



Goodsell Gazette

Carleton College

October 2, 2020

Northfield, MN 55057

The newsletter for the Carleton mathematics and statistics community

Vol. 39, No. 02

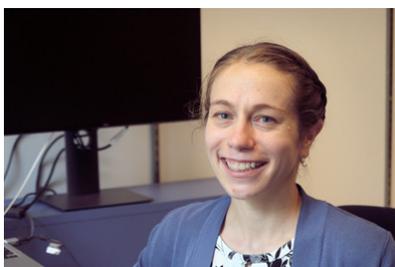


Meet Your New Professors!



Al Garver

Al grew up in Madison WI and attended Augsburg College (now Augsburg University) where he decided to major in math (a subject he claims he didn't know was possible to major in!) He participated in a summer REU at University of Georgia as well as in the Budapest Semesters in Mathematics program. He attended the University of Minnesota where he studied cluster algebras and the related combinatorics and representation theory. He met Becky Patrias ('10), a fellow combinatorialist at the UM, and the two were married at the Grand Event Center in Northfield. Both of them spent 3 years on post-docs at the University of Quebec at Montreal before moving to St. Paul this summer.



Kate Meyer ('09)

Kate is from Minneapolis and ventured far south to Carleton College to major in biology. Her slow-burning love of mathematics ultimately propelled her on a mathematical path via Smith College (a post-baccalaureate program in math), the University of Minnesota (PhD) and Cornell University (post-doc), before bringing her back to Carleton! Her research is in dynamical systems, especially with applications in environmental change: how do we model disturbances and measure resilience, and what are the consequences? Kate is excited to be back at Carleton and hopes to engage students in mathematical theory as well as applications. She will be teaching Calculus in Fall and Winter, Real Analysis in the Winter, and ODE in the spring. In her free time, she enjoys spending time outdoors; she is happy to be so close to the Arb for trail running and to the Cannon River for canoe expeditions.

Meet Your SDAs!

Abby Loe, Marcella Manivel, and Jenna Korobova are the Mathematics and Statistics SDAs (Student Departmental Advisors) this year. The SDAs serve many important roles in the department. First, they can help you navigate the math and stats majors and the math minor. Second, they organize a variety of social events and get-togethers around the department. Find out more about our SDAs below.

Abby:

Abby (she/her/hers) is a Math major and Women and Gender Studies minor. Her favorite activities on campus are playing volleyball, people watching, and of course doing math problems on the CMC chalkboards. Abby is really excited to work on making the math and stats department a more inclusive and welcoming space for everyone, whether they are a fall-term first year, or a spring term senior. Her favorite classes at Carleton have been Real Analysis and Set Theory, and her favorite jam is pepper jam.

Marcella:

Marcella (she/her) is a Math major who greatly enjoys swimming, Friday Flowers, MATH(!), and meeting new people! She is very excited to be one of the department SDA's to help foster a sense of community while we are all far apart. Feel free to reach out to her with any questions about registration, the majors/minor, Budapest Semesters in Mathematics (BSM), or just to say hi! Her favorite math classes at Carleton have been Math Structures and Galois Theory, and her favorite jam is strawberry!

Jenna:

Jenna (she/her/hers) is a Statistics major and French minor. She fell in love with statistics after taking regression freshman year, and has been hard to separate from R ever since! Jenna is excited about being an SDA so that she can foster a friendly, passionate, and silly environment, and also make the department as accessible as possible to students of all backgrounds in math/stats, and life more generally. She loves dogs, playing volleyball, and dancing in her room! Her favorite jam is apricot :)

Math/Stats Colloquium Series

The Math/Stats Colloquium Series will be held virtually Tuesday, October 6 from 4:00 pm - 5:00 pm, with an informal "tea" held before the talk at 3:30 pm where you can drop by and connect with others in the Math/Stats Department.

We are pleased to welcome Audrey Malagon, a Batten Associate Professor of Mathematics at Virginia Wesleyan University, as our second colloquium speaker. The Zoom details will be sent out via the mast-interest mailing list, so be sure to sign up!



MA Program for Statistics

Columbia University's M.A. in Statistics' has two upcoming Open Houses. Their Statistics Department offers an on campus M.A. program designed for students preparing for professional positions or for doctoral programs in statistics and other quantitative fields, as well as a Hybrid M.A. program in a partially

online format. Interested students can attend one of two sessions:

Virtual Open House - Friday, October 9 from 4:00pm-5:00pm EST via Zoom. Register [here](#).

Virtual Open House - Thursday, November 12 from 12:00pm-1:00pm EST via Zoom. Register [here](#).

If you have any questions, please check out their website at <http://stat.columbia.edu/ma-programs/>

Upcoming Events

Week 5, Virtual Event

Friday October 16, 4:00 - 6:00pm (Asynchronous through October 18)

Student Research & Internship Symposium

Symposium Information: <https://www.carleton.edu/research/symposium-2020/>

Job & Internship Opportunities

Center for RISC (Radical Innovation for Social Change) @ University of Chicago Research Analysts

RISC is seeking recent or 2021 graduates with a bachelor's degree to join our fast-growing team as analysts in fall 2021. Analysts will be responsible for conducting quantitative and qualitative research on a wide variety of social problems and working with organizational partners to pilot creative solutions. This position has a start date of August, 2021.

For more information and to apply, go to <https://risc.uchicago.edu/news/2021-analyst-application-is-now-live>

National Security Agency Summer Programs

The NSA has summer opportunities for undergraduate and graduate students majoring in mathematics or statistics. Applicants must be enrolled as full time students when the application is submitted. Due to the lengthy processing required, applications must be received by October 15th each year. To initiate your application, visit <https://www.intelligencecareers.gov/nsa/index.html>

Research Analyst, Federal Reserve Bank of New York

Research Analysts at the Federal Reserve Bank of New York play an integral role in both the policy and research functions of the Research and Statistics Group. Research Analysts work closely with economists, whose specialties include banking and payment systems, capital markets, international economics, macroeconomics, and microeconomics. Upon leaving the Fed, Research Analysts who choose to apply to graduate school are consistently accepted by top programs; others pursue a wide variety of public- and private-sector opportunities. Research Analysts usually have a strong background in economics, policy, mathematics, or computer science, though a major in one of these fields is not a necessity. Successful candidates often have previous research experience, and many are considering careers in economic research, public policy, or related fields. In addition, we seek candidates from a wide range of backgrounds, particularly those that are typically underrepresented in economics. It is important to us that we succeed in recruiting a diverse cohort of research analysts each year. Thus we encourage many students with varying experiences and backgrounds to apply. Applications are being accepted now, on a rolling basis, at https://www.newyorkfed.org/research/careers/research_analysts/index.html. It is recommended that candidates apply by October 15.

Accenture, Summer Analyst

As a Consulting Summer Analyst, you'll be helping our clients address the biggest challenges in today's digital age. Your summer analyst journey starts with a preview into the Consulting Development Program (GDP), where you will gain cross-industry experience while building a diverse set of core consulting skills, such as business analysis, process improvement and technical expertise. The program focuses on your personal and professional growth, challenging you to stretch your boundaries and achieve your greatest potential at a rate unparalleled in other entry-level roles. Through collaboration with Accenture leaders and our bright analyst community, you will deliver unique and impactful results to our clients every day. The application deadline is today! More details can be found on the Tunnel.

Blackstone Real Estate, Summer Analyst

The Summer Analyst position is open to Juniors and will work directly with the BREDS Liquids Business, which is responsible for sourcing, analyzing and executing all liquid, real estate-related debt investments on behalf of Blackstone Real Estate. As a summer analyst you will have the opportunity to participate in the investment process for a wide range of US and European real estate debt transactions, with a primary focus on CMBS and RMBS. Apply via the Tunnel by October 15. On-campus interviews will be held on Friday, Oct. 19.

Problems of the Fortnight

PROBLEMS OF THE FORTNIGHT

To be acknowledged in the next *Gazette*, solutions to the problems below should reach me (by e-mail to mkruseme@carleton.edu) by noon on Tuesday, October 13. (By the way, for multi-part problems, such as the first problem below, if you only solve one part, you're still welcome to submit that partial solution.)

1. An unlucky frog can only exist at points in the plane with integer coordinates. What's more, the frog can only get from one point to another by taking a hop (in any direction) of length exactly 13; if two points are not at distance 13 from each other, the frog can only get from one to the other by a series of such hops, and every point where it lands must have integer coordinates.
 - a) Show that the frog can actually get from any point to any other point in the plane (with integer coordinates).
 - b) Find, with proof, the least number of hops that will get the frog from $(0, 0)$ to $(1, 1)$.
2. Does there exist a differentiable function f , defined on the positive real numbers and with positive real values, which is one-to-one (and thus has an inverse function) and which is such that the inverse function of f equals the derivative of f ? If so, give an example of such a function; if not, show why no such function exists.

It's a pleasure to report a flurry of responses to the problems posed September 18. Specifically, essentially correct solutions came in from Josh Moore for the first problem, and from Bowen Li, Erin Watson, Sebastian Vander Ploeg Fallon, and "Auplume" for *both* problems. Well done, all! Bowen and Erin should consult with Sue Jandro about getting prizes from the B.B.O.P. There is quite a nice selection available, so keep those solutions coming!

- Mark Krusemeyer



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