

Augarithms



vol. 21.03

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October 24, 2007

Mathematics Colloquium Fall Lineup

Colloquia are typically held Wednesdays 3:40—4:40 in Oren 114. Refreshments are always provided.

Sep.	19	Getting acquainted
Sep.	26	Kenneth Kaminsky, Augsburg College
Oct.	10	John Zobitz, Augsburg College
Oct.→	24	James Hodges, University of Minnesota ¹
Nov.	7	Fred Hulting, General Mills
Nov.	28	TBA
Dec.	5	TBA

¹This week's speaker—

James Hodges, Associate Professor, Biostatistics
Life in biostatistics: Can Pre-Term birth be reduced by treating periodontal disease?



Pregnant women in the US who have a high risk of delivering their babies prematurely also tend to have unusually extensive and severe periodontal (gum) disease for their age group. If you treat their periodontal disease, does this reduce their chance of deliv-

ering prematurely? This isn't as odd as it may sound; there's a growing body of research linking peripheral infections like periodontal disease or chlamydia to systemic conditions like heart disease, diabetes, and pre-term delivery, though it's still unclear whether the peripheral infections actually cause the systemic effects with which they're associated.

A group headed by Dr. Bryan Michalowicz of the U of MN Dental School conducted a multi-center clinical trial to test whether treating periodontal disease in high-risk pregnant women reduces the frequency or severity of pre-term birth. I ran the Data and Coordinating Center for the study. We published our main results in last November's New England Journal of Medicine; this talk covers those results. I'll also try to give a sense of what life is like for a biostatistician in this kind of role.

Problem of the week...

Michael Janas solved the POTW of v21.02. (.8390 and .99947).

Here's the new POTW: Given a standard deck of playing cards, what is the fewest number of cards you would have to draw in order to be certain that you have three of a kind, that is, three twos, or three kings, etc?

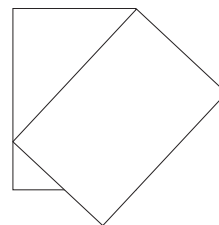
What is the fewest number of cards you would have to draw in order for you to have a 50% chance of having three of a kind?

Reprinted with permission from Bradley U's 'potw' page <bradley.bradley.edu/~delgado/>

Puzzle of the week...

Ron Fedie submitted a seconds-late solution to the Puzzle of v21.01. **Michael Janas**, **Barb Yau**, and **Casey Ernst** submitted solutions to the puzzle of v21.02.

Two identical rectangular sheets of paper are lying one on top of the other exactly as shown in the diagram. Which of the two parts of the sheet of paper underneath is bigger?



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

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The bi-weekly newsletter of the
Department of Mathematics
at Augsburg College

Editor.....Ken Kaminsky
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Actuarial Fair at the U. of Minnesota

You are cordially invited to the Ninth Annual Actuary Club Career and Internship Fair at the University of Minnesota.

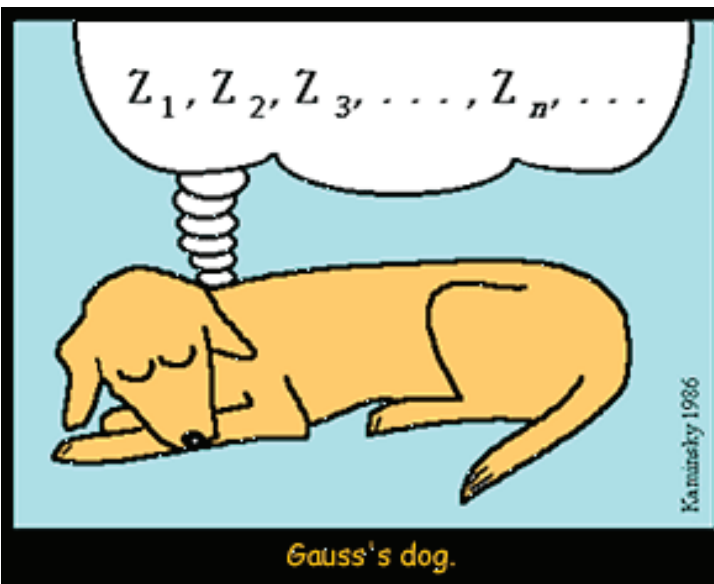
This event is a great way to create network opportunities between actuarial students and the business community. We hope to provide a mutually beneficial experience to both students and the business community. Companies from around the Twin Cities, as well as a few from out of state, will be in attendance. Companies will be searching for students attempting to fill fulltime and/or internship openings in their particular company. They also want to provide information about actuarial careers and what their company has to offer.

- Date: Wednesday, November 14, 2007
- Location: Coffman Memorial Union, Mississippi Room
- Time: 1:00 PM to 4:00 PM

Students should dress business professionally and come prepared to market their talents. Bringing several copies of your resume is strongly encouraged. The Fair is of no cost to students.

To locate Coffman Memorial Union, see the map at <http://www1.umn.edu/twincities/maps/mpls.jpg> Any questions concerning the fair can be directed to: Nathan Boots (boot0088@umn.edu) – Events Coordinator or Helen Muller (mulle179@umn.edu) – Assistant Events Coordinator. We hope to see you there!

Cartoon Corner...



Died on this day...



Born April 22, 1592 in Herrenberg (near Tübingen), **Wilhelm Schickard** was educated at the University of Tübingen. After receiving a B.A. degree in 1609 and an M.A. degree in 1611, he continued to study theology and oriental languages at Tübingen until 1613 at which

time he became a Lutheran minister at towns around Tübingen. He continued this work with the church until 1619 when he was appointed professor of Hebrew at the University of Tübingen. Schickard was a universal scientist and taught biblical languages such as Aramaic as well as Hebrew at Tübingen.

In 1631 he had rather a change of subject being appointed professor of astronomy at the University of Tübingen. His research was broad and included astronomy, mathematics and surveying. He invented many machines like one to calculate astronomical dates and one for Hebrew grammar.

He also made significant advances in mapmaking, showing how to produce maps which were far more accurate than those which were available at the time.

Long before Pascal and Leibniz, Schickard invented a calculating machine in 1623 (see the insert at right) which was used by Kepler. He wrote to Kepler suggesting a mechanical means to calculate ephemerides. Schickard corresponded with many scientists including Boulliau, Gassendi and Kepler.



Among his other skills, Schickard was renowned as an engraver both in wood and in copperplate. Schickard died of the plague either on the day given above or, possibly, one day earlier.

Wilhelm Schickard died October 24, 1635 in Tübingen, Württemberg (now Germany)

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