

ANNUAL MATHEMATICS RESEARCH INSTITUTE REPORT,

JULY 1, 2025–JUNE 30, 2026

This annual report summarizes the Mathematics Research Institute's activities from July 1, 2025 through June 30, 2026. During the year, the Institute supported the Department of Mathematics through distinguished lectures, seminars, conferences and workshops, visitor programs, and faculty travel. Together, these activities brought many leading mathematicians to campus, fostered ongoing extramural collaborations, and contributed to the department's research environment.

EXECUTIVE SUMMARY

In FY 2025–2026, the Mathematics Research Institute supported distinguished lectures, research seminars, conferences and workshops, visitor programs, and faculty travel. These programs connected Ohio State faculty, students, and postdoctoral researchers with scholars from other institutions and supported mathematical exchange across a wide range of fields.

The year included two distinguished lecture series: the Fall 2025 Radó Lectures by Hong Wang of NYU Courant and IHES, and the January 2026 Zassenhaus Lectures by June Huh of Princeton University. Together, the two series highlighted recent developments in harmonic analysis, geometry, algebra, and combinatorics. MRI seminar support also extended across more than twenty research areas and supported more than 110 seminar speakers.

FY26 AT A GLANCE

- Two signature distinguished lecture series: the Radó Lectures and Zassenhaus Lectures.
- More than 110 MRI-supported seminar speakers across the academic year.
- More than twenty MRI-supported seminar areas spanning core and emerging fields of mathematics.
- Multiple conferences and workshops that brought researchers to campus for focused mathematical programming.
- Short- and long-term visitor programs supporting collaboration, mini-courses, and sustained research exchange.
- Faculty travel support that helped Ohio State mathematicians present work, maintain collaborations, and participate in national and international meetings and conferences.

RADÓ LECTURE SERIES: HONG WANG



“Hong Wang, NYU Courant — 2025 Radó Lecturer.”

The Radó Lectures honor Tibor Radó, a member of the Department of Mathematics from 1930 to 1965, and are traditionally focused on research topics in analysis, broadly interpreted. In Fall 2025, the series featured Hong Wang of NYU

Courant, whose work is in Fourier analysis, harmonic analysis, and related geometric problems.

In the lecture series, Prof. Wang discussed her work which culminated in the resolution of the Kakeya set conjecture in three dimensions, a longstanding problem at the intersection of harmonic analysis and geometric measure theory. Wang also received several recent honors, including the 2026 AWM Sadosky Research Prize in Analysis and the 2026 New Horizons in Mathematics Prize. Following the close of the fiscal year, she was awarded a 2026 Fields Medal.

The Radó Lectures are part of the department’s regular academic programming. The series brings researchers to Ohio State for lectures and conversations with faculty, students, and postdoctoral researchers. These visits give the department community a chance to engage with current work in analysis and related fields.

Recent Radó lecturers include Alexei Borodin, Michael Freedman, David Jerison, Richard Schoen, Vaughan Jones, Ruth Charney, Carlos Kenig, and Shing-Tung Yau. Hong Wang’s visit continued this lecture series in analysis and related areas.

ZASSENHAUS LECTURE SERIES: JUNE HUH



“June Huh, Princeton University — 2026 Zassenhaus Lecturer.”

The Zassenhaus Lectures honor Hans Zassenhaus, a member of the Department of Mathematics from 1963 until his death in 1991, and are traditionally focused on research topics in algebra, broadly interpreted.

In January 2026, the series featured June Huh of Princeton University. Prof. Huh received the Fields Medal in 2022 and a MacArthur Fellowship in 2022. His work connects algebraic geometry and combinatorics, including contributions involving Hodge theory, matroid theory, log-concavity, and related areas of geometric combinatorics.

Huh’s lectures included topics such as projection areas of four-dimensional convex bodies and volume polynomials, highlighting connections among convex geometry, algebraic geometry, matroid theory, and combinatorics. The series gave the Ohio State community an opportunity to engage with current developments in algebra and related fields.

Recent Zassenhaus lecturers include June Huh, Melanie Matchett Wood, Rahul Pandharipande, Christopher Hacon, Chenyang Xu, Geordie Williamson, and László Lovász. Huh’s visit continued the series’ focus on algebra, geometry, combinatorics, and neighboring areas.

MRI-SUPPORTED SEMINARS

MRI seminar support helps organizers invite external speakers to the department throughout the academic year. These visits give faculty, students, and postdoctoral researchers regular opportunities to hear current research, meet visiting scholars, and build academic connections across a broad range of mathematical fields.

Across the seminar portfolio, the MRI supported more than 110 seminar speakers in FY 2025–2026. This activity reached more than twenty research areas, including core fields such as algebra, analysis, geometry, number theory, probability, and topology, as well as emerging areas connected to data science, computational mathematics, and quantum mathematics.

The seminar program reflects the range of research taking place within the department. By supporting speakers across many seminar areas, the MRI helps create regular opportunities for mathematical exchange throughout the year.

Institutional Connections

MRI-supported programming connected Ohio State mathematicians with scholars from institutions including the Courant Institute at NYU, Princeton University, Harvard University, MIT, Columbia University, the University of Chicago, Stanford University, UC Berkeley, the Institute for Advanced Study, and the University of Michigan. These visits and collaborations supported the department's research mission and strengthened its ties with mathematical communities beyond Ohio State.

Seminar Name	Organizing Faculty Member(s)
Actuarial Science and Quantitative Risk Management (AQRM)	Linfeng Zhang
Algebraic Geometry	David Anderson
Analysis and Operator Theory	Jan Lang, Rodica Costin, Ovidiu Costin
Applied Math	Joe Tien
Arithmetic Geometry	Roy Joshua
Combinatorics	Cesar Cuenca
Computational Mathematics	Yulong Xing
Differential Geometry	Bo Guan
Ergodic Theory	Greg Hemenway, Dan Thompson
Geometric Group Theory	Jingyin Huang, Annette Karrer
Harmonic Analysis and Automorphic Representations (HAAR)	Michael Lipnowski
Harmonic Analysis and Several Complex Variables (HASCV)	Dusty Grundmeier
K-Theory	Roy Joshua, Crichton Ogle
Logic	Chris Miller
Mathematics of Data Science	Maria Han Veiga
Number Theory	Stefan Patrikis
PDE	John Holmes, Adrian Lam, Zhuolun Yang
Probability	Hoi Nguyen, David Sivakoff, Cesar Cuenca, Jimmy He
Quantum Meets Mathematics	Kaifeng Bu
Quantum Symmetry	Dave Penneys
Representation Theory	Thomas Kerler, Sachin Gautam
Ring Theory	Mohamed Yousif
Topology	Beibei Liu, Jean Lafont

CONFERENCES AND WORKSHOPS

MRI conference and workshop support helps the department host focused mathematical gatherings. These events bring researchers to campus for invited lectures, graduate and postdoctoral training, collaboration, and discussion. They also give Ohio State faculty and students opportunities to engage with visitors from other institutions.

Conference support is often combined with support from other sponsors, including national research programs. In this way, MRI funding contributes to scholarly activities and helps Ohio State host specialized mathematical meetings.

Conference / Workshop	Date(s)	Research Focus
Enumerative Geometry, Intersection Theory, and Beyond	Oct. 11–12, 2025	Enumerative geometry and intersection theory
The Ohio Mathematics Conference	May 15–17, 2026	Regional mathematical research and professional exchange
YMC 2025	July 30–Aug. 1, 2025	Early-career and young mathematician programming
Workshop in Arithmetic Statistics at OSU and RTG Group Retreat	May 1, 2026	Arithmetic statistics and research training
ALGECOM	Nov. 8, 2025	Algebraic and combinatorial research themes
SPDEs	June 4- 6, 2026	Stochastic partial differential equations

SHORT-TERM AND LONG-TERM VISITORS

The MRI's visitor programs support collaboration that often requires more time than a single lecture allows, including faculty meetings, graduate student conversations, mini-courses, informal problem sessions, and focused research work. Short- and long-term visits allow visiting scholars to take part in the department's research community for extended periods.

One example was the Mini-course on Cohen–Lenstra-type heuristics for random matrices, organized by Hoi Nguyen during May 18–21, 2026. The program included keynote lecturers Matthew Kahle, Andras Meszaros, and Roger Van Peski, along with additional speakers from Harvard University, the University of Southern California, McGill University, Indiana State University, Columbia University, and MIT. Its schedule included extended lecture sequences, shorter research talks, lunch gatherings, and a problem session.

FACULTY TRAVEL SUPPORT

The MRI Board administers the Faculty Travel Program through an account separate from the primary MRI account. During the fiscal year, the program provided modest supplemental travel support for faculty members, postdoctoral researchers, and graduate students. These funds helped offset a portion of the costs associated with travel to conferences, research visits, and other professional activities.

PROGRAM INVESTMENT AND IMPACT

The Institute's resources supported several areas of departmental research activity, including distinguished lectures, seminars, conferences and workshops, visitor programming, and faculty travel. The summary below describes the purpose of each program area and how it contributed to the department during FY 2025–2026.

Program Area	Purpose of Support	Impact for the Department
Distinguished Lectures	Bring scholars to campus through the Radó and Zassenhaus lecture series.	Gives students, faculty, and visitors opportunities to engage with current research.
Research Seminars	Support external speakers across more than twenty mathematical research areas.	Supports regular mathematical exchange across established and emerging fields.
Conferences and Workshops	Provide local support for focused research gatherings, often with external funders.	Helps the department host mathematical communities for focused academic exchange.
Visitors	Extend seminar visits and support longer collaborative stays.	Provides time for collaboration, graduate engagement, mini-courses, and informal research exchange.
Faculty Travel	Provide supplemental support for research travel, presentations, and conference participation.	Helps Ohio State mathematicians present work and continue collaborations beyond Columbus.

ADDITIONAL PUBLIC RESOURCES

Additional public information about MRI programming is available through the following resources:

- **MRI program resources:** MRI overview and program guidance: <https://math.osu.edu/research/mri/about-mri>; MRI visitors information: <https://math.osu.edu/research/mri/visitors>.
- **Distinguished lectures:** Radó and Zassenhaus lecture archive: <https://math.osu.edu/research/mri/rado-and-zassenhaus-lectures>.
- **Seminars and colloquia:** OSU Math seminars and colloquium activity: <https://math.osu.edu/activities/colloquium>.
- **Mini-course:** Cohen–Lenstra-type heuristics for random matrices: <https://u.osu.edu/cohenlenstra/>.
- **Conference examples:**
Young Mathematicians Conference: <https://math.osu.edu/events/young-mathematicians-conference>;
SPDEs Workshop: <https://u.osu.edu/spdeworkshop/>;
ALGECOM-XXVI: <https://sites.google.com/view/algecom-main/algecom-xxvi>;
RTG 2025 Workshop and Retreat: <https://people.math.osu.edu/cueto.5/RTG/rtg25/RTGConference25.html>;
The Ohio Mathematics Conference: <https://math.osu.edu/events/37th-ohio-mathematics-conference-formerly-ohio-state-denison-conference>.