Guchuan Li

CONTACT INFORMATION	Department of Mathematics guchuan@umich.edu University of Michigan 530 Church Street Ann Arbor, MI 48109-1043

RESEARCH INTERESTS

Algebraic topology and homotopy theory, mainly in chromatic, equivariant, and their intersections.

EMPLOYMENT

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

"Picard Groups and Duality for C_2 Homotopy Fixed Points of Morava E-Theory", joint with Drew Heard and XiaoLin Danny Shi, **Algebraic & Geometric Topology** 21 (2021), 2703-2760. arXiv:1910.06191.

"Hurewicz Images of Real Bordism Theory and Real Johnson-Wilson Theories." joint with XiaoLin Danny Shi, Guozhen Wang, and Zhouli Xu, **Advances in Mathematics.** Volume 342, 21 January 2019, Pages 67-115. arXiv:1707.03438.

"Vanishing lines in chromatic homotopy theory", joint with Zhipeng Duan and XiaoLin Danny Shi. arXiv:2204.08600

"Finite Spectra of Finite Type". arXiv:2110.08397

"Tate blueshift and vanishing for Real oriented cohomology", joint with Vitaly Lorman and J.D. Quigley. arXiv:1810.05439.

"Relative regular sequences and generalized cohomology of infinite Real grassmannians", joint with Igor Kriz. put a pdf

TALKS AND POSTERS

Invited Talks

Periodicity of Higher Real K-theories. Columbia University Topology Seminar, New York, NY	October. 2022
Vanishing results in Chromatic homotopy theory at prime 2. Beijing Jiaotong University Mathematics and Statistics Forum	August. 2022
Vanishing results in Chromatic homotopy theory at prime 2. UC San Diego Topology Seminar, La Jolla, CA	February. 2022
$RO(C_4)$ periodicity and the Picard group of $E_4^{hC_4}$. Wayne State University Topology Seminar, Detroit, MI	November. 2021

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.
2017 Talbot Workshop   May. 2017

Ravenel's odd primary Kervaire invariant one theorem.
2016 Pre-Talbot Seminar   March. 2016

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.
Derived algebraic geometry and chromatic homotopy theory   Sep. 2018

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 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

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

Mathscinet reviewer