

Guchuan Li

CONTACT INFORMATION	Department of Mathematics University of Michigan 530 Church Street Ann Arbor, MI 48109-1043	guchuan@umich.edu https://guchuanli.github.io
RESEARCH INTERESTS	Algebraic topology and homotopy theory, mainly in chromatic, equivariant, and their intersections.	
EMPLOYMENT	Postdoctoral Fellow, Max Planck Institute for Mathematics. Mentor: Tobias Barthel	2022.9-2022.12.
	Postdoctoral Assistant Professor, University of Michigan, Ann Arbor Mentor: Igor Kriz	2020.8-present
	Postdoc researcher, University of Copenhagen Mentor: Jesper Grodal and Lars Hesselholt	2019.8-2020.8
EDUCATION	Northwestern University Ph.D. in Mathematics, June 2019 Advisor: Paul Goerss Peking University B.S. in Mathematics, July 2013 Advisor: Houhong Fan	
PUBLICATIONS AND PREPRINTS	<ol style="list-style-type: none">1. <i>Picard groups and duality for Real Morava E-theories</i>, with Drew Heard and XiaoLin Danny Shi, Algebraic & Geometric Topology 21 (2021), 2703-2760. arXiv:1910.06191.2. <i>Hurewicz Images of Real Bordism Theory and Real Johnson-Wilson Theories</i>, with XiaoLin Danny Shi, Guozhen Wang, and Zhouli Xu, Advances in Mathematics 342 (2019), 67-115. arXiv:1707.03438.3. <i>Tate blueshift and vanishing for Real oriented cohomology</i>, joint with Vitaly Lorman and J.D. Quigley. To appear in Advances in Mathematics arXiv:1910.06191.4. <i>Computations of height 2 higher Real K-theory spectra at prime 2</i>, with Duan, Zhipeng, Hana Jia Kong, Yunze Lu, and Guozhen Wang. arXiv:2209.01830.5. <i>Vanishing lines in chromatic homotopy theory</i>, with Zhipeng Duan and XiaoLin Danny Shi. arXiv:2204.08600.6. <i>Finite Spectra of Finite Type</i>, arXiv:2110.08397.7. <i>Relative regular sequences and generalized cohomology of infinite Real grassmannians</i>, joint with Igor Kriz.	
TALKS AND POSTERS	Invited Talks Higher real K -theories in chromatic homotopy theory. October. 2022 Columbia University Topology Seminar, New York, NY Higher real K -theories in chromatic homotopy theory. September. 2022 MPIM Topology Seminar, Bonn, Germany	

- Higher real K -theories from chromatic homotopy theory at prime 2. September. 2022
Strasbourg University Seminar, Strasbourg, France
- Vanishing results in Chromatic homotopy theory at prime 2. August. 2022
Beijing Jiaotong University Mathematics and Statistics Forum
- Vanishing results in Chromatic homotopy theory at prime 2. February. 2022
UC San Diego Topology Seminar, La Jolla, CA
- $RO(C_4)$ periodicity and the Picard group of $E_4^{hC_4}$. November. 2021
Wayne State University Topology Seminar, Detroit, MI
- Tate cohomology for Real oriented cohomology theories. August. 2021
Beijing Normal University, Beijing
- Hurewicz Images of higher Real K -theories. July. 2021
7th Young Topology Scholars Forum, Changchun
- Invertible spectra in $K(2)$ -local category of finite type at prime $p > 3$. June. 2021
Nankai University, Tianjin
- Tate cohomology for Real oriented cohomology theories. April. 2021
Academy of Mathematics and Systems Science, Beijing
- Tate blueshift and vanishing for Real oriented cohomology. March. 2020
The electronic Computational Homotopy Theory (eCHT) online seminar
- Blue shift for Real oriented cohomology theories. Aug. 2019
International Workshop on Algebraic Topology 2019, Shanghai
- Gross–Hopkins duals of higher K -theories at prime 2. March. 2019
University of Michigan Algebraic Topology Seminar, Ann Arbor, MI
- Gross–Hopkins duals of higher K -theories at prime 2. Jan. 2019
University of Copenhagen Algebra/Topology Seminar, Denmark
- Gross–Hopkins duals of higher K -theories at prime 2. Nov. 2018
University of Chicago Algebraic Topology Seminar, Chicago, IL
- Gross–Hopkins duals of higher K -theories at prime 2. Oct. 2018
University of Illinois at Urbana–Champaign Topology Seminar, Champaign County, IL
- Hurewicz Images of Real Johnson-Wilson Theories and a recomputation of $ER(2)^*RP^\infty$.
University of Notre Dame Topology Seminar, Notre Dame, IN Feb. 2018
- Hurewicz Images of Real Johnson-Wilson Theories and a recomputation of $ER(2)^*RP^\infty$.
The Ohio State University Homotopy Theory Seminar, Columbus, Ohio Nov. 2017
- Hurewicz Images of Real Johnson-Wilson Theories and a recomputation of $ER(2)^*RP^\infty$.
University of Rochester Topology Seminar, Monroe County, NY Nov. 2017

Contributed Talks

- Application of TAQ : BP is E_4 . May. 2017
2017 Talbot Workshop
- Ravenel’s odd primary Kervaire invariant one theorem. March. 2016
2016 Pre-Talbot Seminar
- Embedding Calculus A quick introduction to the basics after [Weiss] and [GW].
2015 Pre-Talbot Seminar March. 2015

Posters

Gross–Hopkins duals of higher K -theories. Sep. 2018
Newton Workshop: Derived algebraic geometry and chromatic homotopy theory

TEACHING EXPERIENCE

Lecturer

University of Michigan, Ann Arbor

Math 425: 006 & 008 Introduction to Probability 2022 Spring
Math 425: 001 & 003 Introduction to Probability 2021 Fall
Math 425: 001 & 002 Introduction to Probability 2021 Spring
Math 115: 008 & 028 Calculus I 2020 Fall

Teaching Assistant

Copenhagen University

Algebraic Topology 2 2020 Spring

Northwestern University

Math 440-3: Geometry/Topology 2019 Spring
Math 212-0: Single Variable Calculus I 2019 Winter
Math 440-2: Geometry/Topology
Math 240-0: 31A & 41A Linear Algebra 2018 Spring
Math 331-2 MENU: Abstract Algebra 2017 Winter
Math 334-0 Linear Algebra: Second Course
Math 290-1 MENU: Linear Algebra 2016 Fall
Math 331-1 MENU: Abstract Algebra
Math 440-3 Geometry/Topology; Math 470-3 Algebra 2016 Spring
Math 440-2 Geometry/Topology; Math 470-1 Algebra 2016 Winter
Math 440-1 Geometry/Topology; Math 470-1 Algebra 2015 Fall
Math 440-3 Geometry/Topology 2015 Spring
Math 410-2 Analysis; Math 470-2 Algebra 2015 Winter

SERVICE

MathSciNet reviewer 2022-present
Electronic Computational Homotopy Theory Seminar Co-organizer 2021-present
(with D. Isaksen, Hana Jia Kong, J.D.Quigley)
Electronic Computational Homotopy Theory Seminar Co-organizer 2018-2019
(with D. Isaksen)
International Workshop on Algebraic Topology Summer School Lecturer 2018-2022