

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

- (12) Central Elements and Cell Decompositions from Partial Springer Resolutions
Preprint. <https://mqtrinh.github.io/math/research/norms.pdf>
+ N. Williams
- (11) Level-Rank Dualities for Finite Reductive Groups
Extended abstract. [arXiv:2508.07051](#)
+ T. Xue
- (10) Level-Rank Dualities from Φ -Cuspidal Pairs and Affine Springer Fibers
Preprint. [arXiv:2311.17106](#)
+ T. Xue
- (9) Unipotent Elements and Kálmán–Serre Duality
Preprint. [arXiv:2210.09051](#)
- (8) From the Hecke Category to the Unipotent Locus
Preprint. [arXiv:2106.07444](#)
- (7) The Hilb-vs-Quot Conjecture
To appear in *J. angew. reine Math. (Crelle’s Journal)* (2025). [arXiv:2310.19633](#)
+ O. Kivinen

- (6) Cell Decompositions of Hecke Traces and Link Polynomials
 Extended abstract. *Proceedings of the 37th International Conference on Formal Power Series and Algebraic Combinatorics* (FPSAC), Sapporo, 2025. *Sém. Lothar. Combin.* **93B** (2025), Paper No. 90.
 + N. Williams
- (5) Simple Braids Tend Toward Positive Entropy
J. Knot Theory Ramifications, **33**(11) (2024), 2450034, 12 pp.
 + L. Robitaille
- (4) Rational Noncrossing Coxeter–Catalan Combinatorics
Proc. Lond. Math. Soc. **129**(4) (2024), e12643, 50 pp.
 + P. Galashin, T. Lam, N. Williams
- (3) Algebraic Braids and Geometric Representation Theory
 PhD thesis. University of Chicago. ProQuest LLC (2020), 239 pp.
- (2) Extremal Primes for Elliptic Curves
J. Num. Theory, **164** (2016), 282–298.
 + K. James, B. Tran, P. Wertheimer, D. Zantout
- (1) 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

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| <p><i>Course Instructor.</i> Howard</p> <p>— MATH 250: Topology I (2025)</p> | <p>2025–</p> |
| <p><i>Course Instructor.</i> Yale</p> <p>— MATH 340: Advanced Linear Algebra (2025)</p> <p>— MATH 430: Introduction to Topology (2025)</p> <p>— MATH 665: Topics in Quantum Algebra (2024)</p> | <p>2024–25</p> |
| <p><i>Course Instructor.</i> MIT</p> <p>— 18.781: Theory of Numbers (2023)</p> <p>— 18.708: Topics in Algebra (2022, 4 lectures)</p> | <p>2022–23</p> |

- 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*
- Co-organizer.* [Yale Geometry, Symmetry, and Physics Seminar](#) 2024–25
- 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)

<i>Mentor.</i> 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.