



From the Chair

Here at the start of the 2026-2027 academic year, my first year as Chair of the Math Department is in the rearview mirror. Looking back, I see another stellar year for the department, reflecting the caliber of our students, faculty, and staff.

I would like to extend congratulations again to the graduates who earned their baccalaureate and Ph.D. degrees this past year. It was a pleasure to see all the well-deserved celebrations after successful FPOs and to share the excitement of the family and friends of our undergraduates at our Class Day event. It was also great to see the department welcome back a record number of alumni to its open house during reunions.

It is a pleasure to highlight a few of the honors earned by our faculty this past year. Peter Ozsváth was named a 2026 AMS Fellow; Mihalis Dafermos shared the 2026 AMS Bôcher Memorial Prize; Maria Chudnovsky was elected to the National Academy of Sciences; and Shou-Wu Zhang was awarded the 2026 ICBS Andrew Wiles Medal in Mathematics. Mingjia Zhang, a Veblen Research Instructor in the Math Department, shared the 2026 Maryam Mirzakhani New Frontiers Prize. These awards reflect the exceptional academic accomplishments that continue to distinguish us as a leading mathematics department.

During the 2025–2026 academic year, the Math Department hosted several distinguished visitors and events. The Minerva Lecturer Series included lectures from Hong Wang and Joshua Zahl in the fall, and from Ben Green in the spring. We welcomed Minerva Distinguished Visitor Robert Lipschitz, who spent the year with us and presented a lecture series on "Surfaces and the Fourth Dimension" in the fall. In addition, the department hosted Panorama of Topology: A conference in memory of Bill Browder in March and Forty Years of Higher Dimensional Geometry in June.



Yu Deng '15



John Pardon '11



Jacob Tsimerman '11

Photos courtesy of the Simons Foundation

2026 Fields Medals awarded to Princeton Math Alums and Departmental Affiliates

The 2026 Fields Medals were awarded to **Yu Deng '15**, **John Pardon '11** and former Mathematics faculty member (2016-23), **Jacob Tsimerman '11** and Minerva Distinguished Visitor in 2021, and **Hong Wang**, a Minerva Lecturer in 2025.

The Fields Medal is awarded every four years at the International Congress of Mathematicians to honor exceptional mathematical achievement, recognizing both the impact of a scholar's existing work and their "promise of future achievement."

Christopher Skinner, Princeton professor of mathematics and chair of the department, extended warm congratulations to all of the 2026 Fields Medalists. "The awarding of the Fields Medal every four years is an opportunity to celebrate some great mathematics," he said.

"But it is especially thrilling for the department to have the remarkable works of three of its alums awarded medals this year," Skinner said. "Yu Deng '15, Jacob Tsimerman '11 and John Pardon '11 are exceptional talents, and we are delighted to see them getting this well-deserved recognition and to bask a little in the glow of their accomplishments."

From the Chair

Chair continued from page 1

I am delighted to recognize an extremely generous gift from Henry Laufer (Princeton Math *65) and Marsha Laufer to support the Math Department's graduate program. The graduate program also benefited from a generous addition to the Gunning Fund, endowed by Robert Gunning (Princeton Math *55 and Professor Emeritus) and Wanda Gunning. The graduate program takes pride of place in Fine Hall; we consider it to be second to none. These gifts have had a huge impact for our graduate students and have been a great aid during a challenging time.

Looking ahead, we are pleased to welcome a new senior faculty member, Tom Hutchcroft, who is joining the department in September. We are also excited to welcome three new assistant professors (including two who have been with us as instructors and research fellows), five new instructors, and four new researchers.

As we prepare for the coming academic year, I would like to thank everyone who contributes to the success and vitality of the department. I would like to especially recognize the leadership of past chairs and the hard work of the staff, which combined to make my first year as Chair far smoother than I had anticipated.

I look forward to building on last year's successes and to all that you will achieve in the year ahead.



Christopher Skinner, Department Chair

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Photo credit: Maria Mastrolanni

Department Administration

Christopher Skinner, Chair

János Kollár, Associate Chair

Shou-Wu Zhang, Director of Graduate Studies

Casey Kelleher, Associate Director of Graduate Studies

János Kollár, Director of Undergraduate Studies

Jennifer M. Johnson, Associate Director of Undergraduate Studies

Ana Menezes, Undergraduate Placement Officer

Alexandru Ionescu, Senior Advisor

Mark McConnell, Junior Advisor

Kathleen Applegate, Department Manager

Jill LeClair, Graduate Administrator

Brittany M. King, Undergraduate Administrator

New Junior Faculty and Researchers

2026–2027 Appointments



Joakim Færgeman

Associate Research Scholar/
Bourgain Fellow

Algebraic Geometry

Ph.D. 2026, Yale University
The Bourgain Fellow is a joint position
with the IAS.



Yujin Kim

Postdoctoral Research Fellow

Probability Theory & Stochastic Processes

Ph.D. 2025, Courant Institute, New
York University



Zhiyu Liu

Instructor

Algebraic Geometry

Ph.D. 2026, Zhejiang University



Stan Palasek

Assistant Professor

Partial Differential Equations

Ph.D. 2023, University of California,
Los Angeles



Jiwoon Park

Instructor

Probability Theory & Stochastic Processes

Ph.D. 2023, University of
Cambridge



Hao Peng

Instructor

Number Theory

Ph.D. 2026,
Massachusetts
Institute of
Technology



Yipeng Wang

Instructor

Differential Geometry

Ph.D. 2026, Columbia
University



Andreas Wieser

Associate Research Scholar

Dynamical Systems and Ergodic Theory

Ph.D. 2021, ETH Zürich

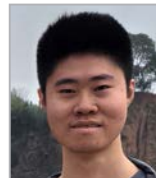


Zixuan Xu

Instructor

Combinatorics

Ph.D. 2026, Massachusetts Institute
of Technology

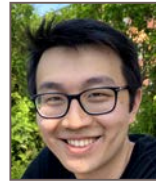


Ruotong Zhang

Postdoctoral Research Associate

Partial Differential Equations

Ph.D. 2026, Tsinghua University



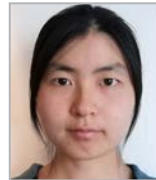
PROMOTION

Joshua Wang

Assistant Professor

Low-Dimensional Topology

Ph.D. 2023, Harvard University



PROMOTION

Mingjia Zhang

Assistant Professor

Number Theory

Ph.D. 2023, University of Bonn

New Senior Faculty

Photo credit: Lance Hayashida, Caltech



Thomas M. Hutchcroft

Joining the Department of Mathematics in the Fall of 2026, Hutchcroft comes to Princeton from the California Institute of Technology. He has taught at Caltech since 2021, most recently as the Gordon and Betty Moore Professor of Mathematics.

Hutchcroft's research interests include percolation theory, mathematical physics and geometric group theory. He is best known for his work in modeling percolation behavior to understand phase transitions in complex systems known as non-Euclidean geometries.

Hutchcroft earned a Ph.D. from the University of British Columbia and an M.Math and B.A. from the University of Cambridge.

His awards include the London Mathematical Society's Whitehead Prize in 2025, the Packard Fellowship for Science and Engineering in 2024, the European Mathematical Society Prize in 2024, the Journal of Mathematical Physics Young Researcher Award in 2022, and the Rollo Davidson Prize in 2019.

Honors and Awards

Faculty and Alumni



Photo credit: Emory University



Matija Bucić and Cosmin Pohoata

Matija Bucić, Assistant Professor (September 2023-September 2025) received the European Prize in Combinatorics for outstanding achievements in Ramsey theory (Fishburn and Graham's problem), graph theory (Erdős-Gallai conjecture), and discrete geometry. Cosmin Pohoata '14 also shared the European Prize in Combinatorics for important achievements in the following areas: combinatorial geometry (Heilbronn triangle problem), extremal graph theory (Erdős "box" problem), and the variegated "matching" problem of hypergraphs. The European Prize in

Combinatorics is awarded biennially at EUROCOMB to outstanding researchers under the age of 35 for exceptional contributions to the field.

Zechang (Charlie) Yang

On Sunday, August 31, 2025, Princeton University celebrated the academic accomplishments of its students with the awarding of undergraduate prizes at Opening Exercises. Included among the honors presented was the George B. Wood Legacy Sophomore Prize, awarded each year to members of the junior class in recognition of exceptional academic achievement during their sophomore year. This year's prize is shared by Zechang (Charlie) Yang, math major and Haruka Nabeshima, psychology major.



Photo credit: Hanying Wen



Maggie Miller

Maggie Miller '20 has been awarded a 2025 Packard Fellowship for Science and Engineering from the David and Lucile Packard Foundation. Twenty innovative early-career scientists and engineers will each receive \$875,000 over five years to pursue their research. Miller is exploring the limits of what strange behavior we can observe in 4-dimensional space.



Peter Ozsváth

The American Mathematical Society has named Professor Peter Ozsváth as one of forty 2026 AMS Fellows. Recognized by their peers, AMS Fellows have made outstanding contributions to the creation, exposition, advancement, communication, and utilization of mathematics. In 1888, the AMS was founded to further the interests of mathematical research and scholarship, serving the national and international community through its publications, meetings, advocacy and other programs, which promote mathematical research, its communication and uses, encourage and promote the transmission of mathematical understanding and skills, support mathematical education at all levels, advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals, foster an awareness and appreciation of mathematics and its connections to other disciplines and everyday life.



Photo by Penny Jennings UCLA

Terence Tao

Terence Tao '96 received the James Madison Medal, the highest distinction for graduate alumni, which was presented in Richardson Auditorium during the 111th Alumni Day ceremonies on February 21, 2026. Tao's research in both pure and applied mathematics has contributed to compressive sensing (used in signal processing and cryptography) and number theory.

Honors and Awards

Faculty and Alumni

Photo credit: Igor Medvedev

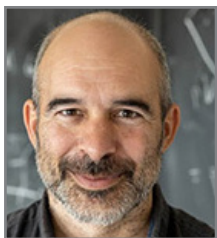


Photo credit: Rod Searcey



Mihalis Dafermos and Jonathan Luk

Professor Mihalis Dafermos *01 and Jonathan Luk *12 received the American Mathematical Society's 2026 Bôcher Memorial Prize for their work on the CO-stability of the Kerr Cauchy horizon, which addresses the fundamental question of global uniqueness of solutions to the initial value problem for the Einstein equations of general relativity, disproves expectations, and calls for a rethinking of fundamental issues. The Bôcher Prize is awarded for a notable research work in analysis published during the preceding six years.

Photo credit: Peter Badger/The Abel Prize



Gerd Faltings

The Norwegian Academy of Science and Letters has awarded Gerd Faltings, who served on the mathematics department faculty from 1985 to 1994, the 2026 Abel Prize. Faltings is recognized for his achievements in arithmetic geometry, a field that combines the study of numbers with the study of abstract geometric forms. The Abel Prize ceremony took place on May 26, 2026, in the University Aula.



Photo credit: Sameer Khan, IAS



Mingjia Zhang and Anna Skorobogatova

Mingjia Zhang, Veblen Instructor at Princeton and a von Neumann Fellow at the Institute for Advanced Study, and Anna Skorobogatova *24 have each been awarded a Maryam Mirzakhani New Frontiers Prize. Zhang was recognized "for contributions to the theory of Shimura varieties." Skorobogatova was recognized "for contributions to geometric measure theory." The Maryam Mirzakhani New Frontiers Prize is an award for Early-Career Work from the Breakthrough Prize Foundation.

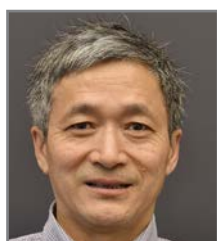


Maria Chudnovsky and Christopher M. Skinner

Professors Maria Chudnovsky and Christopher M. Skinner have been elected to the National Academy of Sciences in recognition of their distinguished and continuing achievements in original research. Chudnovsky studies graph theory and combinatorics, with a particular interest in perfect graphs. Skinner's research focuses on algebraic number theory, arithmetic geometry and arithmetic aspects

of the Langlands program.

The National Academy of Sciences was established in 1863 to advise the nation on issues related to science and technology.



Shou-Wu Zhang

Professor Shou-Wu Zhang was awarded the 2026 ICBS Andrew Wiles Medal in Mathematics from the International Congress of Basic Science in recognition for transformative contributions to arithmetic geometry. This included the proof of the Bogomolov conjecture and the extension of the Gross-Zagier formula.

The ICBS Medal is established to recognize scientists worldwide who have achieved groundbreaking and transformative advances in basic science. The medals span three major disciplines—mathematics, physics, and engineering.

Faculty Spotlight

Wei Ho

A Mathematician Dancing Between Algebra and Geometry



Quanta magazine, spotlighted Wei Ho's work in a Q & A session by Rachel Crowell, "A Mathematician Dancing Between Algebra and Geometry."

Like many people who would go on to become mathematicians, Wei Ho grew up competing in math contests. In eighth grade, she won the Mathcounts state competition in Wisconsin, and her team took third place at nationals.

Unlike many future mathematicians, she wasn't sure she ever wanted to become one.

"I wanted to do everything, all the time," Ho said. "I took ballet very seriously until early high school. I edited the literary magazine. I did debate and forensics. I played tennis and soccer and piano and violin." By contrast, many successful mathematicians appeared to be obsessed with math to the exclusion of everything else. How could she, a person with numerous passions, compete with that level of focus?

Ultimately, Ho was drawn to the rigor of

mathematics. She still enjoys ballet, reading novels and doing cryptic crossword puzzles, even as she helps to reinvent the mathematical machinery that underpins fundamental mathematical objects, such as polynomial equations, which have long-standing and perplexing open questions associated with them.

Ho studies familiar geometric objects, but she reformulates the questions to situate them in the realm of the rational numbers — numbers that can be written as fractions. "Then number theory starts to get mixed into all of this," she said.

She is especially interested in elliptic curves, which are defined by a particular kind of polynomial equation that has applications in different branches of mathematics. Elliptic curves appear in analysis — broadly speaking, the study of continuous things, like the real numbers — and in algebra, which is about finding and defining precise mathematical structures. (Though their focus is different, analysis and algebra are divided more by sensibility than by a strict boundary, as there is plenty of overlap between them.)

In a barrier-breaking preprint released in 2018, Ho and her collaborator Levent Alpöge of Harvard University discovered a new upper bound for the number of integer solutions to polynomials that define elliptic curves. Their technique draws upon the decades-old work of Louis Mordell, an American mathematician who emigrated to Britain in 1906. In their paper, Ho and Alpöge were able to glean new information about the distribution of these integer solutions that had evaded other teams studying similar problems.

Ho is spending the year (on leave from her faculty position at the University of Michigan) as a visiting professor at the Institute for Advanced Study, where she was recently named the first director of the IAS's WAM program. She is also a 2023 fellow of the American Mathematical Society and a research scholar at Princeton University.

She's hopeful that directing the WAM program



will “at least help the community more, help more people, instead of just me being in my office doing math research by myself or with collaborators,” she said. “I can prove theorems, and maybe someday I can prove a theorem that in 100 years will matter. Maybe, maybe not. But I felt like I wasn’t making enough impact on the world or on people around me.”

Quanta spoke with Ho in a series of video conferences. The interviews have been condensed and edited for clarity.

Q. How would you describe the way you do mathematics?

A. Sometimes mathematicians divide ourselves into algebraic and analytic people. The math I do touches both sides, but at heart, I am an algebraist, though I’m geometric in the way I think. I often tend to view algebra and geometry as essentially the same.

That’s not quite accurate, but basically since the work of Descartes and especially in the last century, the two subjects have become really close. There is a rather precise dictionary that can, in some situations, help translate a geometric picture to algebraic consequences.

In my own case, the geometric picture often helps formulate statements and conjectures and give intuition, but then we translate them to algebra when writing. It’s easier to detect mistakes as algebra is typically more rigorous. It can also be easier to use algebra when geometry gets too hard to visualize.

Q. What ideas have you been focusing on in your recent work?

A. Quite a bit of my work does have to do with elliptic curves, which are very natural objects in number theory and arithmetic geometry.

It should be hard to have integer solutions of equations like these. We expect, basically, almost all curves should have no integer solutions. But it’s very hard to prove that.

Levent and I studied this distribution of the number of integral points. We use a classical construction from Mordell’s 1969 book *Diophantine Equations*. We’re able

to give an upper bound on the number of integral points on an elliptic curve. Other people have given upper bounds. We found a different bound that is simple to state.

Q. What role did Mordell’s earlier work play in your recent result?

A. Our question involves integral points on elliptic curves. Mordell has a way of relating it to something else that we’re able to study.

That’s something we do all the time in math: We want to understand an object, but we have to find a proxy to understand it. Sometimes that proxy is very accurate. Sometimes it loses information. But it’s actually something we can access.

Q. When did you decide to focus on mathematics?

A. I don’t think there was a tipping point for me. I’m happy with my life and career now, but I feel that if things had been slightly different, I could have been happy in many careers or other fields. Maybe that’s something most mathematicians wouldn’t say, because they like to talk about how passionate they are about math and how they could never think about anything else. For me, I don’t think that’s true.

I am curious about lots of different things. Perhaps I ended up being a mathematician because I was frustrated with the lack of rigor in other fields. As a child, I was trained to think like a mathematician in some ways, because that’s how we did things at home. My dad played math games with me, which meant I was learning logical reasoning from a young age. I wanted things to be proved.

Go to the full article at
<https://www.quantamagazine.org/wei-ho-is-drawn-to-algebra-geometry-and-the-human-side-of-math-20221122>



Undergraduate Program

Undergraduate Student Updates

Undergraduate Student Profile



Shreya Sinha

Hi, I'm Shreya! I'm a graduating senior in the math department. My love for math began when I encountered the beautiful structures and theorems I learned in MAT216, and it was only strengthened by the wonderfully

supportive community I found in the math department. I am currently interested in the smooth structures of 4-manifolds and knot theory. As a result, my senior thesis delved into the various classification schemes found in low dimensional topology, from studying various knot invariants to distinguishing exotic complex surfaces and finding the points at which the methods needed to solve each of these problems intersected. I plan to continue to study these themes in graduate school this fall. Along the way, I was incredibly fortunate to be advised by Professor Peter Ozsváth and Professor Zoltán Szabó; their generosity with their time and enthusiastic teaching greatly guided my development as a mathematician. I did not initially plan to do math as a career (in fact, I came into Princeton torn between math and CS!) but the warm community of peers, graduate students, and professors made my choice effortless, if not inevitable. Outside of mathematics, I sing with the Chapel Choir, study religion and computer science, and knit sweaters, all hobbies I also plan to bring to graduate school.

Recap: Undergraduate Studies

The academic year began with orientation workshops for the incoming first-year students. These workshops have evolved over the past years to assist students in finding the right starting point for their mathematics coursework. The incoming students select one of three workshops, depending on their likely placement. The first group is for students who consider (MAT100/103/175), the second for those with likely placement (MAT104/201/202/203/204), and the third for those with potential interest in majoring in mathematics (MAT210/214/215/216).

In April, the Department welcomed 65 new sophomore majors, the highest number in recent years. The year closed on May 25, when the seniors received their degrees and prizes.

The Math Department launched the minor in mathematics during the 2024-2025 academic year, with Mark McConnell as the Minor Program Director. The program has been growing, with 41 students currently enrolled and 32 recent graduates.

The mathematics minor provides a structure that encourages students to explore mathematical ideas for their own sake in an open-minded, intellectually curious way, which is the primary goal of a liberal arts education. The program allows for students to either supplement work in their major field of concentration or to explore new directions.

Most of the mathematics minors major in a closely related field, but there are also students from the humanities and social sciences who enjoy learning math and would like to continue to explore more advanced ideas in mathematics.

Graduate Student Profile



Vanshika Jain

In 2021, I arrived at Princeton during COVID when it was unusually easy to remain isolated. I wanted to work in algebraic number theory, but I often felt unsure how to enter conversations around me. The area requires a

deep background, and I was intimidated by how much everyone else seemed to know. With the usual informal spaces disrupted, I did not always know who to talk to or how to begin asking questions. For a while, I felt like I was near a great deal of mathematics without yet feeling part of it.

After generals and after the back pain from standing at a blackboard for three hours had subsided, the department began to feel more open. I started helping organize graduate student social events, going to seminar dinners, attending GSS and eating pizza, and showing up to Noetherian Rings. I also became involved with the Prison Teaching Initiative, TA-ing and teaching in a setting that reminded me how meaningful it can be to share mathematics. These ordinary rituals became unexpectedly important to me. Fine Hall became less intimidating and more like a home, a community I could participate in and learn from.

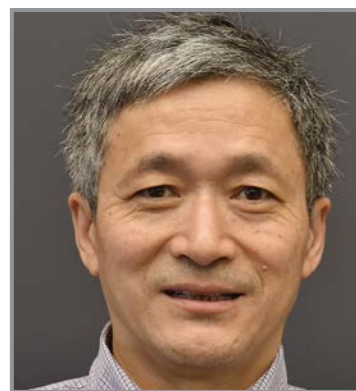
These experiences also changed my mathematical taste. I realized that I wanted to work in an area where conversation felt natural: problems could be shared quickly and people with different backgrounds could enter the discussion. This drew me toward enumerative and additive combinatorics. My advisors, Evita Nestoridi and Noga Alon, shaped the problems I thought about and helped me see how much depth can lie behind questions that are easy to state.

My graduate years were marked not only by

personal change, but by larger changes as well: COVID, changes in funding in higher education, and LLMs reshaping how people think about research. In that uncertainty, conversations in Fine Hall, with other graduate students, postdocs, and professors, made an enormous difference by helping me understand what I wanted from a career and what kinds of environments I might thrive in. From these conversations, I decided to move to industry; this fall, I will be a quantitative researcher in New York City.

Princeton gave me the freedom to change direction, and the community anchored me as I made those changes. I leave less afraid to ask questions and more open to unexpected paths. I will miss the light hum of the common room, the graduate student social — emails mentioning the sunset, chalky hands after giving a talk, and the many people who made this building feel like home.

A Message from the Director of Graduate Studies



Shou-Wu Zhang

I've had a wonderful first year as Director of Graduate Studies, getting to know many of our exceptionally talented and friendly graduate students through roundtable gatherings, conversations at graduate student social

events, and individual meetings in my office. It has been a great pleasure to work with Casey Kelleher and Jill LeClair. Their experience, competence, and dedication make my work immensely easier, and I am especially grateful to them for covering my responsibilities during my sabbatical leave this past spring.

Continued on next page

Programs

Undergraduate Prizes | Alumni News

2026 Undergraduate Mathematics Prizes

The Andrew H. Brown Prize:

awarded to the outstanding juniors in mathematics

Max Chien '27

Charlie Yang '27

The Peter A. Greenberg '77 Prize

awarded for outstanding accomplishments in mathematics by juniors

Ananya Prasanna '27

Olivia Kwon '27

Ezekiel Douglas Rosenthal '27

Kashti Satish Umare '27

The George B. Covington Prize in Mathematics

awarded for excellence in mathematics

Kaivalya Kulkarni '26

Julian Shah '26

The Middleton Miller '29 Prize

awarded for the best independent work in mathematics

Colby Riley '26

David Fischer '26

Shreya Sinha '26

Vasudha Bharathram '26

The Class of 1861 Prize

awarded to the sophomore with the best record on the Putnam Examination

Minjae Kwon '28

Michael Olakkengil '28

The Sigma Xi Book Award for Outstanding Research

awarded for outstanding research accomplishments in mathematics

Claire Kaneshiro '26

Inducted into Sigma Xi

Claire Kaneshiro '26

Kaivalya Kulkarni '26

Kareem Jaber '26

Akshat Agarwal '26

Brandon Cho '26

Akash Jim '26

Owen Yang '26

Colby Riley '26

Elie Belkin '26

Xuan Xu '26

David Fischer '26

Shreya Sinha '26

Taylor Maxson '26

Charles Yu '26

Luyang Gan '26

Vasudha Bharathram '26

Joseph Chai '26

Senior Honors

Highest Honors

Kaivalya

Kulkarni

Kareem Jaber

Julian Shah

Akshat Agarwal

Brandon Cho

Akash Jim

High Honors

Sam Park

Owen Yang

Benjamin

Lemkin

Colby Riley

Lucas Shedlock

Elie Belkin

Claire Kaneshiro

Honors

Xuan Xu

David Fischer

Sunil Vittal

Jack Rosenthal

Shreya Sinha

Message continued from page 9

I began my term with a welcome meeting for the outstanding first-year class in the fall of 2025, as well as individual meetings with many of our second-year students. One of the most demanding responsibilities of the position is selecting a new cohort of students for admission from an extraordinarily large and talented applicant pool. This year, we were fortunate to have an excellent Graduate Admissions Committee consisting of Alex Ionescu, Anubhav Mukherjee, Igor Rodnianski, Jonathan Tidor, Mingjia Zhang, Casey, and me. Thanks to the hard work of the committee, the faculty contacts, and the success of our open house events, we have attracted an outstanding incoming class of 19 students for next fall.

Recent Ph.D.'s

NAME	ADVISER	THESIS TITLE	ORIGINAL PLACEMENT & POSITION
Anshul Adve	Sarnak	The Conformal Bootstrap for Hyperbolic Surfaces	IAS Member (2026-2027); Stanford University; Stanford Science Fellow (2027-2030)
Zhiyuan Chen	Xu	Finite Generation of Quasi-monomial Valuations	Stanford University; Simons supported Postdoc (2026-2027); Szegő, Assistant Professor (2027-2030)
Serban Cicortas	Rodnianski	Nonlinear Scattering Theory for Asymptotically de Sitter Vacuum Solutions in All Even Spatial Dimensions	NYU-Courant Institute; Courant Instructor
Matei Coiculescu	De Lellis	Partial Regularity, Uniqueness, and Non-Uniqueness for the Navier-Stokes Equations	New York University; Simons Junior Fellow
Anthony Coniglio	Klainerman	The Nonlinear Stability of Black Hole Spacetimes: A Computational Framework	TBD
Vanshika Jain	Alon/Nestoridi	Problems in Extremal and Additive Combinatorics	Radix Trading, LLC (NYC); Quantitative Researcher
Zhenhua Liu	De Lellis	The Hasse Principle for Geometric Variational Problems: an Illustration via Area-minimizing Submanifolds	Duke University; Visiting Postdoctoral Fellow
Mayank Pandey	Sarnak	Applications of nilsequences and automorphic forms to analytic number theory	NYU-Courant Institute; Courant Instructor
Junyao Peng	Xu	Equivariant degenerations and K-stability thresholds via Newton-Okounkov bodies	Point72 (NYC); Quantitative Researcher
Razvan-Octavian Radu	De Lellis	A decoupling technique for Nash iterative constructions of fluid flows	Imperial College London; Chapman Fellow in Mathematics (Applied Mathematics)
Zhengyuan Shang	Skinner	Special L-values and Motivic Extensions via Eisenstein Series on $GL_2(F)$	Two Sigma Investments, LP (NYC); Quantitative Researcher
Noah Stevenson	Ionescu	Viscous Traveling Surface Waves	ETH Zurich: NSF Postdoctoral Research Fellow and Hermann-Weyl Instructor
Longke Tang	Bhatt	The P^* -motivic Gysin map	SLMath; Research Member (Fall 2026); Max Planck Institute for Mathematics/ Postdoctoral Research Fellow (2027-2030)
Eyob Tsegaye	Nestoridi/Alon	A Study of Rapid Mixing in Exclusion Processes	NYU Abu Dhabi; Postdoctoral Associate

Events

2025–2026

Photo credit: Vishesh Jain

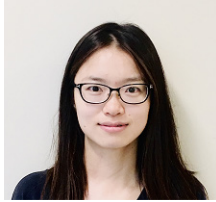


Photo credit: Paul Joseph / UBC



Photo credit: Liubov Yevenok



Minerva Lectures

The Minerva Lecture Series began in 2012 and has been an outstanding success. Each series consists of three lectures over the course of two weeks and numerous occasions for the speaker to work with faculty and students.

In Fall 2025, the department welcomed **Hong Wang** and **Joshua Zahl** as Minerva Lecturers. Professor Wang, of NYU Courant and IHES, presented a distinguished lecture series titled "Restriction theory and projection theorems" and the "Kakeya sets in $\mathbb{R}^3$." Wang's research achievements were recognized with the 2026 Fields Medal, 2025 Ostrovski Prize, 2025 Salem Prize, and the 2025 ICCM Gold Medal of Mathematics.

Professor Zahl, Chair of the Chern Institute of Mathematics at Nankai University, delivered a series of talks on "Sticky Kakeya sets" and the "Besicovitch compression phenomenon." Zahl was awarded the 2025 Nankai University Mathematics Talent Award.

Wang and Zahl were jointly honored with the 2026 Clay Research Award.

In Spring 2026, the department continued the series by welcoming **Ben Green** as the Minerva Lecturer, marking another engaging and impactful semester. Green has been the Waynflete Professor of Pure Mathematics at Oxford University since 2013. Green presented on the "Three topics on the combinatorial side of number theory" discussing recent advances on topics at the intersection of discrete math and number theory.

Minerva Distinguished Visitors

Photo credit: Andrea Kane IAS



Established in 2014, the Minerva Distinguished Visitor program enables leading mathematicians to spend several months in the department, engaging directly with our faculty and students and delivering talks in their areas of expertise.

During the 2025-26 academic year, the department had the privilege of hosting **Professor Robert Lipshitz** of the University of Oregon as the Minerva Distinguished Visitor. Lipshitz provided an eight part mini-course series on smooth surfaces in 4-space. The lecture series emphasized the vast gulf between smooth and non-smooth topology, a characteristic feature of 4-dimensional topology, with an emphasis on what Khovanov homology and its refinements say about the problem.

Horizons Lectures Series

The Horizons Lectures were founded in 2021 as part of the department's Climate and Inclusion Committee. This lecture series consists of two events, a research colloquium and a seminar discussion on the societal impacts of the mathematics profession with the following goals:

- To discuss issues of access, inclusion, and success in STEM fields.
- To provide career guidance to graduate students and junior faculty.
- To recognize outstanding contributions of mathematicians from non-traditional backgrounds.

The Fall 2025 Horizons Lectures Series took place on December 3–4, 2025 with Horizons Lecturer **Jinyoung Park**,

Professor at the Courant Institute of Mathematical Sciences at New York University. Park provided a department colloquium talk on "The Convexity Conjecture, the Kahn-Kalai Conjecture, and introduction to k -thresholds." The colloquium was followed the next day by a fireside chat with Park, titled "Paths to Math: a Conversation," a conversation between Park and graduate student moderator Allison Tatsuoka. The session explored Park's personal and professional journey into mathematics. All events were actively attended by students, faculty, staff, and the math community and left participants with meaningful takeaways for charting their own paths in mathematics.

Photo credit: Rod Searcey



Panorama of Topology: A Conference in Memory of Bill Browder *58

Photo credit: Maria Mastrolanni



The conference took place on March 9–11, 2026, at Princeton University and drew a strong turnout of approximately 80 participants. The central theme of the conference was to celebrate the accomplishments of Bill Browder as a mathematician and a mentor. The talks reflected the amazing impact Browder had on algebraic topology. Attendees included many of Browder's former students, postdocs, coauthors, colleagues, and friends, reflecting the deep connections built throughout his career. The level of participation is a testament to the far-reaching influence and impact of Browder's work in the mathematical community. In addition to the many engaging and thought-provoking talks, the conference featured three memorable highlights: a captivating magic show by Professor Tadashi Tokieda, Stanford University, a panel with Browder's Princeton graduate students, and a well-crafted curated musical program. These elements added a unique and lively dimension to the gathering, enriching the overall experience. The conference was supported by the mathematics departments of Princeton University and the University of British Columbia.

Speakers:

Andrew Blumberg, Columbia
 Gianmarco Caldini, U. Trento
 Sylvain Cappell, NYU
 Ruth Charney, Brandeis
 Søren Galatius, Columbia
 Ishan Levy, IAS
 Santiago López de Medrano, UNAM
 Maggie Miller, U. Texas
 Julia Pevtsova, U. Washington
 Rich Schwartz, Brown

Dennis Sullivan, CUNY
 Tadashi Tokieda, Stanford
 Shmuel Weinberger, U. Chicago
 Zhouli Xu, UCLA

Organizers:

Alejandro Adem, UBC
 David Gabai, Princeton
 Peter Ozsváth, Princeton
 Zoltán Szabó, Princeton



Spring Recital April 16, 2026

It was a wonderful year-end celebration, as our talented students, faculty, and guests filled Taplin Auditorium with performances that showcased both their skills and passion for the arts. We extend our sincere thanks to

Jill LeClair, Graduate Administrator, for the exceptional organization and remarkable attention to detail in planning the performance. The program, emceed by undergraduates Kashti Satish Umare and Julian Shah, featured a wonderfully varied musical lineup. Performances included selections by undergraduate Owen Yang; graduate students Anthony Coniglio, Jonathan Marty; Assistant Professor Susanna Haziot; Senior Lecturer Mark McConnell; Professor Peter Ozsváth; Director, Princeton University Concerts/Music Department Marna Seltzer; Undergraduate Program Administrator Brittany King; and special guest Eli Ozsváth.



Photo credit: Jill LeClair

Visit our website
 for detailed and updated information
 on all upcoming events at

math.princeton.edu

Events

2025–2026

Photo credit: Maria Mastroianni



Forty Years of Higher Dimensional Geometry A Princeton University and the Simons Foundation Collaboration

The conference, held from June 8–12, 2026, at Taylor Auditorium, brought together a vibrant community of approximately 100 participants. The impressive participation spoke to the community's deep engagement with the program and excitement surrounding the research themes highlighted over the course of the week. This was part of the Simons Collaboration grant "Simons Collaborations on Moduli of Varieties." The central theme of the conference was the remarkable development of higher-dimensional geometry over the past forty years, especially the minimal model program, moduli theory, rationally connected varieties, topology of varieties, and singularity theory, together with the field's current frontiers.

The talks of the conference reflected the breadth and depth of modern higher-dimensional geometry. They focused on birational geometry, moduli and degenerations of Fano and Calabi–Yau varieties, Hodge theory, singularities in characteristic zero and positive characteristic, symplectic geometry, topology of varieties, arithmetic questions, and classical projective geometry.

Over the past forty years, under the guidance of visionary leaders, higher-dimensional geometry has flourished in a number of areas such as the minimal model program, moduli theory, rationally connected varieties, topology of varieties and singularity theory, etc. This conference celebrated those achievements and explored the field's current frontiers with 21 lectures given by both junior and senior researchers.

Speakers:

Valery Alexeev, U. Georgia
Klaus Altmann, Freie Universität Berlin
Bhargav Bhatt, Princeton, IAS

Tommaso de Fernex, U. Utah
Kristin DeVleming, UCSD
David Eisenbud, UC Berkeley
Paul Hacking, U Mass Amherst
Christopher Hacon, U. Utah
June Huh, Princeton
Lena Ji, UIUC
Robert Lazarsfeld, Stony Brook
Yuchen Liu, Northwestern
James McKernan, UCSD
András Némethi, Rényi
Mathematical Institute
Zsolt Patakfalvi, EPFL
Giulia Saccà, Columbia
Frank-Olaf Schreyer, Saarland
Karen Smith, U. Michigan

Claire Voisin, CNRS
Jakub Witaszek,
Northwestern
Ziquan Zhuang, Johns
Hopkins

Organizers:

Carolina Araujo, IMPA
Alessio Corti, Imperial
College London
Sándor Kovács, U.
Washington
Chenyang Xu, Princeton

Photo credit: Maria O'Leary



WAM

The conference, "Waves, Wave Packets, and Their Interactions," was held at Princeton University and the Institute for Advanced Study from May 17–22, 2026. On May 20, the department hosted WAM Princeton Day at

Fine Hall. It was a full day of engaging and wide-ranging lectures. Participants also enjoyed the popular walking tour, where they explored historical sites and listened to some captivating stories, followed by a visit to the charming downtown area of Princeton.

SPEAKERS:

Lars Becker, Princeton
Charles Fefferman, Princeton
Susanna Hazirot, Princeton

ORGANIZERS:

Wei Ho, Princeton, IAS, Michigan
Casey Kelleher, Princeton
Ana Menezes, Princeton
Allan Sly, Princeton

Class of 2028 Declaration Day

Declaration Day is a yearly celebration for rising juniors to celebrate declaring their majors. Traditionally, students gather at Cannon Green to celebrate with one another and take photos with their departmental banners. This year, the Mathematics Department is excited to welcome 65 students from the Class of 2028.

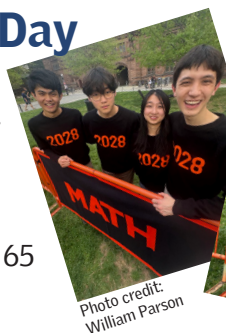


Photo credit:
William Parson

Noetherian Ring Lecture Series

The Noetherian Ring continued its seminar series which featured mathematicians from Princeton and the IAS. Each accessible talk was followed by an informal discussion that helped bridge career stages and encouraged meaningful conversation across the department. These gatherings served as the heartbeat of the Mentoring Program, offering students a relaxed space to connect with mentors and talk about career paths, research directions, and life in academia. Building on last year's growth, the series strengthened a sense of belonging and expanded professional support across all levels.



Noetherian Ring Lecture by Professor Karen Uhlenbeck, IAS Distinguished Visiting Professor

Fluids and Computer Assisted Proofs A NSF-FRG Collaboration

The NSF-FRG Summer School on Fluids and Computer-Assisted Proofs was held in Princeton from August 10–17, 2025, bringing together 32 enthusiastic graduate and advanced undergraduate participants from across the U.S., Canada, and Europe. The program was part of an ongoing NSF-supported collaboration in numerical analysis and computer-assisted proofs in fluid dynamics.

The week featured three mini-courses consisting of five lectures led by principal investigators Tristan Buckmaster, NYU; Alex Ionescu, Princeton; and Ching-Yao Lai, Stanford; along with eight advanced lectures delivered by postdoctoral researchers Gonzalo Cao-Labora, NYU; Joel Dahne, U. Minnesota; Stan Palasek, Princeton and IAS; and Yongji Wang, NYU. In addition to the scientific program, the school included a career roundtable discussion, offering students insight into pathways in mathematics and related fields.

Minerva Distinguished Visitors

The Distinguished Visitor program was inaugurated in 2014. The Distinguished Visitor is a semester-long appointment allowing top mathematicians to pursue and share ongoing projects with colleagues at Princeton.

Fall Semester 2026:

Anna Erschler, CNRS, Sorbonne University
Felix Otto, Max-Planck Institute for Mathematics in the Sciences, Leipzig

Minerva Lecture Series

The Minerva Lecture Series began in 2012 and has been an outstanding success. Each series consists of three lectures over the course of two weeks and numerous occasions for the speaker to work with faculty and students.

Fall Semester 2026:

Davesh Maulik, Massachusetts Institute of Technology

Spring Semester 2027:

Dan Cristofaro-Gardiner, University of Maryland, College Park

WAM

— Princeton Day

**Fine Hall 314 | 10:00 AM – 5:00 PM
June 9, 2027**



Photo credit: William Parson

Photo credit: Caleb Kha-Uong



**PRINCETON
UNIVERSITY**

Department of Mathematics
Fine Hall, Washington Rd.
Princeton, NJ 08542

Alumni Open House
Friday, May 21, 2027 | 2:00 PM
Fine Hall | 3rd Floor Common Room

Photo credit: Maria Mastroianni