WILLIAM & MARY

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DEPARTMENT OF MATHEMATICS

September 26, 2022

Dear Friends of the Department,

 I would like to give you an update on the 'latest' in the Department of Mathematics.

Personnel changes.   After four years of extraordinary service, Professor Junping Shi has stepped down as chair of the department. Professor Shi took over this position for Professor George Rublein, who retired after 53 years of service to the university in 2019. One other recent retirement was Professor Nahum Zobin. Professor Zobin retired in December 2021. Professors Zobin and Rublein are now both "Professor Emeritus."

This fall, we welcomed five new faculty members to our department:

- Dr. Chuangtian Guan joined us as a Visiting Assistant Professor. He obtained his Ph.D. from Michigan State University this year. His interests lie in arithmetic geometry and number theory.
- Dr. Nicholas Russoniello joined us as a Visiting Assistant Professor. He obtained his Ph.D. from Lehigh University this year. His research interest lies in algebraic combinatorics.
- Dr. Harsimran Somal joined us as a Lecturer from California Poly Tech (San Luis Obispo). He obtained his Ph.D. in statistics from the University of Iowa in 2018.
- Dr. Stephen Trefethen joined us as a Lecturer. He originally joined the department in 2016 after his Ph.D. from the University of Arizona as a Visiting Assistant Professor.
- Dr. Yuting Yuan joined us as a Visiting Assistant Professor. She obtained her Ph.D. this year from the University of Rochester in Operations Management.

The department now has nineteen tenured or tenure-track faculty members, five lecturers, five visiting professor/assistant professors, four emeritus faculty, and five adjunct faculty. I invite you to visit our webpage to see the pictures of our faculty members.

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![William & Mary logo]

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Faculty Achievement. Our faculty members are not only dedicated teachers, but also outstanding scholars. In 2021 alone, more than forty papers have been authored or co-authored by our faculty members. Here are some highlights of our faculty achievements:

- Junping Shi is the PI of the grant "Collaborative Research: Quantitative Principles behind the Spatio-Temporal Oscillation of Intracellular Calcium" (2019-2023) from National Science Foundation.
- Jumping Shi (PI) and Leah Shaw (co-PI) are the PIs of the grant "Collaborative Research: Persistence, Stability and Control of Populations in Heterogeneous Networks" (2017-2023) from National Science Foundation.
- Jumping Shi and Leah Shaw are co-PIs of the $3M grant "Biotic and abiotic drivers of pathogen transmission in marine system under the influence of climate change" (2022-2027) from National Science Foundation.
- Mainak Patel is the PI of the grant "CRCNS Research Proposal: Collaborative research: Switching between antennal lobe dynamic regimes via sensory integration of olfactory and mechanical signals" (2022-2024) from National Institutes of Health.
- Greg Hunt is the PI of the grant "HyperStats: Statistical Training for Interdisciplinary Hypersonics" (2022-2023) from Department of Defense, Air Force Office of Scientific Research.
- Pierre Clare is the PI of the grant "Noncommutative Geometry and Analysis on Homogeneous Spaces" from National Science Foundation, which supports the named conference in January 2023 at William & Mary.
- GuanNan Wang (2022-2027), Ryan Vinroot (2020-2025), Mainak Patel (2021-2026), Vladimir Bolotnikov (2020-2025), Chi-Kwong Li (2021-2026) are the recipients of Collaboration Grants for Mathematicians from the Simons Foundation.
- Eric Swartz and Greg Hunt respectively won the Simon Teaching Prize of the department in 2021 and 2022.
- Ryan Vinroot won Alpha Chapter of Phi Beta Kappa Faculty Awards for advancement of teaching in 2022.

Student achievements. At the 2022 Departmental Graduation Ceremony, 107 math majors (including 28 Computational & Applied Mathematics & Statistics (CAMS) students) graduated. Among them, at least thirteen went to Ph.D. programs and at least fifteen went to prestigious M.S. programs. At the same ceremony, several distinguished students obtained various

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departmental awards. The William & Mary Prize in Mathematics was awarded to Rongbiao Wang; The Cissy Patterson Prize was awarded to Yunhong Bao, Boyang Li, Yuqiao Li, Merielyn Sher, Grace Virginia Smith, and Wei Wang; The Leiba Rodman Award was awarded to Nathaniel Ryan Healy; and lastly, the Luther T. Conner Prize was awarded to Sage Alek Stanish. A big congratulations to them.

Our students won major awards in the Mathematical Contest in Modeling **(MCM)** challenge.

- The William & Mary Team (faculty advisor: Anke van Zuylen, Students: Jack Morris, Liz Weech, Ethan Shelburne) won the 2020 **International COMAP Scholarship Award,** which is awarded to four top MCM/ICM teams (among 20,956 teams from 1488 institutions in the world), and the unique **Leonhard Euler Award.**
- The William & Mary Team (faculty advisor: Anh Ninh, Students: Ethan Shelburne, Stuart Thomas, Clare Heinbaugh) won the 2021 **International COMAP Scholarship Award,** which is awarded to four top MCM/ICM teams (among 26,112 teams from 1,576 institutions in the world).

Mathematics courses are among the most sought-after on campus. In the period of 2016-22, the number of enrollments of mathematics courses each year is roughly twice the number of undergraduates at the university. In Fall 2022, more than 3,100 class seats were occupied by students in various mathematics courses. Among them, more than 950 seats were 300 level - or higher courses. The statistics courses are among the most enrolled. For this reason, we will hire another tenure-track assistant professor in Statistics in August 2023. We are also aware of the relative low enrollment of advanced theoretical math courses. We are considering ways to encourage students to take more of those courses, not only because they help sharpen our thinking, but they provide a solid foundation for future learning. One possibility is to create an honors-level mathematics major. Please let us know if you have any thoughts or ideas on this matter.

We would like to know what is happening with you! We have updated our alumni page on the mathematics webpage so you may Send Us Your News though the link. You can also follow the William & Mary Mathematics on our LinkedIn page. We are also very grateful for your

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