Mathematics Colloquium

On Tuesday, February 4, Jonathan Lubin will be speaking at 4:00 p.m. in CMC 206.

The Cantor Set

The Cantor Set is an excellent source of examples and counterexamples in mathematics. Therefore, it is an important tool in every mathematician’s kit. It also provides a very easily described, convincing, and explicit construction of a space-filling curve, that is, a continuous map of the unit interval onto the unit square. Another surprising result is that if \( C \) is the Cantor set, then \( C + C \) is the closed interval \([0,2]\). In other words, every positive number less than 2 is the sum of two Cantor numbers.

About the Speaker

Jonathan Lubin started his teaching career at Bowdoin College, and after four years moved to Brown University, where he was Professor of Mathematics until 1999. He also spent a year at the Institute for Advanced Study, and took one-year visiting positions at the University of Paris and Copenhagen University, and a two-year appointment as Program Officer in the Division of Mathematical Sciences at the National Science Foundation. He is now retired, living in St. Paul.

Next Stop on the Tour

This week the tour delves into the realm of politics, where Andrew Gainer-Dewar will speak on "Mathematics and Democracy." As always, the talk is at 3:30 p.m. in CMC 206.

Summer Statistical Consulting Opportunity

Are you interested in using your statistical skills to tackle real-world problems? Professor Katie St. Clair is looking for multiple students to work on statistical consulting projects brought to her by local community members. Students will get to work on a variety of projects, hone their R skills and maybe even learn some new statistical methods. This job will start after graduation and run for 8 weeks. Prerequisites: Math 245 and Math 275. Stop by Katie St. Clair’s office for an application. The deadline is February 21.

Summer Institutes for Training in Biostatistics

The Summer Institute for Training in Biostatistics (SIBS) is designed to introduce undergraduate students to biostatistics. In this program, students learn about the applications of statistical methods in biomedical research through coursework and hands-on experience working with real data collected in major clinical studies. SIBS is offered at eight sites, one of which is University of Minnesota-Twin Cities. For more information, please visit: www.nhlbi.nih.gov/funding/training/redbook/sibsweb.htm.
PIMS Undergraduate Workshop on Supersymmetry

The PIMS Undergraduate Workshop on Supersymmetry will be held at the Pacific Institute for the Mathematical Sciences at the University of British Columbia in Vancouver, Canada, on May 25-31. The PIMS workshop is a weeklong program for undergraduates. It will combine lectures introducing research problems in math and physics with problem-solving sessions and opportunities for career development. Travel funding is available for US and Canadian citizens and permanent residents. For more information, please visit: http://people.uwec.edu/whitchua/supersymmetry/.

Brown University Symposium

The Brown University Symposium for Undergraduates in the Mathematical Sciences (SUMS) will be held this year on April 5 in Brown University’s MacMillan Hall. This year, the featured speakers are professors Thomas Banchoff, Kelly Delp, Sara Koch, and David Mumford. For more info, visit: sites.google.com/a/brown.edu/sums/.

Environment America Fellowship Program

Environment America is a federation of 29 state-based groups with nearly 100 professional staff and more than 1 million members, activists and allies across the country. Each year, it hires graduating seniors with the passion, commitment, and talent that it takes to stand up to polluting industries. The Fellowship Program is a two-year crash course in the nuts and bolts of environmental activism, organizing, and advocacy. The application deadline is February 16. For more information, visit jobs.environmentamerica.org or contact Michelle Hesterberg ’11 at mhesterberg@environmentamerica.org.

PROBLEM OF THE WEEK

In a certain city, there are $n$ landmarks; each pair $i, j$ of them is connected by a one-way road. Show that it is possible to drive to all the landmarks, following the directions of the one-way roads and visiting each landmark exactly once, no matter how the roads are oriented!

Acknowledgments

John Snyder in Oconomowoc submitted a Mathematica-based analysis and solution of last week’s problem, but no student submissions have been received so far. Keep working!