



MATHEMATICS

Student Newsletter

Vol.14

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WELCOME NEW FACULTY MEMBERS

The Mathematics Department is welcoming *four* new faculty members this year. Here is a little about them, in their own words.



Dr. Robert Allen: Greetings from the east coast. I was born in Myrtle Beach, South Carolina (a great spot for spring break) and lived most of my life in Alexandria, Virginia (a suburb of Washington, D.C.). I graduated with a B.S. degree in computer science from the University

of Virginia in 1994 and spent 9 years working as a software engineer in the Washington, D.C. area.

During this time, I decided that software engineering was not for me, and that I wanted to study math. So while working, I went back to school and received a B.S. degree in mathematics from George Mason University in 2003. Once completed, I quit my job and went to graduate school full time. I earned an M.S. degree in mathematics from the University of Virginia in 2006, and returned to George Mason University to complete my Ph.D. in 2009.

My research is in the field of operator theory. When people ask me what that is, I typically tell them it's like linear algebra... but on steroids. It's a great field to work in, and the math is pretty.

I am very excited to be here at UW-La Crosse. My door is always open, and I love talking to students about everything and anything, so stop by.



Dr. Melissa Bingham: I was born and raised in Devils Lake, ND and after high school I attended the University of North Dakota. Throughout most of my undergraduate education, I wasn't sure what I wanted to do with my math degree, but had decided that I was not going to teach. Since I enjoyed school, after obtaining my

B.S. in math I stayed at UND and received my master's degree in math. As a graduate student at UND I had the

opportunity to teach College Algebra, and it was then that I discovered how much fun teaching really is. To me, it was a job that didn't feel like work (besides the grading, anyways!) Immediately, I knew I wanted to be a professor. Since I had always loved my statistics courses, I decided to branch off and study statistics, and this May, I received my Ph.D. in Statistics from Iowa State University.

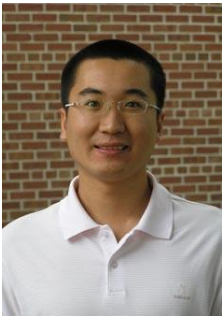
I am excited about joining the math department at UW-L and teaching the great variety of statistics courses that are offered here. My husband and I just bought our first house, where we live with our two dogs (Homer the beagle and Lynkin the dachshund). After spending my whole life in the plains of North Dakota and cornfields of Iowa, I am very thankful to be living in a place as gorgeous as La Crosse.



Dr. Heather Mathison: Hi, I'm the new mathematics educator in the department. When I was a little girl, my father was in the army so I grew up on posts across the U.S. and in Germany. As an undergraduate, I went to Westminster College, a small liberal arts school in Missouri, where I majored in mathematics and Spanish. I went to graduate school

in Bozeman, Montana where I earned a masters degree in mathematics and from where I will shortly receive my PhD in mathematics with a specialization in mathematics education. Besides teaching at the college level, I have also taught in elementary and high schools. I am especially interested in working with teachers at the elementary level where small changes in instruction can have big impacts on children's attitudes and understanding of mathematics.

I like numbers so much that I married someone with the word 'math' in his last name. My husband, Mark, and I also have a three year old daughter. We've been enjoying getting to know La Crosse and marveling at the cheese sections in the grocery stores. I'm looking forward to getting to know many of you. Feel free to drop by my office and introduce yourself.



Dr. Huiya Yan: I was born and grew up in a small town of Shandong province that is not too far from Beijing, the capital of China. Right after I got my M.S. in Mathematics from Beijing Institute of Technology in 2005, I left Beijing to Morgantown, West Virginia and continued to study for

my Ph.D. in graph theory at West Virginia University, where I spent the most valuable four years with so many excellent professors and fellow students. I felt sad to say goodbye to those Mountaineers, but I am so excited to join our Math family at UW-La Crosse.

Besides doing math, I like cooking very much. Cooking a delicious dish is just like solving an intriguing math problem, and sometimes you have to create a lot of new recipes. Welcome to discuss cooking and math with me. ☺

STUDENT ACTIVITIES

Katherine Ott worked on mathematical biology research project during the spring and summer with Dr. Peirce.

They used systems of differential equations to model the spread of the West Nile virus through a mosquito population and multiple host bird populations. The goal of the project is to discover how bird composition in a given environment affects the severity of the spread of the disease. In epidemiological models, the spread of the disease is described by the basic reproduction number R_0 . The value of R_0 is the number of new infections created by introducing a single infected individual to an entirely susceptible population.

Katherine developed a model involving one mosquito and two bird populations. She showed that in three environments of Wisconsin (wetlands, agricultural, and urban) the value of $R_0 > 1$. She was able to determine strategies that can be implemented to reduce the R_0 to a value less than one. Katherine plans on presenting her work this semester on campus and at a state-wide meeting.

Maggie (Lee) McHugh, math department alum currently working in Student Support Services on campus and *Maria Jansen*, current math major, worked with Dr. Kosiak, Dr. Hoar and Dr. Sobota (yes, he is back from retirement) during the summer of 2009. The group worked to develop an online course to help incoming freshman prepare for the Math 150 College Algebra Credit-by-Exam. Maggie and Maria created many of the high-tech video podcasts which are the heart of the content in the prep course. The idea is proving to be popular; at the time this is being written, it is the second day of class and over 120 students are enrolled in the prep course.

Tyler Baur and *Dylan Lukes* worked with Dr. Toribio last year on a research project entitled, "An Evaluation of the IRT Models through Monte Carlo Simulation". Their research was partly funded by an undergraduate research grant from our university. They have presented their results at the UWL undergraduate research day and at NCUR. Dylan received the Mathematics Department's "Most Outstanding Senior Student Award" last year. Tyler is going to join the Master's program in Applied Statistics at UW-Milwaukee.

Five teams of UW-L students competed in the COMAP (Consortium for Mathematics and its Applications) Mathematical Contest in Modeling in February. Those participating were: *Yanan Chen, Hoang Vo, Joey Goldman, Raymond Leach, Valentine Sackmann, Matt Cocchiola, Vince Zander, Joe Lanska, Ali Khalili, Chintan Modi, Sam Chen, Trevor Oswald, Eric Bartels, Amanda Welter, and Marsha Swatosh*. The UW-L teams competed with over 2000 teams from 14 countries. Two of the five UW-L teams earned a "Meritorious" rating for their work. Only about one sixth of all contest entries receive this high rating. UW-L was one of only 25 participating schools to submit 2 or more "Meritorious" solutions. For more information, contact Dr. Bennie or Dr. Wendt.

STUDENTS HEAD TO GRADUATE SCHOOL

Dylan Lukes joined the Master's program in Economics at the University of Edinburgh in Scotland. The University of Edinburgh is one of the top universities of the United Kingdom. He was also accepted in the Ph.D program in Statistics at the University of Wisconsin-Madison.

Tyler Baur joined the Master's program in Applied Statistics at UW-Milwaukee.

Joseph Liss, a student of Dr. Toribio, finished his Mathematics degree with emphasis in Actuarial Science in just 3 years. On his second year, he took and passed the first actuarial exam. That summer (2008) he had an actuarial internship, and this year was hired by an insurance company in Milwaukee as an actuary immediately following graduation.

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 modeling contests, outdoor activities, trips to student mathematics conferences, and friendly sporting contests with faculty and other academic clubs. Membership and participation are very casual. Everyone is welcome. Watch for flyers indicating time and location for future Math Club meetings.

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 Drs. Peirce, Wendt, or Allen. 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. The Mathematics Department Learning Center now has a part-time Director, Dr. James Sobota. If you are interested in tutoring, please see Dr. Sobota in 1015 Cowley Hall. The Department hires students as:

- Tutors for the Math Learning 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 2010

In order to help you begin to plan your schedule for Spring 2010, 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

THE UW –L MATHEMATICS DEPARTMENT 2009-2010



Bottom Row: Jon Hasenbank, Jim Sobota, Karry Auby, Bruce Riley, Melissa Bingham, Futaba Okamoto, Huiya Yan, Robert Allen
Middle Row, Left to Right: David Koster, Bob Hoar, Susan Kelly, Jennier Kosiak, Todd, Will, Heather Hulett, Andy Matchett, Sherwin Toribio
Top Row, Left to Right: James Peirce, Jeff Baggett, Jeff Boyle, Becky LeDocq, Karl Kattchee, Abdulaziz Elfessi, Ted Wendt, Heather Mathison
Bulletin Board: Steve Senger, Barbara Bennie, David Reineke