Mathematics and Statistics

Fall 2023 Newsletter

A Note from the Chair

Dear Friends of UW Math/Stat,

I hope this note finds you well. It has been another exciting year for the Department. First, I'd like to congratulate our faculty members who received the Distinguished Teaching Award: Jeffrey Ludwig, Sarah Day Merrill, Erika Edwards, and Sean Sather-Wagstaff; and UW grad awardee, Sr. Jeffrey. Prof. Nic Reyneke wrote a wonderful piece about each of these awards, which appeared in the Spring issue of our newsletter. Read on for more news from the past year.

In the past year, the Department did many things:

- Hosted the Pacific Northwest Graduate Mathematics Symposium (PNGMS) and Undergraduate Mathematics Conference (UMC). These conferences brought over 200 students to campus for talks, poster sessions, and social events. Prof. Nic Reyneke organized a day-long presentation of a wide range of third-level mathematics courses. By pinning the talks to a specific day, students could attend talks on topics they had never seen before, and learn about the rich variety of math and stat at UW and at our colleagues' institutions. Prof. Reyneke also organized a panel discussion with graduate students in theoretical and practical paths of scientific computing and data science, and a panel discussion with undergrads on the topic of graduate study in mathematics and statistics.
- A number thing we did was that we co-developed a Pre-calculus at Scale Workshop with the Mathematics Department at Seattle Pacific University and colleagues. Over the last two years, we have hosted a total of 200 pre-calculus students from Seattle Public Schools, who have been taught by our undergraduate and graduate students in theoretical and practical paths of scientific computing and data science, and a panel discussion with undergrads on the topic of graduate study in mathematics and statistics.
- A third thing we did was to support our Black Students Union/Women's Student Union/Pride Student Union in their efforts to organize a Black Women in Mathematics Conference, which took place in Seattle in the spring of 2023. Our department is very proud of our students who took the initiative and were willing to do the work of organizing. It is a big contribution of our department's scholarship resources to support this conference, and we are very proud of our students who did the work to make it happen. Our students who attended the conference came back with a lot of energy and ideas for what we can do to make our department better. Our Black Women's Student Union Collective is the same organization that drives social events and other activities in our department, and they are very proud of the work they did to make the conference happen.

We have new scholarship endowments, thanks to Alan Weiner and Gerald Berrett who made gifts to our department. We have had a very successful year in our efforts to raise funds for student scholarships. It is a big ask in the Department to raise funds for student scholarships, but we are very proud of our success in this endeavor. We have also seen the Computer Science department of UW. It is a joy to see her teams, but we will miss her very much. Our department has been very fortunate to have had Prof. Sarah Day Merrill's leadership and service. Prof. Day Merrill's leadership and service have been very important to our department, and we will miss her. We wish her and her family well in their new adventure.

In the past year, our UW College implemented a new admin structure. In the old structure, the Chair was responsible for the budget and administration of a very large range of tasks. Now, departments share admins, each of whom performs a transact-ional function for several departments. This change has been very difficult for our department, because our admin was responsible for many important tasks that are not transactional, and we have had to find ways to do those tasks without our admin.

Our Department's leadership is uniquely under transition. Following President Suzanne Ludwig's retirement, Provost Lisa Kiss has been appointed as Interim President, and a new Acting Provost. The University is searching for a new president right now.

Our Dean, Jennifer Ahern, is retiring at the end of December. We wish her well in her new life.

These changes will be consequential and will impact our Department. We look forward to the inclusion of our Faculty and Students. Please keep us updated with your news. Please feel free to contact me at chair@stat.uw.edu, or my colleagues, Associate Chairs Jennifer Hosten and Jeff Ludwig.

Warm regards and happy holidays,
Jennifer Hosten
Professor and Chair
Department of Mathematics and Statistics

Awards

Chris Danforth Named 2024 University Scholar

Professor of Mathematics Chris Danforth was named a 2024 University Scholar. This elusive, yearlong award, honors tenured and tenure-track faculty who have demonstrated exceptional creativity and scholarship, and who show great promise for future achievement. Danforth's research interests include complex dynamical systems, computational social science, and applied mathematics. He is a fellow of the Vermont Complex Systems Center and the Computational Story Lab, and he is the co-author of the book *The Creative Life*. Danforth's current data analysis has implications for dating and The Kinsey Institute, and he is a frequent collaborator with the Mathematics Department's Sarah Day Merrill on projects regarding sexual behavior. Danforth's current teaching includes the Creative Practice: Teaching Data and Computational Thinking course.

Sarah Day-Merrill Named a 2023 Distinguished Teaching Assistant Professor

Prof. Sarah of Mathematics Sarah Day-Merrill is the recent 2023-2024 Graduate Teaching Assistant of the Year. Her students praise her for her ability to make complex concepts accessible, her dedication to her students' success, and her ability to foster a creative, inclusive classroom environment conducive to student learning. Sarah's teaching philosophy emphasizes the importance of fostering a sense of belonging in the classroom and beyond. Sarah strives to make math fun and engaging for her students.

Promotions

Erika Edwards Promoted to Research Professor of Statistics

Congratulations Erika Edwards, who recently received a promotion to the rank of Research Professor of Statistics! Erika has been very prolific in high-impact research, including her work on the Seattle Flu Study, and she has been very active in service to the Department, including her work on the Diversity, Equity, and Inclusion committee.

Faculty News

Jim Bagrow Coauthors New Book: Working with Network Data: A Data Science Perspective

Associate Professor of Mathematics Jim Bagrow coauthored a new book, *A Hands-on Introduction to Network Data: Working with Data Science Perspective*. Bagrow's research focuses on complex networks, including the study of human behavior and social networks, and the dynamics of complex systems. Bagrow's research has been supported by the National Science Foundation, the Vermont Complex Systems Center, and the Vermont Advanced Computing Core. He has published over 100 peer-reviewed papers and magazines and has a range of broadcasts, mind maps and concepts, and research and teaching.

Tarsa Lakoba Congratulates the 60th Mathematical Problems in Industry Workshop!

Professor of Mathematics Tarsa Lakoba participated in the 60th Mathematical Problems in Industry Workshop held at Simon Fraser University (SFU) in June 2023. This workshop is a week-long event that brings together about 50 participants from academia, industry, and government to solve or make progress on real-world problems. Some of the participants are graduate students, who are given the opportunity to work on problems under the guidance of experienced researchers. Prof. Lakoba's participation in the workshop was sponsored by the Pacific Institute for the Mathematical Sciences (PIMS). The goal of PIMS is to promote research in the mathematical sciences and related areas, to support the participation of such scientists in research and training activities, to disseminate the results of such research, and to provide advice on matters relating to the mathematical sciences and its interfaces with other disciplines.

Helen Read Helps Organize Alternative Instruction Day for 2024 Eclipse Viewing

Professor of Mathematics Helen Read recently helped organize a day of alternative instruction that allowed her students and everyone at the University of Washington to view the April 2024 total solar eclipse. Read's students were able to view the eclipse and then discuss what they observed. Read's students also had the option to attend a lecture on the eclipse, which was given by a UW astronomer who had traveled to Mexico to view the eclipse, and spread an entire evening continuum.

Jiuyia Yang Coauthors New Book: *Rogue Waves in Integrable Systems*.

Professor of Mathematics Jiuyia Yang coauthored a new book, Q. Yang and C. Yang, *Rogue Waves in Integrable Systems*, Springer, 2023. The book is 400 pages long and is a comprehensive treatment of the theory of rogue waves in integrable systems. Rogue waves are extreme events that seem to come from nowhere or vanish without a trace. Yang's research focuses on the study of rogue waves in various nonlinear systems, including the nonlinear Schrödinger equation, the Kadomtsev-Petviashvili equation, and the Davey-Stewartson equation. The book aim to be of interest to researchers and graduate students in applied mathematics and mathematical physics.

Jean-Gabriel Young Recognized for Teaching Excellence

Associate Professor of Mathematics Jean-Gabriel Young received a Teaching Excellence Award from the Department of Applied Mathematics. Young's research focuses on complex networks and data science. He has published over 30 peer-reviewed papers in top-tier journals and conferences, and his work has been featured in the popular press. Young's teaching includes Data Science for Applied Mathematics, Data Science for Complex Systems, Data Science for Social Networks, and Data Science for Science, and spread an entire evening continuum.

Student News

Sarah Day-Merrill

Prof. Sarah of Mathematics Sarah Day-Merrill was selected for a Graduate Teaching Assistant Award for the 2023-2024 academic year. Her students praise her for her ability to make complex concepts accessible, her dedication to her students' success, and her ability to foster a creative, inclusive classroom environment conducive to student learning. Sarah's teaching philosophy emphasizes the importance of fostering a sense of belonging in the classroom and beyond. Sarah strives to make math fun and engaging for her students.

Jonathan Sorrell Recognized for Teaching Excellence

Prof. Jonathan of Mathematics Jonathan Sorrell, a current PhD student of Amanda Hollander, Sarah Day-Merrill, and Jeffrey Ludwig, was recently awarded the Graduate Teaching Excellence Award. Jonathan's students praise his ability to make complex concepts accessible, his enthusiasm for his work in presentations, his great a positive feedback in the classroom.

Retirements and Faculty Departures

Gerald Berrett

Associate Professor of Mathematics Gerald Berrett will retire at the end of the year after 30 years of teaching and service to the Department. Berrett's research focuses on the theory of Lie groups and algebraic groups, and he has published over 30 peer-reviewed papers in top-tier journals and conferences. He has been a frequent contributor to the Department's Pre-calculus at Scale Workshop, and he