If It's Knot Theory, What Is It?

Check out the math exhibit, “If it’s knot theory, what is it?”, the next time you visit the penguin at Gould Library! The exhibit is put together by students in the Math 395 comps seminar on knot theory last term (Ross Jennings, Crystal Lai, Sarah Milstein, Bibek Pokharel, Ken Schiller, Rachel Schuh, Matt Sikkink Johnson, Julian Skotheim, and Nora White). The models of the knots were created using yarn, wooden sticks, aluminum wire, extension cords, Mathematica, 3D printers, paper and pencil, and lots and lots of WikkiStix. Although the exhibit is aimed at a general audience, it features lots of nontrivial mathematics. So if you have time, you're encouraged to think about how to translate the explanations into mathematically precise statements while enjoying the art!

Please join us for the opening reception for the exhibition Monday April 20th 4:20-5pm at the Gould Athenaeum!

Math Across the Cannon

On April 23rd, the annual Math Across the Cannon speaker series will take place! The event is hosted jointly by Carleton and St. Olaf, and this year’s speaker is Amie Wilkinson, from the University of Chicago. She studies ergodic theory and smooth dynamical systems and was the 2011 recipient of the American Mathematical Society Ruth Lyttle Satter Prize in Mathematics. She will give a colloquium here at Carleton in the afternoon and then a more general audience lecture at St Olaf in the evening. If you are interested in going to St Olaf and would like a ride, please let Helen Wong know as soon as possible.

"A Dynamical Way of Thinking"
3:30-4:30pm Boliou 104, Carleton College
"What are the odds?"
7-8pm Viking Theater, St. Olaf
(Note the unusual time and location)

Talk with Mary-Claire King '67

As part of an anniversary celebration of the Carleton chapter of Phi Beta Kappa, Mary-Claire King '67
Can you guess which math faculty member this is? (she was a math major at Carleton before moving into genetics!) will be visiting campus in a couple of weeks. Mary-Claire is probably best known for being the first to discover the heritability of breast cancer, and she has done a bunch of other very high-powered research on other topics too. There will be a meeting with Mary-Claire for students interested in biology from a math/stats/CS perspective during 1a on Wednesday, April 29th. If you are interested, contact David Liben-Nowell and include a few sentences about why you want to come!

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**Faculty Baby Photo Contest**

How well do you know your mathematics and statistics faculty? Check out the faculty baby photo contest and see if you can match the faculty member to his or her baby photo! The photos are at [http://people.carleton.edu/~lchihara/contest.html](http://people.carleton.edu/~lchihara/contest.html). You can also download an entry form. The deadline for entries is 3:00 on Friday, April 24th, and winners will be announced at the math majors welcome and comps announcement event on the 28th!

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**St. Olaf Game Night Challenge**

The students and faculty of the Mathematics, Statistics, and Computer Science Department of St. Olaf have challenged Carleton students and faculty to a board game night! Come have fun, meet some new people, and beat the Oles! There will be pizza, snacks, and board games galore. You can drop by any time from 7-10pm on Wednesday, April 29 in the 6th floor lounge of Regents Hall of Mathematical Sciences (RMS) at St. Olaf. If you need a ride or can offer a ride, please email Allison at ajtanguay@carleton.edu.

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**Math Majors Welcome and Comps Announcement**

Newly-declared math and math/stats majors are invited to a reception in CMC 206 from 3:00 to 3:30 on Tuesday, April 28. It's a chance to meet fellow majors, both old and new, as well as to get to know professors you might not have met yet. There will be snacks provided! For current juniors (if the promise of snacks and company wasn't enough), right afterwards from 3:30 to 5:00 the department will be announcing comps groups for the coming year!

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**Job & Summer Opportunities**

**Math Department Jobs (2015-2016 School Year)**

Need a job for next year? Apply to work in the math department! We're looking for course graders,
Mathematica or statistics lab assistants, and Math Skills Center tutors. Applications can be found at https://apps.carleton.edu/curricular/math/resources/ and are due on April 27.

Carleton College Investment Office Internship (Minneapolis, MN)
The investment office, consisting of four investment professionals, manages Carleton's endowment. The intern will have the opportunity to learn about the endowment, how it works, and how it is managed. Interns will learn the processes of asset allocation and manager selection, and will gain exposure to a wide variety of asset classes including public equity, private equity, fixed income, real assets, and hedge funds. Interns will participate in all office meetings and conference calls with fund managers, conduct analysis on the portfolio, and assist the office with administrative tasks. Apply through the Tunnel!

Ziegler CAT Programmer Analyst Internship (Minneapolis, MN)
Ziegler CAT is offering an opportunity for students to gain experience in application development. Hours worked are flexible, and both full-time summer positions and part-time positions during the academic year are available. Apply though the Tunnel!

Graduate Opportunities

STEMteach Program (UW-River Falls, WI)
UW-River Falls is launching a new post-baccalaureate program called STEMteach. It is designed to open doors to an in-demand career as a middle or high-schol science or math teacher. Admission is open to students with STEM degrees: they complete one year of coursework and intensive field experience and earn teaching licenses in their areas of specialty. Students can choose to complete additional coursework and earn a Master's of Science in Education. For more information visit go.uwrf.edu/stemteach.

Problems of the Fortnight

Problem 3:
A nonstandard 8 x 8 chessboard has its squares colored so that each row and column has 4 black squares and 4 white squares. The numbers from 1 through 64 are written on the squares of the board (in order) from left to right row by row. Show that the sum of the numbers on the white squares equals the sum of the numbers on the black squares.

Problem 4:
For which digits $a$ does there exist an integer $n \geq 4$ such that each digit of $\frac{n(n+1)}{2} = a$?

Solutions to problems of the week should be submitted to Tommy Occhipinti via mailbox. Problems will remain open until they are solved; once a problem has been solved, a solution is posted in the math department hallway on the second floor of the CMC.

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Problems of the Fortnight: Tommy Occhipinti
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