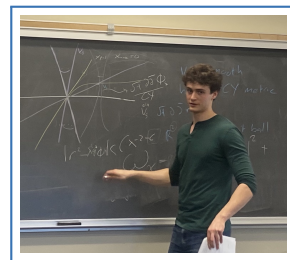


Benjy Firester

✉ benjyfir@mit.edu
🌐 benjyjf.com



Education

- 2023– **Ph.D. in Mathematics**, *MIT*, Levinson fellow
Geometric Analysis & Complex Geometry advised by [Toby Colding](#) and [Tristan Collins](#)
- 2023 **A.B. & A.M. in Mathematics**, *Harvard University*, *Summa Cum Laude*
Honors thesis advised by [Curt McMullen](#)

Research & Expository

- [1] Benjy J. Firester. Mostow rigidity and hyperbolic 3-manifolds, 2023. benjyjf.com/thesis.pdf.
- [2] Benjy J. Firester. Complete Calabi–Yau metrics from smoothing Calabi–Yau complete intersections. *Geometriae Dedicata*, 218(2):46, Feb 2024.
- [3] L. Becker, S. Elliott, B. Firester, S. Gonen Cohen, M. Pnueli, and V. Rom-Kedar. Impact Hamiltonian systems and polygonal billiards. *Proceedings of the MSRI 2018 Fall Semester on Hamiltonian Systems*, 2020. [arXiv:math/2001.03726](https://arxiv.org/abs/math/2001.03726).

Awards

- 2023 **Mumford Prize**, “Most promising senior concentrator in mathematics”
math.harvard.edu/undergraduate-prizes-and-awards-2022-2023
- 2023 **Friends Prize**, *Top two theses present to The Friends of the Harvard Math Department*
Presented senior thesis [1] see: math.harvard.edu/event/special-lecture... and interviewed in the [2023 Harvard Math Newsletter](#)
- 2023 **Hoopes Prize**, \$5,000
Awarded for my senior thesis [1] see: prizes.fas.harvard.edu/.../2022-2023_hoopes...
- 2022 **Phi Beta Kappa**, *Member of Senior 48*
National academic honor society see: thecrimson.com/article/2022/11/15/harvard-pbk-senior-48
- 2022 **Goldwater Scholar**, \$7,500
For my work [2] see: goldwaterscholarship.gov/2022-goldwater-scholars...
- 2022 **Herchel-Smith Fellow**, “A competitive and generous award” for Harvard research
Research funding for [1] see: uraf.harvard.edu/.../herchel-smith-summer-fellowship
- 2022 **PRISE Fellow**, *Harvard summer research community for science*
Research funding for [1] see: uraf.harvard.edu/uraf-opportunities/prise
- 2022 **John Harvard Scholar**, *Harvard College Scholar (2019)*
[Dean’s list](#)
- 2018 **Winner of Regeneron Science Talent Search**, \$250,000
Formerly Westinghouse/Intel STS see: societyforscience.org/.../regeneron-science-talent-search-2018

2017 **Davidson Fellow, \$25,000**

Scientific scholarship winner from the Davidson Institute see: davidsongifted.org/.../2017-fellows

Presentations

4/1/2023 **Harvard Special Lecture for Friends Prize Recipient**

Presented senior thesis [1] see: math.harvard.edu/event/special-lecture...

3/29/2023 **Harvard Math Table**

Non-compact Calabi-Yau manifolds [2] see: sites.google.com/.../mathtable...

2/23/2023 **Stanford Special Geometry Seminar**

Complete CY metrics from smoothing CY complete intersections

see: mathematics.stanford.edu/...geometry-seminar-complete-calabi-yau-metrics...

1/5/2023 **Joint Mathematics Meeting, AMS Contributed Papers in Geometry**

Complete CY metrics from smoothing CY complete intersections

see: meetings.ams.org/math/jmm2023/meetingapp.cgi/Paper/19585

11/18/2022 **RTG Partial Differential Equations on Manifolds, Undergraduate Analysis and PDE Seminar**, with **T. C. Collins**

Complete CY metrics from smoothing CY complete intersections

see: tarheels.live/waves/activities/undergraduate-online-seminar-fall-2022

Teaching

Spring 2023 **Harvard Math 123, Course Assistant**, taught by **Curt McMullen**
Rings, Fields, Galois theory

Fall 2022 **Harvard Math 101, Course Assistant**, taught by **Curt McMullen**
Sets, Groups, and Knots

Spring 2022 **Harvard Math 123, Course Assistant**, taught by **Mark Kisin**
Rings, Fields, Galois theory

Fall 2021 **Harvard Math 114, Course Assistant**, taught by **Dennis Gaitsgory**
Measure, Integration, Banach spaces, Duality, and Fourier analysis

Spring 2020 **Harvard Math 55b, Course Assistant**, taught by **Joe Harris**
Topology and Real/Complex analysis

Fall 2019 **Harvard Math 55a, Course Assistant**, taught by **Joe Harris**
Group theory, Linear algebra, Representation theory

Languages

Hebrew **Advanced**
Citation in Modern Hebrew from Harvard

Spanish **Proficient**

Service

2023– **PRIMES mentor, MIT Math department**

Graduate mentor for prestigious high school mathematics research program see: <https://math.mit.edu/research/highschool/primes/program/>

2023– **GUMMI mentor, MIT Math department**

Graduate mentor for MIT mathematics undergraduates interested in graduate school see: <https://math.mit.edu/gummi/>

2023– **Non-resident tutor, Winthrop House**

Advisor for undergraduates specializing in STEM and pre-career related disciplines
winthrop.harvard.edu/people/benjoy-firester

2023 **Math community undergraduate mentor for GIIM, Harvard GIIM**

Gender Inclusivity In Mathematics see: harvardgiim.org

2019-2022 **Volunteer at JF&CS**

Volunteered helping Holocaust survivors at the [Jewish Family and Children's Service](#)

Affiliations

- 2023– **MIT Mathematics Department**, *PhD Student*
Geometric Analysis & Complex Geometry
- 2018–2023 **Harvard Mathematics Department**, *Bachelors (Summa Cum Laude) and Masters, Course Assistant*
Advised by Curt McMullen, Joe Harris, Cliff Taubes, Peter Kronheimer
- 2019–2023 **The Harvard Advocate**, *Technology editor 2019–2020*
theharvardadvocate.com/
- 2019–2023 **The Harvard Political Review**, *Technology board member*
harvardpolitics.com/
- 2019–2022 **MIT Mathematics Department**, *Research with Tristan Collins*
Funded by [HCRP](#)
- 2020 **D. E. Shaw**, *Systematic Equities*
Quantitative research intern
- 2019 **Microsoft**, *Excel Alpha Team*
Software engineering intern
- 2018 **Weizmann Institute**, *Advised by Vered Rom-Kedar*
International Summer Science Institute research program ([ISSI](#))
- 2012–2018 **Hunter College High School**
- 2017 **Rockefeller University**, *Krueger Group*
Summer Science Research Program ([SSRP](#))
- 2015–2016 **The Agricultural Research Organization (Volcani)**, *Research advised by Lior Blank and Dani Shtienberg*

Other Scientific Papers and Presentations

- 2020 **The MIT Undergraduate Journal of Economics**, *with Andrew Komo*
[Resource allocation with externalities](#) second best paper award
- 2020 **Journal of Biomedical Optics**, *Gareau et al.*
[Deep learning-level melanoma detection by interpretable machine learning and imaging biomarker cues](#)
- 2018 **Plant Pathology**, *with Dani Shtienberg & Lior Blank*
[Modelling the spatiotemporal dynamics of Phytophthora infestans at a regional scale](#)
doi:10.1111/ppa.12860
- 2018 **The Concord Review**, *Volume 28, No. 3*, Emerson Prize
Mail-Order
- 2017 **Euroblight**, *International conference*
Presentation by Lior Blank on our paper in Plant Pathology see: [Euroblight programme](#)