



Math & Stats Fall 2022 Newsletter

A Note from the Chair

Dear Friends of UVM Mathematics & Statistics,

I hope this note finds you well. It has been an exciting year in the Department of Mathematics and Statistics! Senior Lecturer **Rosi Rosebush** received the 2022 George Kidder Outstanding Faculty Award from the UVM Foundation; Professor **Chris Danforth** received the 2022 Kroepsch-Maurice Excellence in Teaching Award; and Senior Lecturer **Karen Benway** received the 2022 President's Distinguished Senior Lecturer Award! These outstanding faculty continue a proud tradition of excellence in our Department.



Check out the new link at our website that lists these and other major [awards won by our faculty](#), past and present. These impressive awards are an important part of our Department's history.

As we emerged out of the pandemic, things slowly got back to normal. Classes are in-person again, and masking is now optional. The upside of the pandemic is that our faculty have become much more fluent with online instruction. They now post much more course-related material (such as notes and lecture videos) for students than before. And we are all more comfortable with online meetings. Many of these changes are here to stay.

We have also made progress on other fronts. We set up a new Graduate Student Summer Support Fund, to support our Graduate Teaching Assistants (GTA) to do research in the summer. We also implemented a First-Year GTA Mentoring Program, where our new GTAs are paired with a faculty mentor for their first semester of teaching. We are also offering scholarships to our strong MS applicants to make their coming to UVM more accessible.

I'm thrilled to announce that we are searching for a new tenure track faculty member and a new lecturer in mathematics as we celebrate the retirement of **Susan Ojala** and upcoming retirement of **Karla Karstens**. We are also searching for two tenure track faculty in Statistics.

In the past year, **Kiki Reno** and **Barbara Asimwe** left the Department, and we hired a new admin, **Emily Cummings**, in October. Emily is quickly settling in and learning all the day-to-day tasks that keep the Department running.

This newsletter will share more of the successes of our faculty, students, and alumni in teaching, research, and service.

I hope you enjoy this newsletter. Please keep us updated with your own exciting news (you can write to me, jxyang@uvm.edu, or to the Department admin Emily Cummings, Emily.Cummings@uvm.edu).

Warm regards,

Jianke Yang

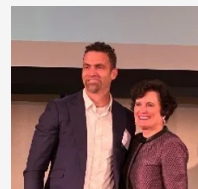
Professor & Chair, Department of Mathematics and Statistics

Awards



Senior Lecturer **Rosi Rosebush** won the 2022 George Kidder Outstanding Faculty Award. This annual award honors one full-time UVM faculty member for excellence in teaching and extraordinary contributions to the enrichment of campus life. Rosi delivered an award lecture titled "Prevention of Mathematics Anxiety and Rosi's Other Strategies for Making a Difference in the Lives of Students" in UVM Alumni House on Nov. 14, 2022.

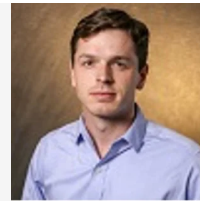
Professor **Chris Danforth** won the 2022 Kroepsch-Maurice Excellence in Teaching Award. Each year one faculty member in each of the four rank categories (Lecturer/Senior Lecturer/Clinical Instructor, Assistant Professor, Associate Professor, Professor) receives this honor for their work with students. Join us in congratulating Chris!



Senior Lecturer **Karen Benway** won the 2022 President's Distinguished Senior Lecturer Award. This annual award honors and recognizes the distinguished accomplishments of faculty who hold the rank of Senior Lecturer and Lecturer for their outstanding teaching, scholarship, and service.

Graduate student **Colin Giles** was selected as the Graduate College 2020-2021 Graduate Teaching Assistant (GTA) of the Year in the Lecture Instruction category. Colin will leave UVM with an MS

degree in Mathematics after this fall semester. We wish him well in his future endeavors.



New Hires and Promotions

This year, we welcome the following faculty member and admin to the Mathematics and Statistics Department:



Roger Tenore, Lecturer in Statistics

Roger received his MS in Statistics from Northern Arizona University in 2016. He had taught statistics at Coconino Community College and California Polytechnic State University before joining UVM.

Emily Cummings is our new Department Admin.

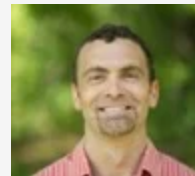
Emily received her BA degree in Environmental Studies from UVM in May, 2022. She is originally from Massachusetts. Outside work, she likes to sing, hike, ski, and read. We are very glad to welcome Emily to our department!



Dr. Abby Crocker was promoted to Research Associate Professor of Statistics. Abby obtained her PhD in Clinical and Translational Sciences from UVM in 2013, and joined our department as Research Assistant Professor of Statistics in 2014. Her current work on Restorative Justice has brought a lot of national attention as well as large amounts of federal funding to UVM. Congratulations, Abby!

Faculty and Student News

Professor **Chris Danforth** received a \$2M grant from Mass Mutual to launch the Lived Experiences Measured Using Rings Study (LEMURS), a longitudinal wearables experiment that will incentivize well-being promoting behaviors like exercise, nature experiences, and therapy in college students. The project brings together a team of faculty in Mathematics & Statistics, Biomedical Engineering, Psychiatry, Psychology, Computer Science, and Natural Resources.



The Economist published a pair of articles on Russian citizen perception of the war in Ukraine in collaboration with the Computational Story Lab which **Chris** cofounded. Mentions of “war” in Russian tweets, frowned upon by the Kremlin, have risen sharply, as have “scary”, “ashamed” and “horror”. Overall, posters’ mood has worsened eight times more than at the start of the Covid-19 pandemic. Based on past trends, this implies a one-point dip on Gallup’s one-to-ten happiness scale.



This summer, Assistant Professor **Christelle Vincent** was invited to lead the Park City Mathematics Institute's Undergraduate Summer School (Park City, Utah, **July 17-August 6, 2022**). The Park City Mathematics Institute is an annual three-week workshop organized by the Institute for Advanced Study from Princeton. During the Undergraduate Summer School, Professor Vincent gave a twelve-hour mini-course on mathematical cryptography to approximately forty undergraduate students from around the world. The course introduced students to cutting-edge lattice-based cryptography, which was just chosen by the National Institute for Standards and Technologies as a top contender for post-quantum cryptography. In addition to her course, Professor Vincent led the Experimental Math Learning program of the Mathematics

Institute, which invited students to work independently on topics connected to cryptography and quantum computing. This invitation is very prestigious for Professor Vincent, demonstrating her national profile as an excellent undergraduate instructor and undergraduate research supervisor. During the program she was assisted by her PhD student Jesse Franklin.

Professor **Jianke Yang** is organizing the “*International Workshop on Rogue Waves*”, which will be held at UVM on Dec. 17-18, 2022. This workshop will bring together 21 experts on rogue waves from around the world, who will give talks on this subject either in-person or online. Professor Yang is also writing a monograph titled “*Rogue Waves in Integrable Systems*”, which will be published by Springer in 2023.



Hunter Rehm, a PhD student of Assistant Professor **Puck Rombach**, was awarded a VTSGC (Vermont Space Grant Consortium) Graduate Fellowship for the academic year 2022-23. **Puck**'s two other graduate students Colin Giles and Jeremy Quail were NASA interns in the past summer, working in NASA's different research groups.

Retirements and Changes

Senior Lecturer **Sheila Weaver** retired in December 2021 after 36 years of distinctive service in our department. During her long career, Sheila has taught a wide range of statistics courses, many of which she developed herself, such as Stat/CS 087 (Introduction to Data Science). She has won a number of teaching awards, such as the Kroepsch-Maurice Award for Teaching Excellence, and College of Engineering and Mathematics Teaching Award. Sheila has also had a distinctive service record. For example, she served as Program Director of the Governor's Institute in Mathematical Sciences from 2008 to 2015. For her service, she won College of Engineering and Mathematics Service Award in 2013. Sheila is the best embodiment of teaching and service excellence. She is also an exemplary department citizen.



Lecturer **Susan Ojala** retired in the past summer after 14 years of strong service in our department. She received her MS degree in Education from UVM in 2003. Afterwards, she worked for Vermont Mathematics Initiative (VMI), and then joined our department as a lecturer in 2008. After retirement from UVM, she would continue her other teaching activities elsewhere.

Associate Professor **Paramita Saha Chaudhuri** resigned in the spring of 2022 for personal reasons. Paramita joined UVM in fall 2020 and took a leave of absence in AY 2021-22. We appreciated all Paramita did for students at UVM and we wish her all the very best!



Our admin **Kiki Reno** left the department for UVM's Human Resources Office in February 2022. Kiki joined our department in March 2019. In the past three years, Kiki made critical contributions to the smooth operation of the department. Her knowledge of UVM policies and procedures was extraordinarily strong. She was also able to learn new applications and procedures very quickly. Because of that, she was able to complete a wide variety of tasks very efficiently. Her work was always of the highest quality. In addition, she was extremely dependable and very organized, with attention to detail. For her exemplary service contribution, she received the 2021 CEMS Staff Award. We send our best wishes to Kiki in her new role in HR.

Our other department admin, **Barbara Asiimwe**, resigned from UVM at the end of June 2022, after over 3 years of dedicated service for us. We have all benefitted from Barbara's wonderful help over the years, especially on purchasing, reimbursements, and other financial matters. Barbara was friendly to faculty and students, and she will be dearly missed.



Department Events

Math Bee Contest



On Nov. 15, 2022, the undergraduate Math Club (supervised by Senior Lecturers **Dan Hathaway, and Francois Dorais**) hosted the annual fall Math Bee --- a friendly math competition of students against the faculty. Thirteen students comprised the Student Team, and seven faculty members (**Spencer Backman, Dan Hathaway, Karla Karstens, Puck Rombach, Joan Rosebush, Christelle Vincent, Jianke Yang**) comprised the Faculty Team. Senior Lecturer **Joe Kudrle** was the Master of Ceremony. The faculty squeaked by for the final victory, taking the Golden Pi trophy back from the students. Joe did a fantastic job as the MC!

STAT@UVM



STAT@UVM is ramping up its activities after a COVID hiatus. STAT@UVM is a hub for research and applications in statistics and biostatistics at UVM. Its mission is to bring together a community of researchers and practitioners interested in statistics across campus. It has planned six seminars for this year and will hold several meetings of the journal club. Website: <https://site.uvm.edu/statatuvvm/>.

Jonathan Sands' and Sheila Weaver's Retirement Party

The department held a retirement party for Professor Jonathan Sands and Senior Lecturer Sheila Weaver at the Chittenden Bank Room of the Davis Center on Oct. 11, 2022 from 4:30pm-6:00pm. Dean Schadler, many departmental faculty, emeriti, and personal friends of Jonathan and Sheila attended this event.

Susan Ojala's Mini Retirement Party

The department held a small retirement party for Susan in Innovation E100 on May 10, 2022. The party was kept small upon Susan's request. Susan told us her plans after retirement from UVM, such as continued teaching at other places, among many other things.

Alumni News



Jake Williams, MS in Applied Mathematics 2011 and PhD in Mathematical Sciences 2015 from UVM, is now an Assistant Professor of Information Science at Drexel University. Prior to joining Drexel in the fall of 2016, he was a postdoctoral researcher and faculty instructor at the University of California, Berkeley. His research and teaching interests center around data science, computational social science, natural language processing, mathematics, machine learning, scientific programming, and algorithms design. His published contributions to date have yielded a scalable framework for the extraction of generalized lexical units (phrases), which has opened the field of phrase-based text analysis, and led to the development of a current state-of-the-art algorithm for multiword expressions segmentation. His work has also successfully challenged the current major statistical theory of language production, dating back over 15 years. In addition to extending his work in linguistics and natural language processing, a large component of his current research is applied to social science, and is focused on understanding collective action and political events through social media.

Our recent PhD graduate, **Sophia Gonet** (PhD, May 2021), just had a chapter of her thesis published in a high-quality math journal "Algebraic Combinatorics". Her paper is titled "Iwasawa Theory of Jacobians of Graphs". In this paper, Sophia obtained a significant result in algebraic graph theory. Sophia's thesis was supervised by Professors **Jonathan Sands** and **Richard Foote**, with additional help from Professors **Greg Warrington** and **Spencer Backman**. Sophia is currently on the faculty of Rutgers University as an Assistant Teaching Professor. Her current contract has just been renewed for three years.



Emeriti News



This fall, retired math professors **Jeff Dinitz** and **Roger Cooke** have gone on several afternoon road bike rides around the area (nice to be retired). On Wednesday November 2, they were joined by **Jonathan Sands**. The three of them rode from Roger's house north through the intervalle to Ethan Allen Park and then on to the Burlington bike path. This photo was taken on the bike path. A fun time was had by all.

[Email us](#) with your latest achievements so we may consider including them in the next newsletter. We want to hear how you are doing!

Learn more about Math & Stats at UVM!

College of Engineering and Mathematical Sciences

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