L'Augarithms

vol. 24.01 See us in color. Visit us at <augsburg.edu/math/> September 8—15, 2010

Mathematics Colloquium Fall Lineup

Colloquia are held Wednesdays 3:40—4:40 in Oren 113. Refreshments will be served.

Sep. →	8	Annual Meet and Greet of the Mathematics Dept.[1]
	15	Misha Shvartsman, University of St. Thomas[2]
	29	Yoichiro Mori, University of Minnesota
Oct.	20	Christopher Poletto, Medtronic, Inc.
Nov.	3	Matt Richey, St. Olaf College
	17	Travis Schauer, Boston Scientific
Dec.	1	TBA

[1]This week: the Annual Meet and Greet...

In the first colloquium of the year, you get to know us (the faculty) a little better. We will introduce ourselves and tell you something about what we do outside of the classroom. We'll have high quality goodies and drinks. In alphabetical order, we are:

1. Pavel Bělík—Mathematical Modeling and Numerical Analysis
2. Tracy Bibelnieks—Operations Research and Mathematics Education
3. Su Dorée—Algebra and Graph Theory
4. Rich Flint—Mathematics Education
5. Matt Haines—Voting Theory and Mathematics Education
6. Ken Kaminsky—Statistics and Actuarial Science
7. Katy Micek—Mathematical Models and Numerical Methods
8. Jody Sorensen—Dynamical Systems (on leave, fall 2010)
9. John Zobitz—Mathematical Biology

See you at 3:40 p.m. on Wednesday, September 8 in Oren Gateway 113.

[2]Next Week's colloquium...

Delay in Modeling Spiking Neurons

Misha Shvartsman, University of St. Thomas

I will talk about a project with a group of undergraduate students at the University of St. Thomas this year. This work is a part of a big research initiative called Computational Science Training for Undergraduates in the Mathematical Sciences, or CSUMS for short. Both University of St Thomas and Augsburg College are participants in this training program.

Spiking neurons is one of the active research topics in modern neuroscience. I will discuss how mathematicians approach questions about neurons through study of action potential and how different modes of delay affect interaction between neurons and its network. The only prerequisite for a talk is one course in calculus.

Problem of the week...

The "Problem of the Summer," from way back in April (vol. 23.11), was solved by **JZ**.

Here is a new POTW: The nine faculty names in the list below left were intentionally put in alphabetical order. Suppose that instead, the same names had been put in random order.

a) What is the probability that the names would actually wind up in (ascending) alphabetical order?

b) What is the probability that *at least one* of the names would wind up in the right place on the list (eg, 5. Haines)?

c) Bonus question. As the number of names on the list grows without bound, what is the limiting value of the probability found in *b*)?

Puzzle of the week...

The "Puzzle of the Summer," from April (vol. 23.11) was solved by **Allison Martha Zank**.

	7	10		
	2			17

Place the numbers 1 through 20 in the grid at left so that they form a continuous chain, starting with 1. You must get to 2 by going left, right, up, or down—but never diagonally—and so on, up to 20. Leave the four numbers already in the grid where they are.

Submit puzzle & problem solutions to kaminsky @augsburg.edu, or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

L'Augarithms
The approximately bi-weekly newsletter of the Department of Mathematics at Augsburg College
Editor.....Kenneth Kaminsky
<kaminsky@augsburg.edu>

Best Church Bulletin Humor...

According to articles on the internet, the announcement below (and those in this section in subsequent issues of *L'Augarithms*), actually appeared in church bulletins, or were announced at church services:

The sermon this morning: "Jesus Walks on the Water." The sermon tonight: "Searching for Jesus."

School Humor ...

The following genuine Q & A came to us under the heading: "How to fail a test with dignity. More to come:"

Q: Name six animals which are found specifically in the Arctic.

A: Two polar bears ~~Three~~ four Seals

Our Summer Activities

Pavel Bělík
Pavel worked on a research project with Mitchell Luskin, a collaborator from the U. of Minn., and submitted a paper for publication. Worked with student, Chue Xue Lee, on a research project partially sponsored by 3M. Attended the Society for Industrial and Applied Mathematics Annual Meeting in Pittsburgh, PA, where students from a CSUMS group that Pavel co-advised presented their results.

Tracy Bibelnieks
In July, Tracy hosted the MN High School State Mathematics League Coaches Conference at Augsburg. The Conference brought over 60 high school teachers from around the State together to work with Richard Rusczyk, the Art of Problem Solving guru, on discrete mathematics and problem solving for mathematically talented youth.

Beyond Math League, Tracy co-taught a professional development workshop for middle school teachers of mathematics from the St. Cloud and Elk River school districts with Matt Haines and Linda Stevens (mathematics education).

When not attending to professional mathematics activities, Tracy's time was filled with kayaking rivers of northern Wisconsin, camping, biking, and hiking with her family along with tending to their donkeys, goat, dogs and cat at their farm in Wisconsin.

Su Dorée
In May, Su traveled to Tromsø, Norway to meet with professors at the University there to discuss possible exchanges in mathematics and science. She also toured from Bergen to Olso. In August, Su traveled to a slightly less-exotic locale -- Pittsburgh, PA -- for this year's MathFest conference where she served on a panel for Project NExT faculty and attended various talks and committee meetings.

Matt Haines
In July, Matt Haines along with Tracy Bibelnieks (Mathematics) and Linda Stevens (Education) traveled to St. Cloud to work with 20 middle school mathematics teachers for a week-long exploration of Functions and Modeling as part of a Department of Education Mathematics and Science Teacher Partnership grant.

Ken Kaminsky
Ken got the second edition of his Financial Literacy book off to the publisher. He and Amy visited their son and daughter-in-law on Palau. While there, they swam in Jellyfish Lake, dove Blue Corner, German Channel, Big Drop, and New Drop. Ken played table tennis with Palau's national team (which is coached by his son).

Katy Micek
In July, Katy successfully defended her thesis in applied mathematics, "Volume Transitions in Gels with Biomedical Applications: Mechanics and Electrodiffusion." She subsequently spent August relaxing and preparing for her first semester teaching here at Augsburg.

John Zobitz
John Zobitz spent the summer working with 5 students: Jeremy Anthony, Jazmine Darden, Nicholas Hudson, Nghiep Huynh, and Nana Owusu, all of whom worked on projects focused on environmental mathematics. One of the highlights of the summer was bringing these students to Mathfest in Pittsburgh, where they proudly represented Augsburg in Math Jeopardy and in presenting their research. Read about their experiences on the websites for the college and the math department. John also traveled to Colorado in July, where he had the unique opportunity to see snowplows used after a mountain hailstorm, and spent a relaxing June weekend canoeing in the Boundary Waters with his brother. Follow us on twitter: http://twitter.com/augsburgmath.