

Goodsell Gazette

Carleton College
Northfield MN 55057

The newsletter for the Carleton mathematics and statistics community

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Showcase Your Research!

The Carleton Chapter of Sigma Xi and the Carleton Interdisciplinary Science and Math Initiative (CISMI) would like to invite students to present their research for the Annual All Science and Math Poster Session. The event will be held on Friday, October 23 from 3:45 to 5:15 in the Hulings Atrium. Visit the CISMI homepage to register and contact Mary Drew with any questions.

Putnam Registration Time is here!

The registration forms for this year's William Lowell Putnam Mathematical Competition have arrived. As many of you know, the "Putnam" is a challenging exam focusing on mathematical insight and ingenuity; typically several thousand undergraduates across the United States and Canada participate, and the median score is usually less than 10 out of a possible 120. Whether you've taken the exam before, or are considering taking it for the first time, you'll probably enjoy getting experience with past Putnam problems at our weekly problem-solving group, which meets every week on Wednesday, from 4:30 pm to 6 pm in CMC 328.

This year the Putnam will be held on Saturday, December 5. That's during our winter break, but we'll gladly make arrangements for you to take the Putnam at another college or university. If you'd like to sign up, contact Eric Egge in person or via email. If you'd like more information, see the bulletin board outside Math Skills, where a brochure is posted, or talk to Eric. Don't delay; although the Putnam is still more than two months away, we have to submit a participant list soon, so your deadline for signing up is Monday, October 5.

Minnesota Biostatistics Graduate Program Open House

The University of Minnesota Biostatistics Department is hosting an open house on Friday, October 9 from 10 am to 2 pm, to showcase their graduate program. You can learn about the MS, MPH and PhD programs, the research done in the department, job prospects and financial aid information. For more information, visit <http://www.biostat.umn.edu/openhouse.html>. An RSVP is required.

Hiring Research Analysts

The Brattle Group, an economic consulting firm which provides litigation support, expert testimony and advisory services, is hiring Research Analysts. Research Analysts must have a background in economics, math, finance, or engineering. After working in the team environment at Brattle Group for one year, a Research Analyst will have learned to conduct basic research and will strengthen his or her aptitude with data analysis and management tools. To learn more about this opportunity, please attend the information session on Thursday, October 8 at 7 pm in Leighton 304.

Volunteer Tutoring in Northfield

Mathematics tutors are in high demand! Math students are needed for one-on-one tutoring in the local public schools. Carleton students will be paired with a tutee for weekly sessions. No tutoring experience necessary. Please contact Martta Sareva if you are interested in volunteering with ACT!

The Information Revolution

Thomas Finholt, the Associate Dean of Research at the School of Information at the University of Michigan, will be on campus next Tuesday, the 29th, to provide information regarding the school's doctoral program. Interested students are welcome to schedule a one-on-one meeting with Tom, and a table will be set up at Sayles-Hill until 2 pm for further information. All are welcome to attend Tom's talk titled "Understanding the information revolution: Research on the socio-technical bases of how we work, live and play in the network society." The talk will take place from 5-6 pm in the Athenaeum.

Math at St. Olaf

Noted mathematical historian Bill Dunham will be speaking **today** at Regents Hall at St. Olaf. His first talk, "Euler in Two Acts" is at 3:15 and should be accessible to anyone who has completed the calculus sequence. At 7 pm, Dunham presents again, this time to a general audience, on "Newton and Leibniz: Mathematicians at war."

Be Social (in the CMC)

Like Math? Like being Social? Social Math Majors is a group that meets once a week to play board games in the CMC. If you're interested, stop by CMC 328 9:30 pm on Wednesdays.

PROBLEMS OF THE WEEK

1. A circle of radius 5 is tangent to a line \mathcal{L}_1 . A circle of radius 4 is tangent to the first circle and \mathcal{L}_1 . A third circle, this time with radius 3, is tangent to the previous two circles. A second line \mathcal{L}_2 is tangent to the third circle and parallel to \mathcal{L}_1 . How far apart are the two lines, \mathcal{L}_1 and \mathcal{L}_2 ?

2. A domino consists of two 1 by 1 square tiles glued together to make a 1 by 2 rectangle. Variations are called polyominoes. In particular, a monomino is a 1 by 1 square tile, while a straight tromino consists of three 1 by 1 squares glued together in a straight line (which forms a 1 by 3 rectangle or a 3 by 1 rectangle, depending on which direction the tromino is placed). You have a standard 8 by 8 chessboard, 1 monomino, and 21 straight trominoes. Your challenge is to see if it is possible to completely cover the chessboard with these polyominoes. Does it matter where the monomino is placed? Find, with proof, all squares on the chessboard that can be covered by the monomino and still admit a tiling by the trominoes, or show no such tiling exists. (Note: the trominoes do not have to all go in the same direction.)

Congratulations to Li Shunji for correctly solving the problems posed last week. Correct solutions to the second problem came from Li Shunji and "The Cheshire Cat." Li Shunji should stop by CMC 217 to collect a prize from the B.B.O.P. You, too, might be able to visit the B.B.O.P. if you correctly solve one or both of the above problems. To be mentioned in next week's *Gazette* you have until Tuesday night to turn in a solution.

Gail Nelson

Editors:	Deanna Haunsperger Kristy Spiak
Problems of the Week:	Gail Nelson
Subscriptions & Web:	Sue Jandro