

## Hood Chatham

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CONTACT INFORMATION	Massachusetts Institute of Technology Department of Mathematics Office 2-390A 182 Memorial Drive Cambridge MA 02142	(831) 252-0529 hood@mit.edu <a href="http://www.mit.edu/~hood">http://www.mit.edu/~hood</a>
EDUCATION	<b>Massachusetts Institute of Technology</b> Ph.D. in Mathematics May 2020 (Expected) Advisor: Haynes Miller  <b>University of California at Berkeley</b> B.A. in Mathematics, December 2014 Highest honors in mathematics, highest distinction in general scholarship	
PREPRINTS	<i>Wilson Spaces, Snaith Constructions, and Elliptic Orientations</i> joint with Jeremy Hahn and Allen Yuan, Preprint. <a href="https://arxiv.org/abs/1910.04616">https://arxiv.org/abs/1910.04616</a>  <i>An Orientation Map for height <math>p - 1</math> Real <math>E</math> Theory</i> , Preprint. <a href="https://arxiv.org/abs/1908.11496">https://arxiv.org/abs/1908.11496</a>  <i>Thom Complexes and the Spectrum <math>tmf_{(2)}</math></i> , Preprint. <a href="https://arxiv.org/abs/1903.07116">https://arxiv.org/abs/1903.07116</a>	
SERVICE	Co-organizer of the MIT Juvitop seminars in Spring 2017 on Obstruction Theory for Structured Ring Spectra, Fall 2017 on The Goodwillie Tower of the Identity, Spring 2018 on Jacob Lurie's Elliptic Cohomology II, and Fall 2018 on Ambidexterity.  Author of the popular SPECTRALSEQUENCES latex package.  Coauthor with Dexter Chua of the most user friendly existing software for computing Ext over the Steenrod algebra and Adams spectral sequences (available here: <a href="https://hoodmane.github.io/rust_ext/">https://hoodmane.github.io/rust_ext/</a> ).  Coauthor with Dexter Chua of an online Steenrod algebra calculator (available here: <a href="https://hoodmane.github.io/rust_ext/steenrod_calculator.html">https://hoodmane.github.io/rust_ext/steenrod_calculator.html</a> ).  Maintainer of an online repository of spectral sequences (available here: <a href="https://math.mit.edu/~hood/spectral_sequences">https://math.mit.edu/~hood/spectral_sequences</a> ).  Mentored undergraduates and high school students in a wide variety of MIT math learning and research programs including MSRP, PRIMES, RSI, SPUR, and UROP. Two of my mentees wrote papers about their work under my supervision: Propp, Oron. <i>Constructing Explicit <math>K3</math> Spectra</i> . <a href="https://arxiv.org/abs/1810.08953">https://arxiv.org/abs/1810.08953</a> Ni, Xianglong. <i>The Bracket in the Bar Spectral Sequence for an Iterated Loop Space</i> . <a href="https://arxiv.org/abs/1908.09233">https://arxiv.org/abs/1908.09233</a>	
INVITED TALKS	<i>An Orientation Map for Height <math>p - 1</math> Real <math>E</math> Theory</i> , University of Virginia Topology Seminar. November 2019.	

*An Orientation Map for Height  $p - 1$  Real  $E$  Theory*, University of Chicago Topology Seminar. November 2019.

*An Orientation Map for Height  $p - 1$  Real  $E$  Theory*, Northwestern Topology Seminar. November 2019.

*An Orientation Map for Height  $p - 1$  Real  $E$  Theory*, Rochester Topology Seminar. November 2019.

*An Orientation Map for Height  $p - 1$  Real  $E$  Theory*, AMS Sectional Binghamton: Special Session on Homotopy Theory and Algebraic K-theory. October 2019.

*An Orientation Map for Height  $p - 1$  Real  $E$  Theory*, International Workshop on Algebraic Topology, Shanghai, China. August 2019.

*Lubin-Tate Spaces and the Goerss-Hopkins-Miller theorem*, Arbeitsgemeinschaft: Elliptic Cohomology according to Lurie, Oberwolfach, Germany. April 2019.

CONTRIBUTED  
TALKS

*Ambidexterity – The Global Sections Functor*, Juvitop Seminar on Ambidexterity, Massachusetts Institute of Technology, December 2018

*Alternating Powers of  $p$ -Divisible Groups and the Morava  $E$  Theory of Eilenberg MacLane Spaces*, Juvitop Seminar on Ambidexterity, Massachusetts Institute of Technology, October 2018

*Lubin-Tate Spaces and the Goerss-Hopkins-Miller theorem*, Juvitop Seminar on Jacob Lurie's Elliptic Cohomology II, Massachusetts Institute of Technology, April 2018

*Goodwillie differentials and Hopf invariants*, Juvitop Seminar on Goodwillie Calculus and the EHP Spectral Sequence, Massachusetts Institute of Technology, November 2017

*The Goodwillie Tower of the Identity*, Juvitop Seminar on Goodwillie Calculus and the EHP Spectral Sequence, Massachusetts Institute of Technology, October 2017

*BP is  $E_4$* , Juvitop Seminar on Obstruction Theory for Structured Ring Spectra, Massachusetts Institute of Technology, April 2017

*The Associativity of Morava  $K$  theories*, Juvitop Seminar on Obstruction Theory for Structured Ring Spectra, Massachusetts Institute of Technology, February 2017

*Morava  $E$  theory of Symmetric Groups*, Juvitop Seminar on Power Operations, Massachusetts Institute of Technology, November 2017

*The Steenrod and Dyer-Lashof Algebras*, Juvitop Seminar on Power Operations, Massachusetts Institute of Technology, September 2017

*Equivariant stable homotopy and Sullivan's conjecture*, Juvitop Seminar on Kervaire Invariant One, Massachusetts Institute of Technology, May 2016

*The Algebra of Mackey Functors*, Juvitop Seminar on Kervaire Invariant One, Massachusetts Institute of Technology, February 2016

*The Dundas-McCarthy Pullback Square*, Juvitop Seminar on Algebraic  $K$ -Theory, Mas-

sachusetts Institute of Technology, Fall 2016

CONFERENCES AND WORKSHOPS ATTENDED Summer School on Equivariant Homotopy Theory and International Workshop on Algebraic Topology, Shanghai China (August 2019)

Oberwolfach Arbeitsgemeinschaft on Jacob Lurie's Elliptic Cohomology II (March 2019)

Utrecht Topology Feest 2018, University of Utrecht (August 2018)

Chromatic Homotopy Theory Journey to the Frontier, Colorado University Boulder (May 2018)

Homotopy theory: Tools and Applications, University of Illinois at Urbana-Champaign (July 2017)

West Coast Algebraic Topology Summer School on Connections between Number Theory and Topology, University of Oregon (July 2016)

Talbot Workshop on Kervaire Invariant One (April 2016)

Young Topologists Meeting, University of Copenhagen (July 2015)

TEACHING EXPERIENCE	Fall	2019	Recitation Instructor, Honors Multivariable Calculus 18.022
	Fall	2018	Recitation Instructor, Honors Multivariable Calculus 18.022
	Spring	2018	Recitation Instructor, Differential equations 18.03
	Fall	2017	Recitation Instructor, Multivariable Calculus 18.02