UMKC RooMath News

Department of Mathematics & Statistics Newsletter

http://cas.umkc.edu/Mathematics

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News about our department

10 February 2012: We hold our first **"RooMath 2012"** Recruitment Event, 8:15-12:00 noon in Royall, Haag, and Flarsheim Halls. See Photos. About **100 students** from Kearney High School, Southwest Early College Campus, and Winnetonka High School attended. Events included five presentations on **Careers in Statistics, Careers in Mathematics or Applied Mathematics, Cryptography, The Monty Hall Problem, and a Mini Math Video Fest**, followed by pizza in Royall 111.

February 2012: Our department has embarked upon a major **Course Redesign for College Algebra (Math 110)** piloting this Spring semester, and being fully implemented in Fall 2012. **Rationale for Course Redesign:**
UMKC's recent involvement in the **national Access 2 Success Initiative** revealed that students who enrolled and successfully completed college-level math during their first year are more likely to be retained for their sophomore year. Students' success in Math 110 - College Algebra is crucial to UMKC's retention of students and progress toward degree completion. According to the National Center for Academic Transformation (NCAT), redesigned courses have high student success rates and demonstrate increased efficiencies in course delivery. **At UMKC, we place students' success at the center as the first goal in our university strategic plan**; therefore, the redesigned course is planned according to this goal.
Key Features of Course Redesign to Increase Student Learning:
Increased time for students to "do" math rather than listening to lectures about math, increased assessment of student learning with specific feedback about learning performance, increased amount of feedback on learning and decreases time to receive feedback on student learning performance, increased opportunity to work with peers during the learning process, on demand learning support in a lab environment designed to address individualized learning challenges. The **course redesign for Math 110 is based on the emporium model.** See NCAT's website.

April 2012: Our colleague **Becky Roberts**, who has been a member of this department for 28 years, retires this month. During those years she won the **Dean's Award for Outstanding Teaching**. In addition to her teaching duties, she has been our **HSCP Coordinator**, our **College Algebra Coordinator**, and worked hard this past year on the new **Course Redesign for College Algebra** (See February 2012 below.) We will miss her steady and constant presence.

4 May 2012: We hear that Dr. Yong Zeng has been promoted to **Professor**, starting September 1. Congratulations, Yong!

August 2012: We are pleased to welcome this Fall to our department a new **Mathematician**, Majid Bani-Yaghoub, as an **Assistant Professor**, and a **Visiting Assistant Professor**, statistician Donghui Yan. Follow their links to read about their strong and very different backgrounds. Also, this year 2012-2013, current faculty member Liana Sega will be on leave.

January 2013: We are pleased to welcome this Spring to our department a new **Mathematician**, Naveen Vaidya, as an **Assistant Professor**. Follow his link to read about his strong applied background. Also, this calendar year 2013, current faculty member and Chair Jie Chen will be on leave. Eric Hall will stand in as Interim Chair for 2013.

17 June 2013: Professor Kamel Rekab has published five articles in the last five months, three of which have been coauthored with Dr. Rekab's Ph.D. student W. Wu. Below is the list of articles.

A Multistage sequential test allocation for software reliability estimation, with H Thompson, and W. Wu, IEEE Transactions on Reliability, 63(2), (2013)
Automation of software resting for reusable components, with J. Kim and L. Tadj, Software Testing, Verification and Reliability, Journal of Modern Mathematic Frontier, 2(1), (2013)

A sampling scheme for estimating the reliability of a n-parallel network system, with Y. Cheng, International Journal of Reliability and Applications, (2013)

A fully sequential test allocation for software reliability estimation, with H Thompson and W. Wu, Journal of Applied Statistical Science, (2013)

An efficient test allocation for software reliability estimation, with H. Thompson and W. Wu, Journal of Applied Mathematics and Computations, (2013)

August 2013: We are pleased to welcome this Fall to our department a new **Mathematician**, Xianping Li, as an **Assistant Professor**, a new **Statistician**, David Spade, also as an **Assistant Professor**, and a new **Mathematician**, Bill Kalahurka, as an **Assistant Teaching Professor**. Follow their links to read about their different backgrounds. In addition, Brent Wilson joins us as a **Lecturer**. Lastly this Fall, current faculty member Jie Chen continues on leave through December 2013.

9 September 2013: Here is another refereed conference article by Dr. Rekab: "Prediction of Network Anomaly Detection through Statistical Analysis" with A. A. Qureshi, International Conference on Computer, Networks and Communication Engineering (ICCNE2013) Great Job Kamel!
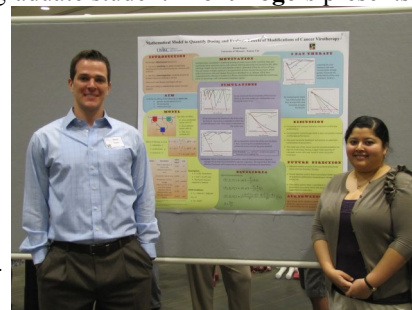
News about Student-Related Matters: talks, awards, publications, gatherings, mathematics competitions, and so on.

10 February 2012: We hold our first **"RooMath 2012"** Recruitment Event, 8:15-12:00 noon in Royall, Haag, and Flarsheim Halls. See Photos. About **100 students** from Kearney High School, Southwest Early College Campus, and Winnetonka High School attended. Events included five presentations on **Careers in Statistics, Careers in Mathematics or Applied Mathematics, Cryptography, The Monty Hall Problem, and a Mini Math Video Fest**, followed by pizza in Royall 111.

April 2012: We hear the good news that the Honors Undergraduate Journal Lucerna has accepted for publication in the Fall 2012 Volume 7, **two** expository mathematics papers written by our Mathematics majors, one by **Alex Karanevich** titled **"Trigonometry Development in Ancient and Medieval India"**, and one by **Jesse Hamer** titled "**Indivisibles and the Cycloid in the Early 17th Century**". Congratulations Alex and Jesse! Alex's paper was written during Spring 2011, and Jesse's during Spring 2012 for Math 464 WI (History of Mathe-

matics, Writing Intensive).

19 April 2012: Undergraduate student **Brent Rogers** presents a poster titled **"Mathematical Model to Quantify Dosing and Evaluate Effects of Modifications of Cancer Virotherapy"** at the 12th annual SEARCH Symposium for Research and Creative Achievements in

Pierson auditorium, winning **First Prize** in the "Biological and Health Sciences" category. Congratulations, Brent! His **faculty mentor** is Swati DebRoy, from whom he took Calculus III this semester. For the project he helped create an ordinary differential equation model and find its equilibria using Mathematica. [**See 11 April 2008** for our last student SEARCH winner, Whitney Berard.]

25 April 2012: Today our M.S. in Mathematics GTA Todd Whitaker was awarded a **2011-2012 Graduate Teaching Assistant Superior Teaching Award** at the School of Graduate Studies 23rd Annual Awards Celebration. His is one of just three such awards given in the College of Arts and Sciences. Congratulations, Todd! [Four times before, our pre-

vious GTAs, on 27 April 2011 **Cam Buie**, on 19 April 2010 **Julie McKeague**, on 22 April 2008 **Samantha Reynolds**, and on 4 May 2006 **Breanne Volkerding** also won the same award.]

2 May 2012: we learn today that undergraduate mathematics major **Jesse Hamer** is the **winner** of the ninth annual 2012 HOMSIGMAA (History of Mathematics Special Interest Group of the Mathematical Association of America) contest for expository papers written in History of Mathematics courses across the country! Congratulations, Jesse! His paper will be posted on both the HOMSIGMAA web site, and the Convergence web site. [In 2011 we had the winner and one runner up, in 2010 we had three UMKC finalists and one first place winner, in 2008 we had one finalist, in 2006 we had three finalists and one first place winner, and in both 2005 and 2004, we won (or co-won) first place.] Jesse's winning paper is titled "**Indivisibles and the Cycloid in the Early 17th Century**." Jesse will receive an MAA student membership

and some MAA books provided by HOMSIGMAA, a complimentary CSHPM (Canadian Society for the History and Philosophy of Mathematics) membership, and books donated by Johns Hopkins University Press. Jesse's paper was written this Spring 2012 for Math 464 WI (History of Mathematics, Writing Intensive).

4 May 2012: Five undergraduate mathematics majors, **Eric Bowman, Kris Everson, Alex Karanevich, Dustin Nicolaisen, and Jon Ross**, all graduate with the distinction of Departmental Honors. Congratulations all!

May 2012: Two students were inducted into Mu Sigma Rho, the National Statistics Honorary Society: **Dustin Nicolaisen** and **Paul Plummer**, each of whom was given a certificate and a pin of the honor society, as well as a one year student membership in the **American Statistical Association (ASA)**, paid by the Kansas-Western Missouri Chapter of the ASA.

24 July 2012: We hear the good news that undergraduate mathematics major **Jon Ross** will have his expository paper "**Berkeley Contra the 'Infidel Mathematicians'**" published in the UMKC Fall 2012 Sosland Journal. The paper was written during Spring 2012 for Math 464 WI (History of Mathematics, Writing Intensive).

30 August 2012: We hold a **Department Welcome Picnic** recruiting/retention event on the Quad (between Scofield and Manheim Halls), with sandwiches, from 12:30-2:00 pm, for all our undergraduate and graduate mathematics students, as well as our faculty, and staff. See Photos and Flyer.

November 2012: Interdisciplinary Ph.D candidate, **Paul Plummer**, has successfully defended his dissertation entitled "**Detecting Change Points in a Compound Poisson Process**". Congratulations, Dr. Paul Plummer! Paul's primary discipline is Mathematics (with emphasis in Statistics) and his co-discipline is Economics. Paul's doctoral dissertation advisor is Dr. Jie Chen, and his committee members are Drs. Yong Zeng and Hristo Voulov from the Department of Mathematics and Statistics, and **Drs. Karen Vorst and James Sturgeon** from the Department of Economics. Paul's doctoral degree will be conferred in the Commencement of December 2012.

7 December 2012: Today we presented our first **Departmental GTA Excellence in Teaching Award** to GTA Ashley Walker. The award includes a $100 stipend, and we will be presenting such an award each December going forward.

April 2013: Three students were inducted into Mu Sigma Rho, the National Statistics Honorary Society: Natalya Malakhova, Brent Wilson and Jingyi Yan, each of whom was given a certificate and a pin of the honor society, as well as a one year student

membership in the American Statistical Association (ASA), paid by the Kansas-Western Missouri Chapter of the ASA.

29 May 2013: Mathematics major **Jesse Hamer** graduates with the distinction of Departmental Honors. Congratulations, Jesse!

June 2013: Brent Wilson, MS (Fall 2012) and current IPh.D student was accepted with full financial support and will attend Princeton RTG (Research Training Group) Summer School in Financial Mathematics, June 17 – 28, 2013, with funding from NSF.

June 2013: Jing Zhang, current IPh.D student has been accepted with financial local support and attended **The Hyman P. Minsky Summer Seminar, June 14 – 22, 2013, organized by the Levy Economics Institute of Bard College with support from the Ford Foundation.**

19 August 2013: We hear the good news that the Honors Undergraduate Journal Lucerna has accepted for publication in the Fall 2013 Volume, both an expository mathematics paper written by Mathematics major **Anna Riffe** titled **"The Impossible Proof: An Analysis of Adrien-Marie Legendre's Attempts to Prove Euclid's Fifth Postulate"**, and a second expository paper written by **Neiloy Medhi** titled: **"A Meta Analysis of Polls from the 2012 Presidential Election"**. Congratulations Anna and Neiloy! Anna's paper was written during Spring 2013 for Math 464 WI (History of Mathematics, Writing Intensive), while Neiloy's paper was written in Spring 2013 for an Independent Study course with Dr. Zeng.
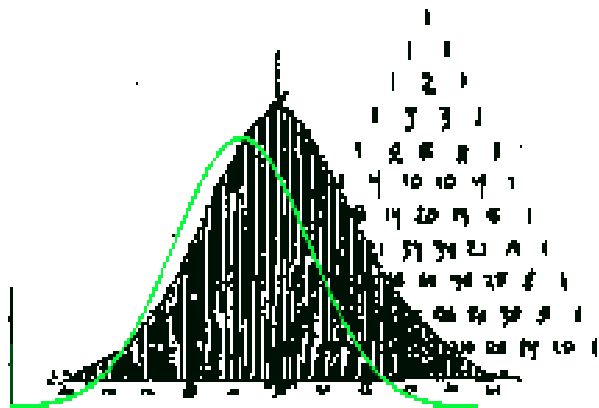
19 August 2013: We hear the good news that undergraduate mathematics major **Jenna Miller** has won the **Advanced Category Essay prize** in the UMKC Ilus W. Davis Writing Competition, and her expository paper **"Casting Light on the Statistical Life of Florence Nightingale"** will be published in the UMKC Fall 2013 Sosland Journal. The paper was written during Spring 2013 for Math 464 WI (History of Mathematics, Writing Intensive).

19 December 2013: We hear the good news that *Number One Magazine* has selected the poems **"The Sixth Pillar," "What Flies Know"** and **"Dying in Kansas"** by undergraduate mathematics major **David Betzer** for publication in Volume 65--2013-14. Congratulations David! Research Board) research grant.

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Editor: Selections from the
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Visit our Website at http://cas.umkc.edu/Mathematics

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We encourage you to register as a member of the **UMKC Alumni Association**. Just go to the UMKC alumni website www.umkcalumni.com , click on the tab at the top of screen called "MY PROFILE/LOGON", and follow the instructions.

If you would like to donate to UMKC, please visit the **UMKC Foundation** web pages at http://www.umkc.edu/umkc-foundation/ , where you will find links to Gift Planning, the Alumni Fund, creating a scholarship, and so on. **Our department is one of the few with no department scholarships for our undergraduate majors, and you might be the first to initiate one.**

Send Us Your News!

We're always happy to hear from you. Send a paragraph or two and let us know what you have been up to. Pictures are welcome.
Please include your name, mailing address, and email address so we can contact you.

Send to: Richard Delaware at delawarer@umkc.edu

or

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