L'Augarithms

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. |
	15	Misha Shvartsman, University of St. Thomas
→	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

†This Week's Speaker:

Yoichiro Mori—University of Minnesota
Mathematical Biology—a personal view

Mathematics is playing an ever increasing role in biology. I will talk about the challenges in applying mathematics to biology, drawing on examples mainly from electrophysiology. I would also like to talk about some of my own research efforts.
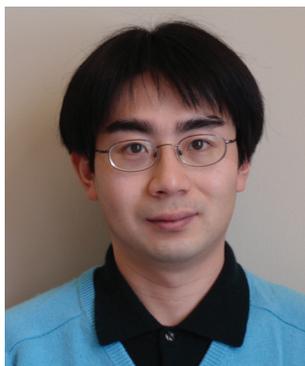
Come enjoy the talk, the company, and the superior refreshments.

Best School Humor ...

This came to us under the heading: "How to fail a test with dignity."


Problem of the week...

The POTW from volume 24.01 had but one solver: **Hans 'Tiny' Knekmek**.

Here is a new POTW: A diagonal in a convex polygon is a line joining two non-adjacent vertices. Take an n-sided polygon and draw all possible diagonals. Suppose that no three diagonals ever intersect at a common point. How many crossings are there in the interior of the polygon? Below is a sketch of the situation for a pentagon and a hexagon where the number of crossings, c, is five and fifteen, respectively.
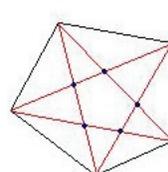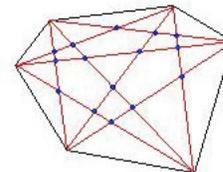
$n = 5, c = 5$　　　$n = 6, c = 15$

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Puzzle of the week...

There were several solvers to the PZOTW from volume 24.10: **Tom Lopez**, **Nate Fitzgerald**, **Allison Martha Zank**, and **Stu Stoller**, and **Hans 'Tiny' Knekmek**. Here's a new one: If the height of the diagram below is 8 units, and the length is 15 units, how far is it around the entire diagram?

8

15
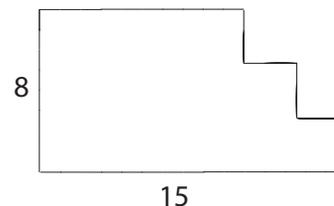
Submit puzzle & problem solutions to kaminsky @augsburg.edu, or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

David Harold Blackwell (1919–2010)
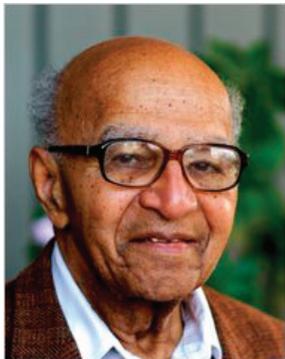
David Harold Blackwell, a statistician and mathematician who wrote groundbreaking papers on probability and game theory, and was the first black scholar to be admitted to the *National Academy of Sciences*, died July 8, 2010 in Berkeley, California at the age of 91.

Born April 24, 1919 in Centralia, Illinois, Blackwell earned his PhD at the age of 22, at the University of Illinois under Joseph Doob. His dissertation dealt with Markov chains and was sufficiently noteworthy that he received the distinguished Rosenwald Postdoctoral Fellowship to continue his research at the Institute for Advanced Study in Princeton. The custom at the time was for Fellows at the Institute to be honorary faculty at Princeton University. However, Princeton had never had an African-American faculty member and the possibility met with considerable prejudice and opposition.

During his time at the Institute, Blackwell sought a permanent academic position. He interviewed at the University of California in Berkeley, where his application was strongly supported by the statistician Jerzy Neyman, but prejudice once again intervened and he was not offered a post. After brief positions at two historically black colleges, Blackwell was appointed as an instructor at Howard University in 1944 and four years later was appointed to full professor and head of the mathematics department. In 1954 Blackwell left Howard for an appointment at Berkeley where he became chair of the Department of Statistics in 1956. He remained at Berkeley for the rest of his career.

While at Howard, Blackwell became interested in the theory of games and, in 1954, published *Theory of Games and Statistical Decisions* with Meyer A. Girschick. The "duelist game" became one of his particular interests. During the Cold War this game had enormous implications for nuclear strategies and Blackwell became a leading expert on the topic.

David Blackwell held high offices in the *American Statistical Association*, the *American Mathematical Society* and the *International Statistical Institute*. He received the John von Neuman prize for his work on Operations Research and the R.A. Fisher prize for his contributions to statistical theory.

For the full article, visit <www.nytimes.com/2010/07/17/education/17blackwell.html>.

Alum Update: Kevin Sanft ('02)

Kevin graduated from Augsburg in 2002 with a double major in math and computer science. After working for a few years, he decided to go to graduate school and in 2006 enrolled in the PhD program in computer science at the University of California, Santa Barbara. His research is in the broad areas of computational biology and systems biology. It involves a combination of applied mathematics, computer science, and biochemistry. Mathematical modeling and analysis is essential for understanding biological processes. A good model allows scientists to study "what-if" scenarios through computer simulation without the costs of conducting physical experiments. For example, pharmaceutical companies use models of human metabolism to predict the efficacy of new drug treatments for type-2 diabetes (I worked on a research project that was funded by Pfizer for a while).

For more on this story, visit <augsburg.edu/home/math/>

Kevin Sanft ('02)

Best Church Bulletin Humor...

According to an article 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:

Weight Watchers will meet at 7 PM at the St. Martin's Church. Please use large double door at the side entrance.