



ΓΟΟΔΣΕΛΛ ΓΑΖΕΤΤΕ

Carleton College

Northfield, MN 55057

The newsletter for the Carleton mathematics and statistics community

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A note from the editor

It seems spring has finally returned to campus, and with it the flow of events and announcements has relaxed as well. With just a single date to add to your calendar, and just a couple of job applications for your to-do list, let us recommend that you take a breath and enjoy a moment of stillness as we approach the busy end of the quarter. Once the storms this weekend clear up, perhaps take a walk in the Arb, or attempt the latest edition of the Problems of the Fortnight on a rocking chair by the bald spot. Rain or shine, we hope to see you at the department picnic in week 10! Also note that the rain location for the picnic will be the 2nd floor of the CMC and the final round of the Bananagrams tournament will take place there too!

Upcoming Events

Week 9, Tuesday, May 28, 5:30pm

Senior Banquet

Week 10, Tuesday, June 4, 12:00 - 1:00pm

Math and Stats Department Picnic - CMC/Boliou Patio

Job & Internship Opportunities

MacMunnis, Analyst

A leader in the field of lease/contract administration and software, MacMunnis is seeking individuals who are self-motivated, organized and interested in the analytical lease administration position in its Evanston, IL corporate headquarters. Candidates will be learn all aspects of lease/contract abstracting and rent payment processing to the Fortune 1000 and Commercial Real Estate Service professionals. The position is available immediately, so students interested should apply right away. For more information and to apply, visit: [The Tunnel](#).

Ancilia, Bioinformatics Research Intern

Ancilia is an early stage biotech start-up developing new ways to manipulate the microbiome to treat human diseases. They are looking for a summer intern who can conduct bioinformatic analyses on

metagenomic datasets from the human microbiome, and assist with designing the overall scientific strategy for the company. The company is based in NYC. For more information and to apply, visit: The Tunnel.

Problems of the Fortnight

To be acknowledged in the next *Gazette*, solutions to these problems should reach me by noon on Tuesday, May 28.

1. Let I_1 and I_2 be the following definite integrals:

$$I_1 = \int_0^\pi \sqrt{1 + \cos^2 x} \, dx, \quad I_2 = \int_0^1 \sqrt{\frac{2-x^2}{1-x^2}} \, dx.$$

Evaluate $\frac{I_1}{I_1 + I_2}$. (No technology is needed.)

2. Find the largest possible area inside an ellipse, if the ellipse must fit inside a (right) triangle of side lengths 5, 12, and 13. (You may not be prepared to give a rigorous proof, but you should explain why your answer is plausible.)

Both problems posed May 3 were solved by Aaron Li, who should collect a B.B.O.P. item; the first problem was also solved by John Snyder. Has the weather been too nice for more problem solving? If so, maybe the weekend will bring inspiration as well as the expected showers and/or thunderstorms. Stay dry, and good luck on the new problems!

- Mark Krusemeyer



Editors: **Saahithi Rao, Owen Biesel**
Problems of the Fortnight: **Mark Krusemeyer**
Web & Subscriptions: **Sue Jandro**

