

Math & Stats

Summer 2026 Newsletter

Department of Mathematics and Statistics

Tenure and Promotion



The Board of Regents granted tenure to Professors Ruiqi Liu and Álvaro Pámpano, effective September 2026. Both professors have been successful in their respective fields and rewarded for their efforts – see page 3.



And the Board of Regents also granted tenure to Professor Amanda Laubmeier, likewise effective September 2026. Dr. Laubmeier is being recognized for her substantial teaching, outreach and research, demonstrated on page 4 below.



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Tenure and Promotion continued



The Texas Tech College of Arts and Sciences has offered the position of Chair to present Interim Raegan Higgins, who has accepted and will be officially installed September 2026. Besides having served as Acting and Interim Chair for the past year, Dr. Higgins brings a wealth of experience working with upper administration in her role as Associate Vice Provost the last 5 years. She understands how to make things happen with her successful academic career marked by the involvement and management of millions of dollars of grant awards, navigating the assistant, associate, full professor ladder, all while engaged in outreach programs, including serving as president for one of them, the Association for Women in Mathematics, as well as an officer in several others. Her knowledgeable, forthright direction toward positive results bodes well for Mathematics and Statistics as she takes the reins to steer the Department forward. 2026 is the Year of Math. Texas Tech Mathematics and Statistics is headed in the right direction.

Chair's Corner

It has been a full year in the Department of Mathematics and Statistics, and I'm grateful for the chance to reflect on it here as your chair.

This past year marked a season of transition and preparation for our department, as I served as acting chair in fall 2025 and interim chair in spring 2026. I'm honored to step into the role of permanent chair this fall, and I look forward to it with real excitement about where we're headed — growing our faculty, deepening our research strengths, and expanding the opportunities we offer our students.

That growth is already underway. We are actively searching for new faculty across several areas, including complex analysis, computational mathematics, mathematical finance, and statistics. These investments that will shape the department's research and teaching for years to come.

This has also been a year of remarkable achievement across the department. Three of our faculty members were granted tenure and promotion to Associate Professor, effective for the 2026–2027 academic year. Our faculty and staff received several prestigious honors this year, including a Texas Tech Parents Association New Professor Award, a President's Excellence in Teaching Award, a Chancellor's Council Distinguished Research Award, and College-level Excellence Awards in both Academic Advising and Support. Our research enterprise also had a standout year: our Mathematical Finance Program climbed to No. 11 among the Top 20 Doctoral Programs in Quantitative Finance, Financial Engineering, and Financial Mathematics nationally. One of our faculty members also completed the Institute for Faculty Excellence this spring, an investment in leadership development that will benefit our department for years to come. Faculty secured significant external funding, including a \$2.9 million NIH award for interdisciplinary work with Biology, a two-year DOE/Los Alamos National Laboratory grant, and a Casualty Actuarial Society research grant; our newer faculty have been submitting grant proposals at an encouraging pace.

Our students have shone as well: a machine-learning research team in one of our labs won a Red Raider Startup Award for a lung cancer detection project, and our students earned top honors at the Texas Tech Undergraduate Research Conference, including a Second Place finish in the Technology category and an Outstanding Commercialization Award recognizing a project's strong pathway toward real-world clinical impact.

Alongside this growth, we also said goodbye to several valued colleagues this year, some retiring after long, distinguished careers and others moving on to new opportunities. We are grateful for their years of contribution to our students and our department, and we wish them every success in this next chapter.

Our commitment to broadening participation in mathematics remains as strong as ever. Our TexPREP summer program once again introduced talented young students from our region to the beauty of mathematics, giving many of them their first real taste of what it means to think like a mathematician. Programs like this one remind us why this work matters: to open doors for the next generation.

Chair's Corner continued

This spring, we were proud to award 20 graduate scholarships and more than 50 undergraduate scholarships to our students, made possible largely by the generosity of our donors and friends of the department. This spring and summer, we also celebrated 27 graduate degree completions (10 PhDs, 10 master's degrees in mathematics, and 7 master's degrees in statistics), along with 41 undergraduate degrees awarded to students whose primary major is mathematics. This reflects our students' hard work and the dedication of our faculty and staff, who supported them along the way.

None of this would be possible without the support of our friends and donors. Your generosity makes it possible for us to offer these programs, attract outstanding faculty, and give our students opportunities they couldn't find anywhere else. Thank you for being part of this journey with us.

Enjoy the newsletter, and more importantly, enjoy meeting the remarkable faculty, students, and staff whose work and dedication made this such an unforgettable year for our department.

Raegan Higgins
August 18, 2026

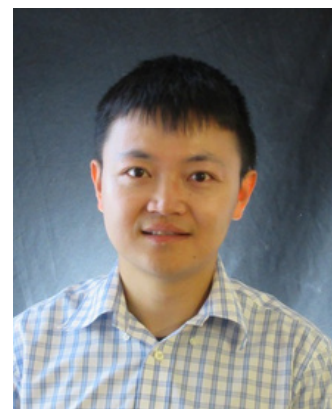


Faculty Achievements



Professor Álvaro Pámpano has been recognized by the Texas Tech Parents Association with the Hemphill Wells New Professor Award for his positive impact on our Red Raider family community.

Dr. Wei Guo has been granted leave from the Board of Regents after being named a Senior Fellow at the Institute of Pure and Applied Mathematics for the spring of 2026. Professor Guo is taking part in the Multi-Fidelity Methods for Fusion Energy program from March 9 to June 12, 2026. Dr. Guo's invitation from such a prestigious group enhances the Department's image in the field of Applied Mathematics.



Assistant Professor Asim Dey was awarded a \$15,000 grant from the Casualty Actuarial Society for the project *Bayesian Spatio-Temporal Modeling of Extreme Snowfall in Texas Using Extreme Value Neural Network (EVNN)*. This is Dr. Dey's third grant since joining the faculty in the fall of 2024 — quite the accomplishment.

For the second time in the semester, Professor Álvaro Pámpano is being recognized for his remarkable teaching abilities with the 2026 President's Excellence in Teaching Award. Given at the Faculty Honors Convocation on May 5th, this recognition comes from the Provost's Office and demonstrates the commitment of the Texas Tech Mathematics and Statistics Department to great research communicated to the student body in a clear, concise manner.



Faculty Achievements continued



Dr. Laubmeier earned the 2025-2026 Chancellor's Council Distinguished Research Award, and in the spirit of this accolade, is the co-Investigator, with PI Biology Professor Joseph R. McMillan, on a \$2.978 million NIH grant, *Population dynamics at an invasive front: Aedes aegypti in the American Southwest*. Her substantial achievements raise her status as well as the recognition of Texas Tech in Biomathematics.



Professor Kirill Golubnichiy has had his first paper published in a Physics journal, *Gravitation and Cosmology, Stationary Multiple Euclidon Solutions to the Vacuum Einstein Equations*, arXiv:2502.03675. And his *Corruption via Mean Field Games* is published in the Journal of Mathematical Analysis and Applications.



Dr. Hung Tran has been awarded a DOE-Los Alamos National Laboratory two-year grant worth \$66,000 beginning in June. Another outstanding achievement from this productive professor.

Professor Lourdes Juan has mentored the Deep Neural Network Models in Medical Imaging group, which received the Red Raider Startup Award from the Texas Tech Innovation Hub competition.

The team was recognized for their project, *Early Lung Cancer Detection (Early LCS)*, which applies machine learning to CT scans for early lung cancer detection. Contest judges praised the team's strong problem validation and clear pathway toward implementation.



Staff Achievements



Undergraduate Program Director and Instructor Yancy Nuñez has received the TTU College of Arts and Sciences Excellence in Academic Advising Award in recognition of his attention to our many undergraduate students, their issues, problems, and successes. He walks the walk and has now been noticed.



Administrative Business
Assistant Erandy Garcia is the recipient of the TTU College of Arts and Sciences Excellence in Support Award, recognizing her helpful, can-do attitude she puts into practice for the Department. She came to Tech from the Marines, and the "Semper Fi" sign in her office lets you know she's a go-getter.

The Department's Business Associate Director Joseluis Sanchez is serving as a Plains Regional Representative of the Texas Association of Chicanos in Higher Education for 2026. Having earned his MBA last fall, he is involved in widening the path for others.





Grad Student Achievements



Following the advice of their mentor, Professor Luan, PhD students Huy Quang and Hoang Nguyen both received \$700 travel grants each to attend the Midwest Numerical Analysis conference April 11-12 at Notre Dame.

They also both got \$2,400 travel awards each to attend the AMS-sponsored 2026 International Congress of Mathematicians conference at the Pennsylvania Convention Center in Philadelphia July 23rd to the 30th, catching, along with Dr. Luan, the opening with the Fields Medalist awards. They got to see lectures by very famous mathematicians, including two Dr. Luan was lucky enough to get to take photographs besides, Terence Tao and Pierre



Deligne, after their talks. Tao, a mathematical child prodigy and Fields Medal recipient from 2006, has gone on to become the Chair of the ICM Structural Committee. 81 year-old Pierre Deligne, 2013 Abel Prize recipient, via a bicycle in the rain passed Dr. Luan as he rode in a car to the conference one day.



Additionally, Hoang Nguyen was selected to attend a double conference, the 2026 Graduate Student Mathematical Modeling Camp at the University of Delaware in Newark, DE, and Mathematical Problems in Industry Workshop at the Drexel University in Philadelphia. Mr. Nguyen's award includes travel, dorm and meal accommodations. Both events were sponsored by SIAM in mid-June.

At the GSMC in Delaware, Hoang joined the Fire Containment group (below right), where they worked on mathematical and computational models of wildfire spread, exploring strategies for slowing and containing a fire.

At MPI, Hoang joined the Kalman Filter project, where the group developed an efficient algorithm for estimating unknown quantities from noisy data, with an emphasis on reducing computational and memory costs for large-scale problems.



Undergraduate Achievement



James Irwin received a 2026 Undergraduate Research Award for his work *Meta-Learning Segmentation and Classification for Lung Cancer Decision Support* at the April 23rd 2026 Undergraduate Research Awards Ceremony at the Museum of Texas Tech, given by the Center for Transformative Undergraduate Experiences (TrUE). Professor Lourdes Juan's Deep Neural Networks in Medical imaging group in her Artificial Intelligence in Medical Mathematical Modeling (AIM³) Laboratory has served to shepherd his efforts. Further, AIM³ Pulmo, Mr. Irwin's specific group, earned a 2026 Top 5 Outstanding Commercialization Award for \$1,000 from the Lubbock Economic Development Alliance.

Society for Industrial and Applied Mathematics TTU Chapter



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Weeraratne



Events Coordinator
Vichithra Amunugama
Walawwe



2026 is the Year of Math, and SIAM, in this spirit, has been a partner to the ICM Conference and conferences above noted on the previous page.

On March 24th, SIAM sponsored ...
Graduate Student Research Day 1

Karthik Vasudeva *Mixed Finite Elements for Optimal Control Problems Constrained by the Biharmonic Equation*

Kaveendri Rathnayake *The Dynamics of Intraguild Predation under Stoichiometric Conditions*

Kalana Kushan Munasinghe *Robust Upper Limit Estimation for Signal Rates in an Inhomogeneous Poisson Process with Unknown Background*

Shashipraba Rajakaruna *Topological functional analysis of longitudinal brain MRI data*

Sikha Saha *Modeling and Simulation of Measles Transmission Dynamics in the United States: An Age-Structured Mathematical Modeling Approach*

Amit Kumar Saha *Analytical Modeling of Microplastic Transport in Rivers: Incorporating Sinking, Removal, and Multi-Phase Dynamics*

Syed Ehsan *Ar Rafi Estimation of unknown sample size when only the empirical cdf is known: MLE approach*

SIAM continued

On March 25th, SIAM sponsored ...
Graduate Student Research Day 2

Nicholas Appiah *Internationally Diversified Equity ETFs under Stress: Tail Risk and Volatility Regimes*

Hasitha Nipun *On some algebraic properties of Euler's totient*

Gihani Wickramasinghe *Bayesian Spatial Modeling of Measles Outbreak in Texas, USA*

Dilmi C.W. Hettiachchi-Halpe-Kankanamalage *Tail-Aware Portfolio Optimization for Real Estate ETFs Under Downside Risk*

Shakya Ranasinghe *Seed, Structure, and Spread: Topological Insights on Risk Dynamics in Network Pathology*

Zuhra F. S. Lebbe *Probabilistic Deep Learning for Networks Community Detection*

And there was still time for the SIAM picnic ...



Association for Women in Mathematics

AWM Raiders



President
Kaveendri
Rathnayake



AWM hosted **Meet the Professors Day** on March 9th and 10th where TTU Math professors Lars Christensen, Bijoy Ghosh and Zari Rachev discussed their fields of research to grad students for illumination, edification and potential academic collaboration

AWM hosted **Library 101 for Mathematicians** with TTU STEM Librarian Jenni Jacobs on April 27th



Faculty Advisor
Lourdes
Juan



Mathematical Discovery Day May 13, 2026

Mathematical Discovery Day continues the tradition of Texas Tech's Emmy Noether Day, a program founded by Dr. Mara Neusel in 2002 and held annually. Its mission has always been to introduce young students to the excitement and possibilities of mathematics.



Around 120 high school students from Estacado, Monterey, Talkington, Christ the King, Lubbock High, and a homeschool attended.

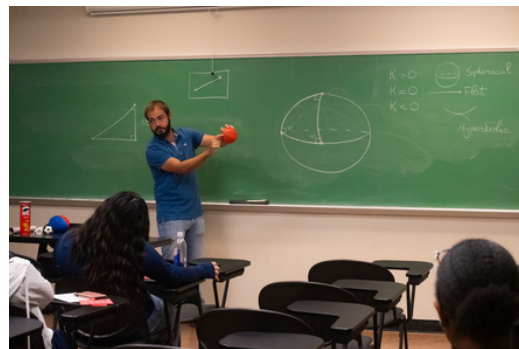
Attendees had their choice of six hands-on workshops, across a variety of mathematical topics. The workshops were led by Kalana Kushan Munasinghe Arachchige, Kirill Golubnichiy, Ram Iyer, Arne Leader, Khoa Nguyen, Alvaro Pampano, and Travis Thompson.

They also competed in a group problem solving contest themed around "logic and proofs." The problems were facilitated by more than 25 undergraduate and graduate student volunteers, with strong involvement from the SIAM and AWM student chapters.

The day culminated in a career panel featuring Ashley Cherry (LCU Mathematics), Karin Ardon-Dryer (TTU Geosciences), and Rachelle Pederson (TTU Education). Students then attended a resource fair highlighting eight different TTU departments and programs for prospective students.

Discovery Day was held almost entirely in the math building, including a catered lunch and events across both floors of classrooms. Erandy Garcia, Michael Kacal, Collin Smith, Jonathon Surles and Arun Beldhe worked throughout the day to keep the event running smoothly.

This year, the Discovery Day committee welcomed Shuddho Das (workshops) and Georgia Thompson (problem contest) as new members. They joined former members Eugenio Aulisa (graduate volunteers), Raegan Higgins (resource fair), Laura Juarez (recruitment), Amanda Laubmeier (organizing chair), Isabell Martinez Server (career panel), and Brock Williams (teacher workshop).

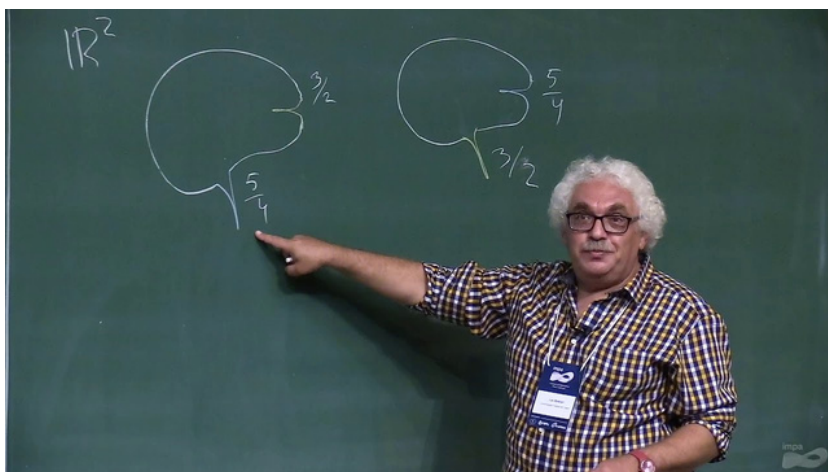




Guest Colloquia Speakers



On February 12th in Experimental Sciences Building 1, famous speaker and Carnegie-Mellon Mathematics professor, educator, entrepreneur and former Math Olympiad medalist and USA Math Olympiad first place team coach Po-Shen Loh delivered *Using math to invent solutions to large-scale human problems, just in time to survive AI*. An engaging speaker with universal appeal, Professor Loh is always a pleasure to hear, with insightful, practical applications for understanding.



On April 16th Dr. Lev Birbrair, Lipschitz Geometry and Singularity Theory innovator from the Federal University of Ceará in Fortaleza, Brazil, gave the talk *Lipschitz Geometry of germs of Real Surfaces*. Professor Birbrair's work has helped bridge the algebraic geometry and metric geometry fields. Special thanks to Dr. David Weinberg for inviting Professor Birbrair to speak at Texas Tech.



Seminars by specialization for spring 2026

Algebra and Number Theory	6	Mathematical Finance	11
Analysis	5½	Probability, Differential Geometry, PDE and Mathematical Physics	5
Applied Mathematics and Machine Learning	12½	Quantum Homotopy	6
Biomathematics	8	Statistics	2
Math Circle (outreach)	9	Topology and Geometry	5

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Twentieth Red Raider Mini-Symposium

April 25, 2026

Despite a George Strait concert that consumed most all of the short term rental options in the City, TTU Mathematics and Statistics rose to the challenge and successfully hosted the RRMS “Geometric Analysis and Applications”, with five distinguished plenary speakers ...



Jacob Bernstein



Vladimir Dragovic



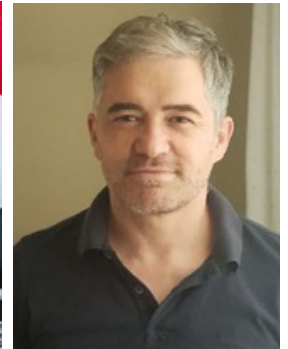
Jr-Shin Li



Zhiqin Lu



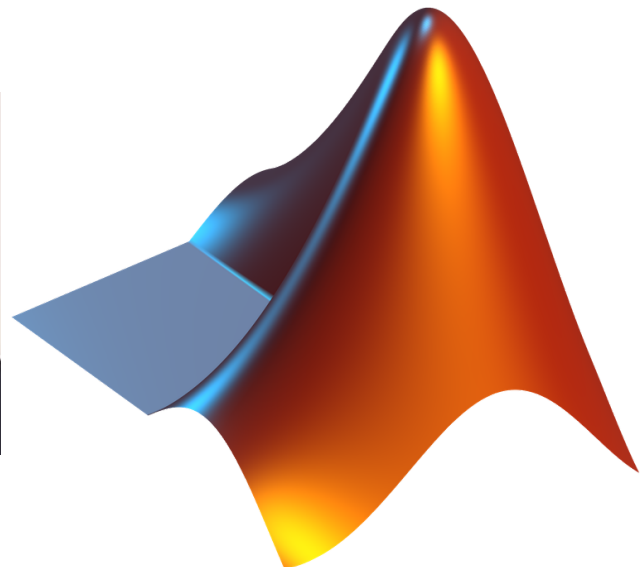
Francesco Maggi



... and posters delivered by TTU 2025 Math PhD graduate returning from his post in Jackson, Mississippi, Professor Miraj Samarakkody, TTU Math grad student Hasitha Geekiyanage, and Department professors Álvaro Pámpano, Magda Toda and Erhan Güler.

MathWorks MATLAB rep visit

Jon Loftin earned his PhD in Mathematics here at Texas Tech in 2022 with Professor Eugenio Aulisa as his committee chair. Having worked in academia as a professor, teacher and researcher for many years, he put his applied math skills to work in his position as a MathWorks Customer Success Engineer. Based out of DFW, and flying to various campuses and company facilities about the southwest, Jon has successfully put his mathematical skills to work in industry, and came by to answer questions for the Department over pizza on April 30th.



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PREP Summer 2026

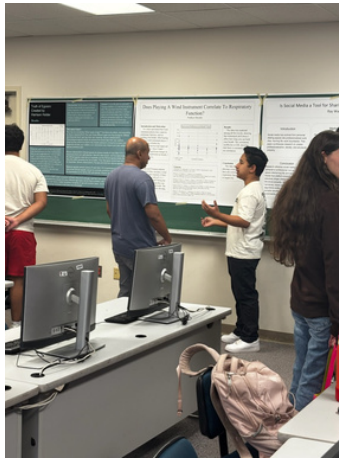
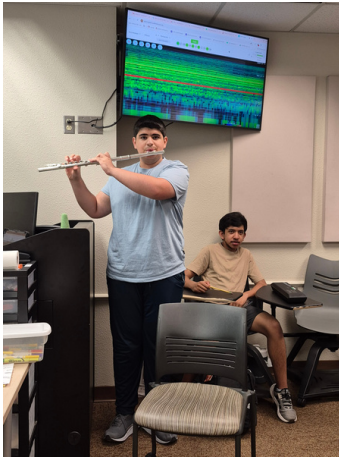


Summer 2026 saw enrollment in the 41-year running outreach PREP moving toward pre-COVID levels, Program Director Jim Brown observed. Isabell Martinez Server felt this year's program had more involvement with TexPREP alumni and parents. "Our program truly leaves a legacy and we would not be able to continue without the support of past students and parents" wrote Martinez. Summer 2026 saw enrollment in the 41-year running outreach PREP moving toward pre-COVID levels, Program Director Jim Brown observed. Isabell Martinez Server felt this year's program had more involvement with TexPREP alumni and parents. "Our program truly leaves a legacy and we would not be able to continue without the support of past students and parents" wrote Martinez. This was demonstrated when two PREP alumni hosted zoom sessions having successfully migrated to jobs in government and industry, and another zoom session was hosted by Professor Wei Zhang, the mother of a current PREP student. Lecturer Jianna Davenport built on her introduction of an academic poster last year for the young PREP freshmen and sophomores to provide practical graduate school research awareness. And PREP is about the hand-on experience of science, as the photos demonstrate.



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PREP continued



Goodbye to Faculty



Dr. Alex Wang came to Texas Tech in 1989 as a visiting assistant professor, and was appointed full professor in 2004. Besides publishing dozens and dozens of articles, Dr. Wang has done the complicated task of the semester class scheduling for the Department for many, many years, making things work effortlessly in the background due to his considerable efforts to make it so. University President Lawrence Schovanec came to his retirement reception on January 29th to personally thank him for his 36 years of service and dedication to Mathematics & Statistics and the University.

Goodbye to Faculty continued

On May 14th another retirement reception was held honoring both Professors Brent Lindquist and Alex Solynin.

Dr. Lindquist joined Texas Tech as the Dean of the College of Arts and Science in July 2014, and by the time he finished in August 2020, had expanded external research funding awards to exceed \$14.9M/ year — a record for the College. He also led the drive to raise \$19.5M in alumni funding for the College, largely for student scholarships. Dr. Lindquist's brief speech to those present at the retirement ceremony included a thanks to the Department for letting him delve into Mathematical Finance, a branch of the field his background in Physics and Applied Math had helped prepare him, but not at the level of specialization he intended to master.

And the establishment with Dr. Rachev of the growing graduate program in Mathematical Finance in the Department is a testament to his success in the endeavor.

Dr. Alexander Solynin came to Texas Tech as a visiting assistant professor in 2001, and appointed tenured faculty in 2004. Dr. Solynin has been a driving force in the Analysis group of the discipline, giving seminars, supporting grad students, and advancing studies. Someone had left a copy of the Analysis standard, Kurt Strebel's *Quadratic Differentials* on a table in Math 238 lounge. When shown to Dr. Solynin, he said "I have an autographed copy". In 1994 a young Alexander Solynin was working at the University of Zürich, Switzerland in Mathematics and with the esteemed Dr. Strebel. There was a Math Conference to be held in München, Germany, and young Professor Solynin, despite bureaucratic delays, managed to get a visa to visit Germany for the Conference. Professor Strebel drove his car to the border and greeted the German border guards with his documentation, a smile and hand shakes. When asked about his purpose, Strebel replied "Math Conference." When asked about his companion, the elder Professor replied to the guards, "He's with me" and across the border they went. Dr. Solynin got to attend the Math Conference in München and returned to Zürich, all without having his visa stamped or even asked for!



Dr. Magda Toda came to Texas Tech as an Assistant Professor in 2001. By 2014 she was a full professor and named Interim Chair the following year. In 2016 she became the official Chair and continued in that role until 2025, except for one academic year, 2022-2023, when she was on leave as an NSF Program Director in Arlington, Virginia. Dr. Toda's research involves differential geometry, integrable system, variational calculus, curvature functionals like generalized Willmore and p-Willmore energies, and geometric partial differential equations (PDEs). Very active academically, Dr. Toda has been the PI or co-PI for several millions of dollars in grants, published and co-authored 13 research articles already in 2026, and received many awards. In July of 2026 she resigned from Texas Tech Mathematics and Statistics to become the Dean of the College of Arts and Sciences at Missouri State University. We wish her success in the Show-Me State.

Georgia Thompson, a lecturer in the Department since the fall of 2022, accepted a job as Lead Data Analyst for College Readiness in Retention Management & Innovation. Mathematics and Statistics will miss her innovations in Mathematical Discovery Day as noted above, but may she find opportunities in the Office of the Provost's Academic Innovation and Student Success division.



Degrees Conferred

In the spring of 2026, Mathematics and Statistics conferred 40 **undergraduate** degrees and 12 in the summer.

The Department conferred these **graduate** degrees:

May 2026

Ph.D. Boluwatife Awoyemi
Alan Bohnert
Bradley Vigil
Abubakarr Yillah

M.S. Math Vichithra Amunugama Walawwe
Ayesha Poornima Vedapakyam
Elizabeth Anne Payton
Eric Lee Murray
Hasitha Nipun Geekiyanage

M.S. Stats Vichithra Amunugama Walawwe
Rajitha Edirisingha Mudiyansele
Madhusa Gunarathne Kulandachchige
Md Samiul Islam
Shakky Arachchige Ranasinghe

August 2026

Ph.D. Mohammadi Qurratul Ain
Bhathiya Divilgama
Jagdish Gnawali
Kushan Munasinghe
Karthik Kumar Vasudeva
Emilio Verdooren

M.S. Math Oluwatosin Daramola
Stone Fields
Michael Hwang
Anžej Margeta-Cacace
Bryson McBroom

M.S. Stats Ruwani Denagama Vitharanage
Bhathiya Divilgama





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Department of Mathematics & Statistics™

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