Curriculum Vitæ — Peter Haine

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Citizenship	*United States*

Employment

2023–2025	**NSF Postdoctoral Fellow,** UC Berkeley *Sponsoring scientist:* David Nadler
2022–2023	**Member,** Institute for Advanced Study *Sponsoring scientist:* Jacob Lurie (Membership offered for 2021–2023)
2021–2022	**NSF Postdoctoral Fellow and UC President's Postdoctoral Fellow,** UC Berkeley *Sponsoring scientist:* David Nadler

Education

2021	**Massachusetts Institute of Technology,** Cambridge, MA, *Ph.D. Candidate in Mathematics* *Advisor:* Clark Barwick
2016	**Massachusetts Institute of Technology,** Cambridge, MA, *S.B. Mathematics*

Research Interests

Homotopy theory, algebraic geometry, algebraic K-theory, & related subjects

Selected Awards & Distinctions

2021–2025	**National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship**
2021–2022	**University of California President's Postdoctoral Fellowship**
2021	**MIT Mathematics Community Building Award**
2020–2021	**George Lusztig PRIMES Mentorship**, MIT
Spring 2020	**Higher Categories and Categorification Program Associate**, MSRI
Fall 2019	**AMS Graduate Student Travel Grant**
August 2019	**Leibniz Graduate Student Grant**, Mathematisches Forschungsinstitut Oberwolfach Workshop on *Homotopy Theory*

2016–2021 **National Science Foundation Graduate Research Fellowship**

2016–2019 **Dean of Science Fellow** (MIT)

Publications & Preprints

7. C. Barwick, S. Glasman, and P. Haine, *Exodromy*, Preprint available at arXiv:1807.03281, Aug. 2020.
6. S. Devalapurkar and P. Haine, *The James and Hilton–Milnor splittings, & the metastable EHP sequence*, Preprint available at arXiv:1912.04130, Apr. 2020.
5. P. Haine, *On the homotopy theory of stratified spaces*, Preprint available at arXiv:1811.01119, Sep. 2019.
4. V. Guillemin and P. Haine, *Differential Forms*. World Scientific Publishing Company, Mar. 2019, ISBN: 9789813272774. DOI: 10.1142/11058.
3. C. Barwick and P. Haine, *Exodromy for stacks*, Preprint available at arXiv:1901.09414, Jan. 2019.
2. P. Haine, *Extended étale homotopy groups from profinite Galois categories*, Preprint available at arXiv:1812.11637, Dec. 2018.
1. S. Fomin, R. Shankar, P. Haine, and V. Chugunov, *Stability analysis of non-Newtonian rimming flow*, Appl. Math. Model., vol. 40, no. 4, pp. 2999–3010, 2016. DOI: 10.1016/j.apm.2015.09.088.

Selected Talks

December 14, 2020 **Universität Hamburg Research Seminar on Algebraic Topology**,
Revisiting classical splitting results

December 7, 2020 **University of Michigan Algebraic Topology Seminar**,
Stratified étale homotopy theory

November 3, 2020 **UChicago-Northwestern Topology Seminar**,
Stratified étale homotopy theory

June 2, 2020 **Oberseminar: Integral Homotopy Theory**, Universität Regensburg
Borel Global Algebras

May 20, 2020 **Motives and What Not**, Motivic Zoom Conference Series
Stratified étale homotopy theory

May 5, 2020 **SFB Lecture**, Universität Regensburg
New perspectives on étale homotopy theory

April 28, 2020 **Working Group on Stratified Homotopy Theory**, MSRI
The homotopy theory of stratified spaces

April 24, 2020 **Working Group on Stratified Homotopy Theory**, MSRI
Intro to constructible sheaves & exit paths

March 10, 2020 **Pyknotic/Condensed Seminar**, MSRI
Pyknotic spaces

March 4, 2020 **Pyknotic/Condensed Seminar**, MSRI
Pyknotic sets

December 2, 2019 **Johns Hopkins Topology Seminar**
On the homotopy theory of stratified spaces

October 13, 2019 **AMS Fall Eastern Sectional Meeting**, Binghamton, NY
On the homotopy theory of stratified spaces

September 10, 2019 **Notre Dame Topology seminar**
Stratified spaces, constructible sheaves, & exit-paths

August 8, 2019 **Workshop on Homotopy Theory**, Mathematisches Forschungsinstitut Oberwolfach
On the homotopy theory of stratified spaces

October 18, 2018 **Homotopy Harnessing Higher Structures Programme**, Isaac Newton Institute
Constructible étale & analytic sheaves and exit paths

December 7, 2017 **OSU Homotopy Theory Seminar**
Monodromy & Stratified Homotopy Theory

Teaching & Mentoring Experience

Fall 2020 **Mentor**, MIT Math Department's MIT Grad-Undergrad Math Mentoring Iniative (GUMMI)
Mentored two undergrads applying to math grad school

Fall 2019 **Teaching Assistant**, *Project Laboratory in Mathematics* (18.821), MIT

2018–2019 **Reading Course Mentor**, MIT Department of Mathematics
Mentored an undergraduate reading course on differential forms and equivariant de Rham theory with Victor Guillemin

Winter 2018 **Directed Reading Program Mentor**, MIT Department of Mathematics
Mentored an undergraduate in a category theory and topos theory reading course

Summer 2017 **√Mathroots Academic Mentor**
Mentored high school students through the MIT Math Department's √Mathroots program

Winter 2017 **Directed Reading Program Mentor**, MIT Department of Mathematics
Mentored two undergraduates in reading Emily Riehl's text Category theory in Context

Service & Organizational Activities

Fall 2020 **Co-organizer**, Harvard/MIT Thursday Seminar on Condensed Mathematics

Fall 2020 **Co-organizer**, MIT Juvitop Seminar on the Cobordism Hypothesis

2020– **Co-organizer**, MIT Grad-Undergrad Math Mentoring Iniative (GUMMI)

Summer 2019 **Co-organizer**, MIT Reading Group on *An Inclusive Academy*

2019– **School of Science Graduate Student Council**, MIT

Fall 2019 **Co-organizer**, MIT Juvitop Seminar on Differential Cohomology

Spring 2019 **Co-organizer**, Miniature Seminar on Factorization Homology

2018–	**Coordinator**, MIT PRIMES Circle
Fall 2018	**Co-organizer**, MIT Juvitop Seminar on *Ambidexterity in* K(n)*-local Stable Homotopy Theory*
Fall 2017	**Organizer**, MIT Topology Seminar
Spring 2016–	**Diversity and Community Building Committee**, MIT Department of Mathematics

Languages

English	*Native*
Spanish	*Fluent*