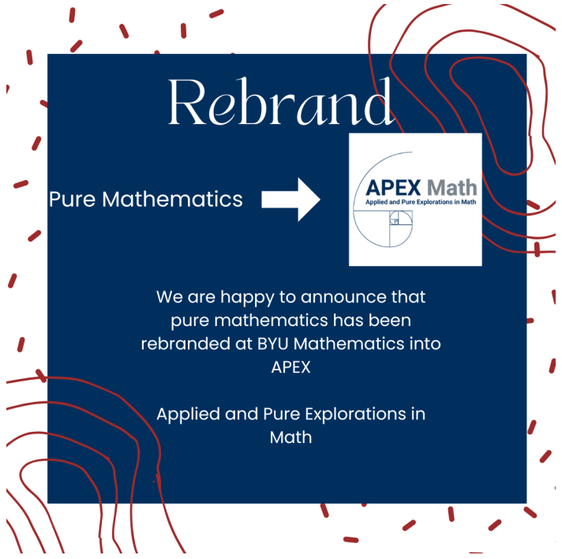
BYU Mathematics

275 TMCB PROVO, UT 84602

Winter 2025



BYU
BRIGHAM YOUNG UNIVERSITY

SAVE THE DATE

We are excited to welcome all BYU Mathematics alumni back to campus for our BYU Mathematics Alumni Homecoming Recption! Join us for an evening of reconnecting, reminiscing, and celebrating the legacy and impact of the BYU Mathematics community. Enjoy light refreshments, network with fellow alumni and faculty, and hear exciting updates about the department's growth, student acheivements, and future plans.

Don't miss this opportunity to reconnect- Your presence makes t meaningful!

Please RSVP to RSVP.BYU.EDU so that we can send you an invitation.



MESSAGE FROM THE CHAIR

In the spirit of President Shane Reese's stirring inaugural invitation "Becoming BYU," I share some of the many good things that are happening and have happened in the Department of Mathematics in the last few years.

Strengthen the student experience.
• In 2023, 178 undergraduate students had mentored research experiences in the Department of Mathematics, perhaps the largest math undergraduate research program in the country.
• BYU's team placed seventh in the December 2023 Putnam collegiate mathematics competition, and placed 28th in 2024 and 11th in 2022.

Retain a focus on undergraduate teaching.
• For the last several years, the department has offered a dedicated small section of Math 112 (Calculus 1) each fall and winter for students with no previous calculus experience. Data suggests that students in these sections are more likely to be successful than similar students in large sections.
• There were 11,308 enrollments in Mathematics courses in 2024, with approximately 8,700 non-major enrollments. All full-time faculty contribute to the department's service teaching.

Foster BYU's double heritage.
• The department sponsors a devotional each semester, with a faculty or staff member speaking to students and employees about their journey as a disciple-scholar. Jennifer Brooks spoke in November 2024, and Lonette Stoddard spoke in March 2025.

Develop the courage to be different.
• The Applied and Computational Mathematics Emphasis (ACME) received the 2024 American Mathematical Society Award for an Exemplary Program or Achievement in a Mathematics Department for its innovative approach to interdisciplinary applied mathematics education.

Build a covenant community.
• The cohort model for the ACME junior and senior cores is so successful in building community among students that the department has created additional cohort opportunities, such as the EMC2 cohort for freshman/sophomore math majors/minors, and envelopes of courses often taken together by science and engineering students.
• The recent TMCB remodel created dedicated study spaces that strengthen community among graduate students, ACME students, traditional mathematics majors, the EMC2 cohort, and mentored research groups.



• The department holds an Open Door Day each semester, where all faculty are available in their offices at 11 AM on a Thursday to answer questions about classes or mentored research.

Invest in mission-inspired scholarship.
• 13 of our 40 faculty have external research fundingthrough NSF or the Simons Foundation. Kyle Pratt was awarded a prestigious National Science Foundation LEAPS-MPS grant for early career researchers.

Focus on mission-aligned hiring.
• Eight excellent new CFS-track faculty members have joined the department since 2023.

I am grateful for the wonderful students and devoted faculty and staff in the Department of Mathematics, and for the support we receive from our sponsoring Church and from generous donors.

Paul Jenkins, Department Chair

WELCOME NEW MATH DEPARTMENT FACULTY



MEGAN DIXON

Dr. Megan Dixon is an Assistant Professor of Mathematics, specializing in mathematical biology. Her research uses differential equations and stochastic modeling to study cellular regulation, with applications to diseases like cancer and diabetes. She earned her Ph.D. from the University of Utah, where she worked on protein regulation models. Dr. Dixon's recent publications explore immunotherapy modeling and binding kinetics.



ERIN MARTIN

Dr. Erin Martin is an Associate Teaching Professor of Mathematics. She earned her BS in mathematics from BYU and completed her MS and PhD at the University of Utah, specializing in commutative algebra and graph theory. Dr. Martin brings over a decade of teaching and leadership experience from William Jewell College, where she chaired the Mathematics and Data Science Department. She is passionate about undergraduate research, curriculum development, and mentoring future mathematicians.



DAVI OBATA

Dr. Davi Obata is an Assistant Professor of Mathematics, specializing in smooth dynamical systems and ergodic theory. His research focuses on rigidity phenomena, statistical properties of dynamical systems, and hyperbolic dynamics. He earned dual Ph.D.s in 2019 from Université Paris-Saclay and Universidade Federal do Rio de Janeiro. Prior to joining BYU, he was a Dickson Instructor at the University of Chicago. Dr. Obata's work is supported by the National Science Foundation (DMS-2349380).



KYLE PRATT

Dr. Kyle Pratt is an Assistant Professor of Mathematics, specializing in analytic number theory. His research focuses on prime numbers, exponential sums, sieve methods, L-functions, and Diophantine equations. Dr. Pratt earned his Ph.D. from the University of Illinois at Urbana-Champaign and completed a postdoctoral fellowship at All Souls College, University of Oxford. At BYU, he teaches courses in real analysis and mathematical proofs and serves as an undergraduate advisor. His work contributes to advancing the understanding of fundamental problems in number theory.



STEPHEN MCKEAN

Dr. Stephen McKean has joined the BYU Mathematics Department as an Assistant Professor. He completed his PhD at Duke University in 2022 and recently concluded an NSF Postdoctoral Fellowship at Harvard, where he worked under Mike Hopkins. His research spans algebraic geometry, arithmetic geometry, and homotopy theory, with particular focus on motivic homotopy and enumerative geometry. Dr. McKean is also a decorated educator, known for innovative teaching and mentoring undergraduates. For more information https://shmckean.github.io/



KEVIN MILLER

Dr. Kevin Miller is an Assistant Professor of Mathematics at Brigham Young University, specializing in the mathematics of data science and statistical learning theory. His research focuses on active learning, subset selection, and graph-based methods. He earned his Ph.D. from UCLA under Dr. Andrea Bertozzi, supported by NDSEG and NSF NRT fellowships, and completed a postdoctoral fellowship at the Oden Institute at UT Austin. Dr. Miller's work integrates theoretical insights with practical applications in machine learning. More information is available at https://sites.google.com/view/kevin-miller/home.



MARY ELLEN ROSEN

Dr. Mary Ellen Rosen is a Visiting Assistant Professor in the Department of Mathematics at Brigham Young University. Her research focuses on mathematical biology, particularly modeling cell motility and focal adhesion dynamics.Dr. Rosen earned her Ph.D. from BYU in 2021, with a dissertation on cell motion models.

JOINING MATH DEPARTMENT FACULTY 2025



C. J BOTT

Dr. C.J. Bott is joining the BYU Mathematics Department as a Visiting Assistant Teaching Professor. A proud graduate of the second ACME cohort (2016), he earned his master's at BYU (2018) and PhD in mathematics from Texas A & M (2025), specializing in applied and computational algebraic geometry. He is passionate about teaching, the gospel, and helping students thrive. After four years teaching early-morning Seminary, he's excited to return to BYU.



SHANE MCQUARRIE

Dr. Shane A. McQuarrie is joining the faculty of the BYU Department of Mathematics in 2025 as Assistant Professor. He holds BS and MS degrees in mathematics from BYU, supervised by Dr. Jared Whitehead, and a PhD from the Oden Institute for Computational Engineering and Sciences at The University of Texas at Austin, where he studied under institute director Dr. Karen Willcox. Afterward, he was the John von Neumann postdoctoral fellow in computational science at Sandia National Laboratories, where he was mentored by Dr. Bart van Bloemen Waanders.



JONAS SCHOBER

Dr. Jonas Schober is an Assistant Professor in the Department of Mathematics at Brigham Young University in Provo, Utah. Prior to joining BYU, he held a postdoctoral position at the National Autonomous University of Mexico (UNAM), after earning his PhD in Mathematics in 2023 from Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany. Outside of academia, he enjoys spending time with his wife, engaging in temple and family history work, listening to classical music (particularly Richard Wagner and Gustav Mahler) and studying languages. He speaks German, English, Spanish, and is currently learning Korean.

PUTNAM RESULTS

"You can be a computer science, physics, or humanities major—even a creative dance major—and still take the Putnam if you're inclined," said Dr. Michael Griffin, coach of BYU's Putnam team. While the competition is rooted in math, it emphasizes creativity and problem-solving over routine calculations. "It's like solving puzzles," Griffin explained. "That's what drew me to mathematics in the first place."

The Putnam Competition is one of the most prestigious undergraduate math contests in North America. BYU has consistently performed at a national level, placing 7th in 2023, 13th in 2022, 11th in 2021, and 9th in 2013, among other top-25 finishes.

To help students prepare, BYU offers a fall course (Math 391R) co-taught by Dr. Griffin and Dr. Gary Lawlor. The student-driven class encourages presentations and collaborative problem-solving. Students can also sharpen their skills with the weekly Math Problem of the Week posted by Dr. Xian-Jin Li on Instagram (@byumath) and outside his TMCB office—with prizes for correct solutions.

Students with strong competition skills and a GPA of 3.5+ can apply for a one-year Putnam Scholarship by March 31. "Math is more than crunching numbers," Griffin says. "It's creative, beautiful, and open to anyone willing to explore."

FACULTY AWARDS AND RECOGNITIONS

2024 YUEH-GIN AND DR. CHARLES Y. HU DISTINGUISHED SERVICE AWARD



Michael Dorff was awarded a 2024 MAA Yueh-Gin Gung and Dr. Charles Y. Hu Distinguished Service Award.. He received the award for his exceptional service to the fiel. He has revolutionized undergraduate research, creating opportunities for students and faculty to engage in meaningful collaborative discovery in mathematics. Dorff's impact extends far beyond his own projects, as his innovative initiatives have paved the way for a more inclusive and vibrant mathematical community. Dorff said "This award is a testament to the countless students and faculty members who have embraced the journey of mathematical discovery with me. Together, we have made remarkable progress in expanding the horizons of undergraduate research."

2024-2025 FULBRIGHT U.S. SCHOLAR PROGRAM





Dr. Curtis Kent and Dr. Jared Whitehead have received prestigious Fulbright U.S. Scholar awards for the 2024-2025 academic year, furthering BYU's mission of inspiring learning and global impact through research and collaboration.

Dr. Jared Whitehead work in geophysics and seismology will advance understanding of seismic activity in one of the world's most tectonically active regions. The research is expected to enhance earthquake preparedness and risk mitigation strategies while fostering international scientific cooperation.

Dr. Curtis Kent will conduct research and teach in Slovenia and Mexico from January to July 2025. His project, titled "Low-dimensional wild topology and big mapping class groups," explores complex mathematical structures.

NATIONAL SCIENCE FOUNDATION LEAPS-MPS GRANT



Dr. Kyle Pratt, has been awarded a prestigious NSF Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS) grant. This award supports early-career faculty at institutions that typically recieve less MPS funding, such as R2 universities and predominantly undergraduate institutions. The LEAPS-MPS program helps launch impactful research programs by providing up to $250,000 over two years. Dr. Pratt's selection recognizes both the promise of his mathematical research and his potetial to contribute meaningfully to diversifying and strengthening the national STEM workforce.

This award positions Dr. Pratt to comete for future NSF funding opportunitites and to serve as a mentor and role model in the

ONLINE DONATION INFORMATION

Over the years several alumni and others who have been closely associated with the math department have set up math specific endowment funds. In the year 2025, 125 mathematics students were supported financially by these funds and other donations. We now have two additional math specific funds, that are not associated with any particular individual or family, allowing others to make funds available to students. We have made it easier to contribute to the math department funds.

There is always a need. This is a great way to either pay forward or backward to help worthy and deserving mathematics students.

1. Go to math.byu.edu
2. Go to Alumni, Donate
3. There are two donation choices: Math Department Student Aid – BYU; and ACME Math Scholarship – BYU
4. Click on the question mark at the end of each donation choice for an explanation of how the money can be used.
5. Click the Sign In button and use the same username and password for ChurchOfJesusChrist.org.
6. Once signed in, hit the "Donate Online" button.
7. Follow the rest of the steps to make a donation.

THE HEART OF BYU MATH LONETTE STODDARD



After more than four decades of exceptional service, Lonette Stoddard will retire in Fall 2025, leaving behind a legacy of warmth, wisdom, and unwavering support in the BYU Mathematics Department.

Lonette began her journey at BYU in 1984 and quickly became an integral part of the department. Her incredible memory, organizational prowess, and compassionate heart made her a treasured resource for faculty, students, and staff alike. Whether coordinating hires, managing complex logistics, or simply offering a kind word, Lonette consistently elevated the atmosphere around her.

Tributes on LinkedIn paint a powerful picture: students and colleagues describe her as "the epitome of kindness and professionalism," "the heart and soul of the department," and "one of the most thoughtful, generous, and competent people they've worked with." Many recall how she provided a sense of calm, order, and sincere encouragement—even in the most stressful moments.

In 2022, Lonette received the Fred A. Schwendiman Performance Award, a well-deserved honor recognizing her outstanding service. Her impact will be felt for generations to come.

To celebrate Lonette's retirement, we are collecting messages and memories. Please email your contributions to allies@mathematics.byu.edu with the subject line "Lonette."

Thank you, Lonette—you've truly made BYU Mathematics a better place.

BYU MATHEMATICS NETWORKING EVENT

The BYU Mathematics Networking Event, held on October 11, 2024 in the Hinckley Center, was a dynamic evening of connection and inspiration. With more than 250 students, alumni, and faculty in attendance, the event celebrated the many paths a mathematics degree can lead to—whether in data science, software engineering, actuarial work, or academic research.

Alumni shared valuable career insights and personal stories, while students came eager to learn, ask questions, and build meaningful relationships. The atmosphere was energized by a shared love of mathematics and a commitment to supporting one another across generations. Many alumni expressed how rewarding it was to return to campus, engage with students, and reflect on their own BYU experiences.

This year's success highlights the strength of the BYU math community and its growing network of professionals who are making a difference in the world. We are excited to build on this momentum and expand our reach in future events.

We warmly invite all math alumni—whether recent graduates or long-established professionals—to join us for next year's BYU Mathematics Networking Event on Friday, October 3, 2025. Come share your journey, reconnect with faculty and classmates, and help shape the future of BYU Mathematics.