

# Curriculum Vitae

JAY SHAH

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## Education

2012 – 2017 **Ph.D. in Mathematics**, Massachusetts Institute of Technology.  
Advisor: Clark Barwick.

2008 – 2012 **B.S. in Mathematics**, University of Chicago.

## Scientific/Academic honors and grants

2012-2016 NSF Graduate Research Fellowship

2012 Paul R. Cohen Memorial Prize (awarded to those graduating seniors with the best record in mathematics)

2008-2012 University of Chicago College Honor Scholarship (full-tuition merit scholarship)

## Research Interests

Algebraic topology, homotopy theory, higher category theory, algebraic  $K$ -theory.

## Publications and Preprints

1. Parameterized higher category theory and higher algebra: Exposé II - Parameterized homotopy limits and colimits. In preparation.
2. Categorifying rationalization (with C. Barwick, S. Glasman, M. Hoyois, and D. Nardin). October 2016. [arXiv:1610.07162](https://arxiv.org/abs/1610.07162). Not yet submitted for publication.
3. Parameterized higher category theory and higher algebra: Exposé I - Elements of parameterized higher category theory (with C. Barwick, E. Dotto, S. Glasman, and D. Nardin). August 2016. [arXiv:1608.03657](https://arxiv.org/abs/1608.03657). Not yet submitted for publication.
4. Parameterized higher category theory and higher algebra: a general introduction (with C. Barwick, E. Dotto, S. Glasman, and D. Nardin). August 2016. [arXiv:1608.03654](https://arxiv.org/abs/1608.03654). Not yet submitted for publication.
5. Fibrations in  $\infty$ -category theory (with C. Barwick). August 2016. [arXiv:1607.04343](https://arxiv.org/abs/1607.04343). Submitted for publication to the MATRIX conference proceedings.
6. Spectral Mackey functors and equivariant algebraic  $K$ -theory (II) (with C. Barwick and S. Glasman). March 2016. [arXiv:1505.03098](https://arxiv.org/abs/1505.03098). Submitted for publication to *Compositio Mathematica*.

## Selected Lectures

### Invited

2017 Sep. U. Notre Dame (Topology seminar): Parameterized higher category theory.

2017 July YTM Stockholm: The homotopy theory of spectral Mackey functors.

2017 May MIT (Topology seminar): Parameterized higher category theory.

2017 Jan. U. Copenhagen (Topology seminar): Parameterized higher category theory.

2016 Nov. U. Chicago (Topology seminar): Parameterized higher category theory.

2015 Dec. U. Glasgow (Workshop on equivariant stable homotopy theory and parameterized higher category theory): Stability and additivity in parametrized higher category theory.

### Talks given in the MIT 'Juvitop' topology learning seminar

2016 Apr.  $G$ -symmetric monoidal  $\infty$ -categories.

2016 Apr. Introduction to spectral Mackey functors.

2016 Mar. Proof of the Periodicity Theorem of Hill, Hopkins, and Ravenel.

- 2015 Oct. The axiomatic approach to algebraic  $K$ -theory.
- 2015 Feb. Rational homotopy theory.
- 2014 Nov. Fixed points in equivariant stable homotopy theory.
- 2014 Feb. The unstable motivic category.
- 2013 Oct. Computations of unstable homotopy groups of spheres via the EHP sequence.

**Other talks**

- 2014 Mar. Talbot workshop on motivic homotopy theory: Localization and the unstable motivic  $(\infty, 1)$ -category.

**Professional Activities**

- 2016 Spring Organizer of the MIT ‘Juvitop’ topology learning seminar on the Kervaire invariant one problem and equivariant stable homotopy theory.
- 2015 Spring Co-organizer of the MIT Topology seminar (with H. Miller).

**Teaching Activities**

- 2016 Spring Recitation instructor for Differential Equations (18.03)
- 2015 Fall Recitation instructor for Honors Multivariable Calculus (18.022)
- 2015 Spring Recitation instructor for Linear Algebra (18.06)
- 2010/11 Summer Counselor in the University of Chicago Young Scholar’s Program. Taught number theory in 2010 and knot theory in 2011 to high-school students from the Chicago area.