

Minh-Tâm Quang Trinh

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Citizenship

American

Employment

Assistant Professor (tenure-track). [Howard University](#) 2025–
Gibbs Assistant Professor. [Yale University](#) 2024–25
CLE Moore Instructor. [Massachusetts Institute of Technology](#) 2020–24
NSF Mathematical Sciences Postdoctoral Research Fellow (2020–2023)
— *Sponsoring Scientist*: Zhiwei Yun

Education

PhD in Mathematics. [University of Chicago](#) 2014–20
— *Primary Advisor*: Châu Ngô (= Ngô Bảo Châu)
— *Secondary Advisor*: Victor Ginzburg
William Rainey Harper Dissertation Fellow
AB in Mathematics magna cum laude. [Princeton University](#) 2010–14

Publications and Preprints

Central Elements and Cell Decompositions from Partial Springer Resolutions
Preprint. <https://mqtrinh.github.io/math/research/norms.pdf>
+ N. Williams

Level-Rank Dualities for Finite Reductive Groups
Extended abstract. [arXiv:2508.07051](#)
+ T. Xue

Level-Rank Dualities from Φ -Cuspidal Pairs and Affine Springer Fibers
Preprint. [arXiv:2311.17106](#)
+ T. Xue

Unipotent Elements and Kálmán–Serre Duality
Preprint. [arXiv:2210.09051](#)

From the Hecke Category to the Unipotent Locus
Preprint. [arXiv:2106.07444](#)

The Hilb-vs-Quot Conjecture
To appear in *J. angew. reine Math. (Crelle's Journal)* (2025).
+ O. Kivinen

Cell Decompositions of Hecke Traces and Link Polynomials

Proceedings of the 37th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC), Sapporo, 2025. *Sém. Lothar. Combin.* **93B** (2025), Paper No. 90. Extended abstract.

+ N. Williams

Simple Braids Tend Toward Positive Entropy

J. Knot Theory Ramifications, **33**(11) (2024), 2450034, 12 pp.

+ L. Robitaille

Rational Noncrossing Coxeter–Catalan Combinatorics

Proc. Lond. Math. Soc. **129**(4) (2024), e12643, 50 pp.

+ P. Galashin, T. Lam, N. Williams

Algebraic Braids and Geometric Representation Theory

PhD thesis. University of Chicago (2020). Available from ProQuest.

Extremal Primes for Elliptic Curves

J. Num. Theory, **164** (2016), 282–298.

+ K. James, B. Tran, P. Wertheimer, D. Zantout

Zeros of Dirichlet L -Functions over Function Fields

Comm. Num. Theory Phys., **8**(3) (2014), 511–539.

+ J. Andrade, S. J. Miller, K. Pratt

Non-Research Publications

The Hodge Theory of Soergel Bimodules

Chapter 18 in *Introduction to Soergel Bimodules*. Ed. B. Elias, S. Makisumi, U. Thiel, G. Williamson. RSME Springer Series, **5** (2020), 347–367.

+ L. Taylor

Invited Talks

— USNA Colloquium. 4/17/25.

— [Johns Hopkins Topology Seminar](#). 4/16/25.

— Rice Algebraic Geometry and Number Theory Seminar. 4/1/25.

— [UChicago Representation Theory Seminar](#). 1/7/25.

— [Northeastern Geometry, Physics, and Representation Theory Seminar](#). 10/31/24.

— [WUSTL Combinatorics Seminar](#). 9/30/24.

— [AMS Spring Central Sectional Meeting](#). 20-minute talk. 4/21/24.

— [University at Buffalo Algebra Seminar](#). 3/4/24.

— [Institute for Advanced Study in Mathematics \(IASM\) Online Geometry and Physics Seminar](#). Zhejiang University. 1/23/24.

— [International Centre for Mathematical Sciences \(ICMS\) UK–Vietnam Mathematics Joint Meeting](#). Edinburgh. 12/5/23.

— [MIT Lie Groups Seminar](#). 11/1/23.

— [AMS Fall Eastern Sectional Meeting](#). 1-hour talk. SUNY-Buffalo. 9/10/23.

— [Yale Geometry, Symmetry, and Physics Seminar](#). 4/24/23.

- MIT–Harvard–MSR Combinatorics Seminar. 2/15/23.
- Northeastern Geometry, Physics, and Representation Theory Seminar. 10/6/22.
- ICERM Workshop on Braids in Symplectic and Algebraic Geometry. 10-minute talk. 3/23/22.
- Oxford Algebra Seminar. 11/30/21.
- UMass-Amherst Representation Theory Seminar. 10/25/21.
- Cluster Algebra Seminar. AIM Link Homology research community. 10/7/21.
- Categorical Braid Group Actions and Categorical Representation Theory. UMass-Amherst FRG Conference. 6/17/21.
- MIT Lie Groups Seminar. 3/3/21.
- Chinese University of Hong Kong Representation and Number Theory Seminar. 1/15/21.
- Harvard/MIT Algebraic Geometry Seminar. 9/29/20.
- MIT Lie Groups Seminar. 12/4/19.
- MIT Geometric Representation Theory Seminar. 12/4/19.
- Caltech Algebra and Geometry Seminar. 11/11/19.
- AMS Fall Western Sectional Meeting. 20-minute talk. UC-Riverside. 11/9/19.
- UPenn Math-Physics Joint Seminar. 10/22/19.
- Hilbert Schemes, Categorification, and Combinatorics. 30-minute talk. UC-Davis FRG Conference. 6/19/19.
- Perimeter Institute Mathematical Physics Seminar. 5/21/19.
- Johns Hopkins Number Theory Seminar. 4/29/19.
- UC-Davis Algebraic Geometry Seminar. 11/14/18.

Non-Research Invited Talks

- Algebraic Geometry Seminar. AIM Link Homology community. 10/1/21.
- Geometric Categorification Seminar. AIM Link Homology community. 7/5/21.
- MIT Independent Activities Period Mathematics Lecture Series (18.095). 1/20/21.
- Graduate Summer School on the Geometry and Modular Representation Theory of Algebraic Groups. Simons Center for Geometry and Physics. 8/20/19.
- Interactions between Representation Theory and Algebraic Geometry. University of Chicago. 8/21/17.

Teaching

Course Instructor. Howard 2025–
 — MATH 250: Topology I (2025)

Course Instructor. Yale 2024–25
 — MATH 340: Advanced Linear Algebra (2025)
 — MATH 430: Introduction to Topology (2025)
 — MATH 665: Topics in Quantum Algebra (2024)

Course Instructor. MIT 2022–23
 — 18.781: Theory of Numbers (2023)
 — 18.708: Topics in Algebra (2022, 4 lectures)

— 18.704: Seminar in Algebra (2022)

Course Administrator. MIT 2022

— 18.01: Calculus

Recitation Instructor. MIT 2021–24

— 18.02/18.02A: Calculus (2024, *double recitation*)

— 18.02A: Calculus (2023, *double*)

— 18.01A: Calculus (2023, *double*)

— 18.01A: Calculus (2021)

— 18.02A: Calculus (2021)

Graduate Instructor. University of Chicago 2017–20

— MATH 152/44: Calculus II (2020)

— MATH 153/44: Calculus III (2020)

— MATH 132/58: Elementary Functions and Calculus II (2018)

— MATH 131/58: Elementary Functions and Calculus I (2018)

— MATH 195/51: Mathematical Methods for the Social Sciences (2017)

Teaching Assistant. University of Chicago 2015–16

— MATH 242: Algebraic Number Theory (2016)

— MATH 159/53: Introduction to Proof in Linear Algebra and Analysis (2016)

— MATH 175: Elementary Number Theory (2015)

Service

Referee. 2020–

— *Adv. Math.* — *Bull. Inst. Math. Acad. Sin. (N.S.)* — *Geom. Topol.* — *Int. Math. Res. Not.* — *Proc. Amer. Math. Soc.* — *Rep. Theory* — *Transform. Groups*

Research Advisor. PROMYS 2023

Mentor. MIT SPUR 2023

Mentor. MIT PRIMES 2021–23

— Michael Yang (2023)

2024 Regeneron STS Scholar

— Luke Robitaille (2021)

2022 Regeneron STS Winner, Tenth Place

2022 Davidson Fellow

Mentor. MIT UROP 2022–23

Advisor. MIT PRIMES 2021–23

— Ethan Liu (*Mentor:* Merrick Cai, 2023)

— Joshua Guo (*Mentor:* Kevin Chang, 2021)

2022 Regeneron STS Scholar

— Ilaria Seidel (*Mentor:* Jeffery Yu, 2021)

Mentor. UChicago Directed Reading Program 2015–20

<i>QED Day Judge.</i> Math Circles of Chicago	2019
<i>Mentor.</i> UChicago REU	2016–19
— Karhan Kayan (2019)	
— Gwyn Moreland (2016)	
— James Stevens (2016)	
<i>QED Day Senior Judge.</i> Math Circles of Chicago	2016
<i>Advising Chair.</i> Princeton Math Club	2013
<i>Director.</i> Princeton University Math Competition	2011–12

Honors

- **2020 Mathematical Sciences Postdoctoral Research Fellowship (MSPRF)** from the National Science Foundation.
- **2019 William Rainey Harper Dissertation Fellowship** from the University of Chicago.
- Amick Memorial Fellowship from the University of Chicago.
- 2014 Graduate Research Fellowship (GRFP) from the National Science Foundation.
- Phi Beta Kappa Society at Princeton University.
- Society of Sigma Xi at Princeton University.
- 2011 Shapiro Prize for Academic Excellence from Princeton University.
- Nominee for 2011 Quin Morton '36 Writing Seminar Essay Prize at Princeton University.