

Goodσελλ Gazette

Carleton College
Northfield MN 55057

The newsletter for the Carleton mathematics and statistics community

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Welcome Back Ice Cream!

We celebrate the beginning of classes and the return of students (and the arrival of new folks) with an ice cream social **Today at 4:00 p.m.** outside the CMC. Are you taking a mathematics course this fall? We look forward to seeing you there.

New fall, New faces

We are thrilled to welcome some new faces to the Math Department this year— Helen Wong and Jon Armel are joining us this fall, and Jon Hibbard will be joining our department starting in winter term. Welcome back also to Ted Vessey. Look for interviews of our new folks coming soon.

Nothing to be Saari about

This week at the Institute for Mathematics and its Applications (the IMA) at the University of Minnesota, is Donald G. Saari, a member of the National Academy of Sciences and Distinguished Professor of Mathematics and Economics at the University of California-Irvine. He will be giving a talk **Tuesday, September 22 at 7 p.m.** at the U titled: “Chaotic elections: why don’t we elect whom voters really want?” He’s a dynamic speaker and the talk promises to be quite enjoyable. If any students would like to go, they should talk to Deanna or Steve.

What could be more fun?

GRE subject tests will be administered on campus **October 10** and **November 7**. Students can register through www.gre.org. This fall Steve Kennedy and Jon Armel will run review sessions; contact them with questions.

All Your Problems Solved?

Are you interested in challenging math problems that are more about insight and ingenuity than extensive knowledge or computational skill? If so, then you should join the weekly problem solving group. The group meets every Wednesday from 4:30 pm to 6 pm in CMC 328, and you are welcome to attend part or all of as many meetings as you like. This term we’re concentrating on “preparing” for the Putnam Competition (December 5) and for the team contest organized by the North Central Section of the MAA (November 14), though we will also occasionally try to solve problems from various math journals. Details of both contests will be in future *Gazettes*. Any questions? See Eric Egge.

Undergraduate Research Symposium

The 7th annual Seven Rivers Undergraduate Research Symposium at Viterbo University in La Crosse, Wisconsin will be held **November 6, 2009**. The symposium will highlight research accomplishments of undergraduate students. If you completed research on or off campus, you are encouraged to participate, and if you haven’t, you’re encouraged to attend. There is no fee for registration or presentation. The registration deadline is **October 23rd**.

For info see <http://www.viterbo.edu/sevenrivers/>

Art from Math, Math As Art

A math and art exhibition is open September 18–October 23 at the Flaten Art Museum, Dittmann Center, at St. Olaf. The opening reception is **Tonight 6:30–8:30 p.m.** Featured artists include Dick Termes (who visited Carleton a couple of years ago) and Sharol Nau (wife of Professor Emeritus Rich Nau), among others.

National Science Foundation Graduate Research Fellowships

The National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) is one of the most prestigious science and engineering fellowship programs in the United States. Since 1952, NSF has funded more than 42,000 GRFs. President Obama has vowed to triple the number of awards in this program, from about 1,000 per year to 3,000 per year by 2012. Awardees in the early stages of their graduate career are provided three years of graduate school support. Fellows receive a \$30,000 annual stipend, a \$10,500 annual cost of education allowance, and more. The deadline is **November 4th** for Mathematical Sciences. For more information concerning benefits, eligibility, and tips on applying, applicants are encouraged to visit www.nsf.gov/grfp.

Do I Hear "Road Trip"?

The Statistical and Applied Mathematical Sciences Institute will offer a two-day undergraduate workshop (**October 30-31** in Research Triangle Park, NC) on topics of current interest in statistics and applied mathematics, in particular the program topic Space-Time Analysis for Environmental Mapping, Epidemiology and Climate Change. Applications received by September 25 will receive full consideration.

For more information see:
<http://www.samsi.info/workshops/2009ug-workshop200910.shtml>

PROBLEMS OF THE WEEK

Welcome to Carleton, or welcome back, whichever the case may be! Each week you can expect to find two problems posed in this column. Eventually, solutions to these problems will be posted in the CMC in the hallway outside CMC 218. Before the solutions appear, however, you are encouraged to submit your own solutions. This can be done by putting them in my mailbox or by sending them to me either through campus mail or as an e-mail attachment. When a prob-

lem is solved (before my solution is posted, naturally), at least one of the solvers will be given the choice of a C-shaped wooden "Carleton block" (designed and produced by Loren Larson a few years back and can be used for various puzzles), or an item from the Big Box of Prizes. The blocks and BBOP can be found in the department office, CMC 217. All correct solutions will be acknowledged in this space, but they need to reach me by Tuesday night in order to be credited that Friday.

Those returning will notice that your usual problem poser is on sabbatical this fall. I am going to attempt to fill the shoes left vacant by the absence of Mark Krusemeyer, but they are awfully big ones to fill. In other words, I make no promises about the level of difficulty or elegance of the problems posed in this column, but I do hope you find them entertaining. Some of the problems will be original; others will be adapted or quoted from various sources. In the latter case I will include the source of the problem with the posted solution. Now for your first challenges:

1. Prove that, for any positive integer n ,

$$2541^n - 91^n - 450^n + 9^n$$
is divisible by 2009 .
2. Suppose a target is in the shape of an equilateral triangle. What is the probability that a dart, hitting the target at random, lands nearer to the center than an edge?

Have fun!

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