukesha, Wisconsin. When I was 15, my family moved to Anaconda, Montana. After graduating high school, I started college at St. Olaf College in Northfield, Minnesota as a biology/pre-med major. Two years later, I changed my major to math/computer science and transferred to Carroll College in Helena, Montana (in part because of the program, in larger part because that's where my fiancé was). I worked for a year as a programmer for the State of Montana Legislature and married my high school sweetheart immediately after college. That next year, my wife and I moved to Iowa City to start graduate school at The University of Iowa.

While at UI, I studied math and computer science and earned a Ph.D. in Math and a Master's of Computer Science. My research involves the dynamic modeling of elastic and visco-elastic bodies in contact, but I also enjoy computer simulations involving graphics and visualization. When I'm not doing math, my wife and I enjoy doing things outdoors and traveling.

STUDENT ACTIVITIES

Trever Hallock worked on a project on the motion of a vortex line in an averaged velocity field with Dr. James Peirce. One approach taken to understanding turbulence is the development of mathematical models for the movement of vortex filaments. A vortex filament is a thin tube created when the fluid rotates or spins very intensely about a single curve. When a filament rotates, it changes the fluid movement around it. The induced motion of the fluid then transports the filament. The resulting equation of motion for a vortex filament depends on the fluid velocity it has created. A good example of a vortex filament is a tornado. The rotation of the tornado about its axis causes the air around it to move quickly. The air motion causes high winds that change the shape of the tornado and puts the tornado into motion along a path. Trever derived an equation describing the motion of a vortex line in a fluid domain with an average velocity field. He received a research stipend and presented his work at the 2008 UW-L Celebration of Research and Creativity Day. Trever is currently a student at University of California, Berkeley.

Andy Belter, a Secondary Mathematics Education major, co-presented a talk at the 2008 MAA Mathfest Conference in Madison on August 2nd with Dr. Jon Hasenbank and Dr. Jennifer Kosiak (Mathematics Education). The talk was titled "The Impact of a Teaching for Understanding Experiment in 8-12th Grade Mathematics."

The presentation discussed the results of a teaching experiment that was supported by a 2007-08 ESEA-WITQ professional development grant.

The summer research project was centered around scoring the tasks that were used to assess procedural understanding and analyzing the differences in performance between groups. The work revealed slightly greater gains in skill for participating students but no significant differences in understanding versus more traditional teaching methods.

Andy and his faculty advisers are continuing to dig more deeply into the results to seek qualitative differences and also to clarify the implications from the project. Andy's work was supported by his Summer 2008 Dean's Distinguished Undergraduate Research Fellowship from the College of Science and Health.

For more information about the ongoing project, contact Dr. Hasenbank or Dr. Kosiak in the Mathematics Department.

Kirk Wienkes, **Jarod Hart**, and **Gus Borstad** competed in the COMAP Mathematical Contest in Modeling in February 2008. 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 over forty hours in a single weekend working to construct an algorithm for creating Sudoku puzzles of varying levels of difficulty. Their solution received a **Meritorious** ranking, which means they were in the top 14% of those teams participating! They presented their results at a *Math Coffee* in May 2008. For more information, go to <http://www.uwlax.edu/mathematics/dept/Activities/COMAP/comap.htm> (If you are interested in participating on a team in the 2009 competition, please contact Dr. Bennie or Dr. Wendt).

FOUR HEAD TO GRADUATE SCHOOL

This fall, four of our 2007-2008 UW-L mathematics graduates are entering graduate school. **Mike Fitzpatrick** is currently attending the University of Iowa and **Jarod Hart** is at the

University of Kansas, both in Mathematics. *Sarah Rozner* is attending the University of Northern Colorado in mathematics Education. *Lacy Bindl* is currently at the Illinois College of Optometry.

If you are considering graduate school or just have questions, feel free to contact anyone in the department. We'd be more than happy to talk about our own experience and provide and/or find additional information if you wish.

HAVE YOU HEARD OF NCUR?

The National Conferences on Undergraduate Research (NCUR), established in 1987, is dedicated to promoting undergraduate research, scholarship, and creative activity in all fields of study by sponsoring an annual conference for students.

In the spring of 2008, two of our math students gave oral presentations at the National Conference on Undergraduate Research, NCUR. The conference was held at Salisbury University in Maryland. **Jarod Hart's** talk, *Time-Frequency Analysis of Music*, was based on research he did with Dr. James Walker during an REU at UW-Eau Claire and with work he did with Dr. Susan Kelly. **Sarah Rozner's** talk, *Winifred Edgerton Merrill's Contributions to Mathematics and the Advancement of Women*, was based on work she did with Dr. Susan Kelly. A paper on Sarah's research can be found in the newest volume of the UW-L Journal of Undergraduate Research.

This year, NCUR will be at UW-La Crosse on April 16-18 2009. Students wishing to present at the conference should be aware of the December 1, 2008 deadline for abstracts. Since the conference is on our campus this year, all students are encouraged to take advantage of this opportunity to attend whether or not they are presenting research. If you have any questions about the conference, be sure to ask a faculty member for more information, or check out the 2009 NCUR website at <http://www.ncur.org/>.

MATH CLUB & MATH COFFEE HAPPENINGS

The Math Club is a recognized student academic club that offers social and educational activities. Anyone interested in mathematics, computer science, or statistics is encouraged to become a member. Activities in the past have included interesting mathematical talks (presented at a level appropriate for undergraduate math majors) by invited speakers (referred to as *Math Coffees*), math trivia contests, outdoor activities, picnics, potluck dinners and parties, trips to student mathematics conferences, and friendly sporting contests with other academic clubs. Membership and participation are very casual. Everyone is welcome. Watch for flyers indicating time and location of the Math Coffees.

We are always looking for new students to help out! If you are interested in helping with the Math Club, have any suggested

topics for a Math Coffee or you are interested in giving a talk, contact Dr. Peirce. More information can be found at <http://www.uwlax.edu/mathematics/mathclub.html>.

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/dept/index.htm>

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

- ***Tutor Center and Tutor Schedule***
- ***Math 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!!

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!

400 LEVEL COURSE OFFERINGS FOR SPRING 2009

In order to help you begin to plan your schedule for Spring 2009, 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 408 – Analysis II
- MTH 413 – Topics in Linear Algebra
- MTH 446 – Analysis of Variance and Design of Experiments
- MTH 448 – Operations Research
- MTH 461 – Mathematical Physics