A New Name for the Department

In summer 2022 the department received a major estate gift from **David and Judi Proctor**. As a gesture of gratitude for the generous donation, the regular faculty voted to endorse the renaming of the department to David and Judi Proctor Department of Mathematics. Born in Seminole, Oklahoma, David earned a Bachelor of Arts degree in Math from OU in 1962 and pursued graduate studies at Stanford University. He went on to have an outstanding career in the aerospace and computer industries. He was on the team that coded the lunar descent maneuvers for the Apollo 11 and Apollo 13 missions. He and his team earned the Presidential Medal of Freedom for ensuring the safe return of the Apollo 13 astronauts. Judi Proctor also had a successful marketing career at IBM and shares David's passion for the university.

"The naming gift for the Department of Mathematics, a department that is a vital component of the education of every OU undergraduate, will ensure heightened excellence in undergraduate and graduate education and in faculty teaching and research. The Proctors' love for OU has made and will continue to make a profound difference in the lives of our students. We are grateful beyond words." said OU Dodge Family College of Arts and Sciences Dean Wrobel. On Sept. 23, 2022, a reception was held to celebrate the naming the department after the Proctors.

New Faces Around the Department

András Lorincz joined the department as a tenure-track assistant professor. He is an expert in algebraic geometry, representation theory and commutative algebra. Lorincz holds a Ph.D. from the University of Connecticut and was a Golomb Visiting Assistant Professor at Purdue University, a postdoc at the Max Planck Institute for Mathematics in the Sciences (Dresden) and a Dirichlet Postdoctoral Fellow at the Humboldt-Universität (Berlin).

Nicholas Miller is a new tenure-track assistant professor. He earned a doctorate from Purdue University, and was a Zorn Postdoctoral Fellow at Indiana University, McDuff Postdoctoral Fellow at the MSRI and a Morrey Visiting Assistant Professor at UC Berkeley. Miller's research interests are in hyperbolic geometry, low dimensional topology, arithmetic lattices and homogeneous dynamics.

Jack Arbunich is a new postdoc in our department. Jack earned a Ph.D. from the University of Illinois at Chicago and spent three years as a postdoc at the University of Toronto. His general interests are in mathematical physics and PDEs; his mentor will be **John Albert**.

Gary Moon is a new postdoc in the department, who will be mentored by **Allen Wu**. He holds a Ph.D. from the University of North Carolina at Chapel Hill. Moon's interests are in PDEs and their applications to fluid dynamics and mathematical finance.

Malva Asaad is a new renewable-term faculty. She has earned a bachelor of science and master of science degrees from the University of Damascus and has spent a year at the International Center for Theoretical Physics (Trieste, Italy). She holds a doctorate from the University of Connecticut and has worked as a postdoc at the University of Georgia. Her area of research is geometric analysis and probability theory.

Nirjal Sapkota is a new one-year lecturer. He arrived from UT-Dallas, where he earned a Ph.D. on applied PDEs. Prior to that he worked as content specialist in physics for WebAssign in Raleigh, North Carolina.

Elizabeth Pacheco is our new undergraduate advisor. She earned a doctorate in algebraic topology at OU under the direction of **Murad Özaydin**.

Alumni Spotlight

Karen Gaddis was one of the Dodge Family College of Arts and Sciences Distinguished Alumni Award winners in 2022. She received a bachelor of science degree in math in 1971, and a master of arts degree in math education in 1974 from OU. After graduation, she spent 38 years with the Tulsa Public School system. She was a three-time finalist for Tulsa Teacher of the Year. In 1991, she was honored with the Point of Light Award from President George H.W. Bush for creating a class for parents called "Algebra I for Parents." After retiring from teaching in 2011, she focused on the state's lack of funding in public education. She was elected for the Oklahoma House of Representatives in 2016 and helped lead the charge to increase public education funding.

Graduate Degrees Awarded

Jordan Danser received a Ph.D. from the Math Department in summer 2022. His advisor is **Michael Jablonski**.

Ling Jin received a Ph.D. from the Math Department in summer 2022. Her advisor is **Ying Wang.** She is currently working as a data analyst at General Dynamics Information Technology.

Tony Martino received a Ph.D. from the Math Department in fall 2022. His advisor is **Max Forester**.

Joseph Randich received a Ph.D. from the Math Department in spring 2022. His advisor is **Jonathan Kujawa.**

Clayton Allred, Zach Cooper and **Doug Smith** received a M.S. from the Math Department in spring 2022.

The Mathematics Department Graduate Students

In summer 2022, multiple mathematics graduate students attended summer schools:

James Beyer, Chih-Kuang Lee: *Tropical Geometry* (at St. Mary's College, Moraga, California)

Maya Verma, Lucas Yong: *Topological Methods for the Discrete Mathematician* (at St. Mary's College, Moraga, California)

Sam Heard, Jeremiah Isu: *Sums of Squares Method in Geometry, Combinatorics and* Optimization – (at University of British Columbia, Kelowna Campus, Canada)

Chary Addanki: *Number Theory Informed by Computation* (at Park City Mathematical Institute, UT)

Fahed Mokdad-Reyes: *Random Graphs* (at MSRI)

In summer 2023, three mathematics graduate students will attend MSRI summer schools:

Wenwen Li: *Machine Learning* (at UC-San Diego),

Bach Tran: *Concentration Inequalities and LocalizationTtechniques in High Dimensional Probability and Geometry* (at MSRI),

Sayantan Santra: *Formalization of Mathematics* (at MSRI).

The Mathematics Department awarded **Chary Addanki**, **James Beyer, Chih-Kuang Lee** and **Shravan Saoji** Summer Research Fellowships for summer 2023.

Carlos Villanueva was awarded the SMART scholarship in 2022 by the Research and Analysis Center of the U.S. Army.

In 2022, the Math Department graduated 45 undergraduate students, two master's students and four Ph.D.s. Many of our alums have continued onto graduate school and begun careers in areas such as data science and fiber optics.

Mathematics Department Events

2022 Math Day

On Nov. 10, 2022, our department had our biggest outreach event of the year – Math Day – a day of math competitions for high school kids from Oklahoma and North Texas. This was the 20th such event – the first one was in 2001, and the ones in 2020 and 2021 were canceled. Students competed in written tests, participated in the ``Sooner Math Bowl'' – an exciting real-time team competition, Jeopardy-type. Our former postdoc **David Plaxco** (who worked at OU in 2015-2017 and now is assistant professor at Clayton State University in Georgia) gave a talk on the *Mathematics and Art of the Rubik cube*. This year we had 446 students and 49 teachers and chaperones attending, some coming from as far as Tulsa and Arlington. **Greg Muller** chaired the Math Day Organizing Committee.

Students have taken their seats, getting ready for the written tests during Math Day 2022.

Log Cabin Workshop in January 2023

During Jan. 9-13, 2023, **Nick Miller** (OU), together with **Michelle Chu** (University of Minnesota) and **Franco Vargas-Pallete** (Yale University), organized a week-long Log Cabin Workshop titled *Surfaces in 3-manifolds*, held in early January on the outskirts of Tonto National Forest near Young, Arizona. The workshop was sponsored entirely by the NSF CAREER grant awarded to **Jing Tao**. Nineteen early career mathematicians participated in an intensive week of learning and professional development, as well as bonding and fun. The workshop organizers are hopeful that the activities of the week will propagate and result in future workshops and that the new connections between the participants will lead to productive collaborations among this next generation of young mathematicians.

2023 Redbud Conference

The 2023 Redbud Topology Conference was held at OU March 31 – April 2. This regional conference series, supported by the National Science Foundation, brings together topologists and geometers from OU, OSU, the University of Arkansas and beyond. Amid the beauty of the season, they delved into the complexities of topology and related areas, sharing insights and forging connections. The first conference in the series was held in November 2011 at the University of Arkansas. This year, our colleagues **Max Forester**, **Justin Malestein**, **Peter Patzt** and **Jing Tao** were among the members of the Organizing Committee. Two of our former graduate students gave presentations: **Ignat Soroko** (Ph.D., OU, 2018, advisor: Noel Brady; presently postdoctoral researcher at University of North Texas); **Melody Molander** (M.S., OU, 2017; presently a fourth-year year Ph.D. student at the UC-Santa Barbara).

Emily Gunawan gave a talk titled "Polytopes and the brewery problem" at the 2022 Math Department Awards Banquet.

Boris Apanasov has signed a contract with the publishers Walter de Gruyter for a book titled *Dynamics of Discrete Group Actions* in their series "Advances in Analysis and Geometry".

Alexander Grigo and **Ying Wang** started a new online Society for Industrial and Applied and Mathematics (SIAM) Central States Section Computational and Applied Mathematics Forum since February 2023.

Mary He was visiting MSRI in spring 2022.

Tomasz Przebinda was a co-chair of the Organizing Committee of the conference *Representations and Characters: Revisiting the Works of Harish Chandra and André Weil*, a satellite conference of the virtual International Congress of Mathematicians in July 2022.

2023 Redbud conference participants in front of PHSC

Graduate students at our department started a new chapter of the Association for Women in Mathematics (AWM). The AWM, founded in 1971, is a professional society that encourages and supports women to study and work in careers in the mathematical sciences. The new OU chapter is planning to begin hosting events in fall 2023.

Awards and Recognitions

David and Judi Proctor received the Distinguished Service Award of the Dodge Family College of Arts and Sciences for their leadership and generosity in support of areas that reflect the values of the college.

Roi Docampo was granted tenure and was promoted to associate professor.

Sepideh Stewart, **Jing Tao** and **Ying Wang** were promoted to full professors.

Jon Kujawa was awarded the Nancy Scoffield Hester Presidential Professorship in 2022.

Sepideh Stewart received the Nancy L. Mergler Faculty Mentor Award for Undergraduate Research in 2022.

Deborah Moore-Russo was a recipient of the 2023 James and JoAnn Holden Faculty Award for excellence in teaching at the freshman or sophomore level, influential scholarship and excellent leadership in research.

Kimball Martin received an Invitational Fellowship from the Japan Society for the Promotion of Science.

Peter Patzt received a Simons Collaboration Grant.

Ameya Pitale, together with Martin Dickson (King's College London), Abhishek Saha (Queen Mary University of London) and Ralf Schmidt (University of North Texas), won the 2021 *Journal of Mathematical Society of* Japan Outstanding Paper Prize for their article "Explicit refinements of Bocherer's conjecture for Siegel modular forms of squarefree level."

Keri Kornelson is a part of an OU team that was awarded a large five-year NSF grant for a project on improving the process of faculty evaluations and workload distributions.

Miloš Savić was named a senior personnel for an NSF conference grant titled *The Chemistry and Mathematics Introductory Large-Enrollment Courses Forum*.

Mike Hillerby received a Distinguished Performance Award by the Staff Senate and has been selected as one of the 2022 Dodge Family College of Arts and Sciences Outstanding Staff Award Winners.

Resignations

Ravi Shankar, professor in the Math Department, has accepted a position as the chair of the Mathematics Department of James Madison University.

Ashley Berger, a renewable-term faculty and associate director of our Math Center, accepted a tenure-track position at the Math Department at Oklahoma City University.

Casey Haskins, a renewable-term faculty, accepted a tenure-track position as an instructor in the new Engineering Catalyst Program in OU's Gallogly College of Engineering.

Our department has a diverse and successful faculty body, with a good national and international reputation. This was demonstrated by the display of some of our colleagues' math books published by the most reputable world publishers: Amer. Math. Soc., Birkhauser, De Gruyter, Springer, etc.

Display of some of our colleagues' books from the second floor of PHSC.

The Math Department

The Department of Mathematics at OU is located in the Physical Sciences Center (PHSC) at 601 Elm Ave, in Norman. PHSC is located in the northwest area of the University of Oklahoma Norman campus.

Visit us online at math.ou.edu, connect with us on Facebook, or contact us by mail at:

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The University of Oklahoma

Created by the Oklahoma Territorial Legislature in 1890, the University of Oklahoma is a doctoral degree-granting research university serving the educational, cultural, economic and health-care needs of the state, region and nation. The Norman campus serves as home to all of the university's academic programs except health-related fields. The OU Health Sciences Center, which is located in Oklahoma City, is one of only four comprehensive academic health centers in the nation with seven professional colleges. Both the Norman and Health Sciences Center campuses offer programs at the Schusterman Center, the site of OU-Tulsa. OU enrolls more than 30,000 students, has more than 2,800 full-time faculty members, and has 21 colleges offering 177 majors at the baccalaureate level, 181 majors at the master's level, 87 majors at the doctoral level, 37 majors at the doctoral professional level, 10 undergraduate certificates, and 68 graduate certificates. The university's total annual operating budget is $2.26 billion. The University of Oklahoma is an equal opportunity institution.

Equal Opportunity Statement