Chesley Lecture and Colloquium

The Math Department is thrilled to host the 2013-14 Chesley Lecturer, University of Massachusetts Lowell Professor of Mathematics James Propp, on November 11 and 12.

The 2013-14 Chesley Lecture
Wild Beauty: Postcards from Mathematical Worlds
Monday, November 11, 7:30 pm
Olin 149

Mathematics Colloquium
Quasirandom Processes
Tuesday, November 12, 4:00 pm
Olin 141

Professor James Propp is a researcher and teacher who did his doctoral work in mathematics at U.C. Berkeley, and has taught at Berkeley, Brandeis, Harvard, M.I.T., the University of Massachusetts Lowell, and the University of Wisconsin Madison. He is known for creating collaborative research groups that bring together undergraduates, graduate students, and faculty. His research is at the boundary between combinatorics, probability theory, and dynamical systems theory.

Professor Propp's research is highly visual in nature, and computer-generated imagery often plays a significant role in his projects. He is both fascinated and repelled by randomness, and the tension between determinacy and randomness plays itself out in his work in numerous ways. In addition to discovering new mathematics and teaching "old" mathematics, Professor Propp enjoys creating mathematical puzzles, one of which (his Self-Referential Aptitude Test) has been extensively circulated over the Internet over the past two decades.

Both of Professor Propp's public talks promise to be fun and exciting, so mark your calendar with the details at the left! In addition, stay tuned for other opportunities to interact with Professor Propp during his visit.

As If We Don’t Have Enough Problems Already…

The annual NCS problem-solving contest will take place this year on Saturday, November 16, from 9:00 am to noon. As in past contests, participants will work in teams of up to three on ten problems, which are usually at a wide range of difficulty levels. Our part of the contest will take place here on campus. If you are interested in participating, please let Eric Egge know who will be on your team by Thursday, November 14. If you want to participate but don’t have a team, let Eric know that too (the sooner, the better!) and he might be able to help you find others with whom you could form a team.
Introducing the New Faculty

This year, the Math Department has two new visiting professors, who were interviewed last week by our inquiring student editor.

Miles Ott received his undergraduate degree from Smith College. Though he originally planned to be a poet, he majored in math (with an applied focus) and minored in computer science. He then went to the University of Minnesota for a Masters of Public Health in Epidemiology, then to Harvard for a Masters in Biostatistics, and finally to Brown for his Doctorate in Biostatistics. He is interested in health disparities and likes how Biostatistics allows him to use statistics to help people. He also likes that as a Biostatistician, he gets to work with “really smart people” in many different disciplines, and as a result, keeps learning about new and fascinating topics. This term he is teaching Intro Stats and Probability, and he is working with a comps group. His non-math related hobbies include drawing, knitting, going for walks, playing the card game Nerts, trying new recipes, and neglecting his blog: biostatisticsryan-goslingreturns.tumblr.com. Miles also loves talking with students about statistics, biostatistics, epidemiology, public health, etc., so feel free to introduce yourself if you share those interests!

Tommy Occhipinti received his undergraduate degree from University of Maryland, Baltimore County, and his graduate degree from University of Arizona in Tucson. Before coming to Carleton, he taught at the University of California, Irvine. His area of expertise lies in number theory and geometry, particularly in the interplay between them. This term he is teaching Calculus I and Calculus II, which he says are “going great!” Non-math wise, he is a big board gamer. He and his husband own over 300 board games and have been working on designing their own game for years! He is also a big “Magic: The Gathering” player. Tommy is “incredibly excited” to be at Carleton!

PROBLEM OF THE WEEK

Consider two circles: \( C_1 \) has fixed radius 1 and is centered at the point \((1,0)\), and \( C_2 \) has variable radius \( r > 0 \) and is centered at the origin. Let \( P \) be the point \((0,r)\) (that is, the upper intersection of \( C_2 \) with the \( y \)-axis) and \( Q \) be the upper point of intersection of \( C_1 \) and \( C_2 \). The line \( PQ \) then intersects the \( x \)-axis at a point, which we label \( R \). What happens to \( R \) as \( r \) goes to 0? (A diagram will be posted on the solutions board in case this description is unclear.)

Acknowledgments

Isaac Garfinkle correctly solved the latest problem and should stop by Andrew's office for a prize from the BBOP. In addition, John Snyder in Oconomowoc provided a nice Mathematica analysis of this week's problem, and mystery mathematician "Divide and Conquer" provided a formal proof.