

Guchuan Li

CONTACT INFORMATION	School of Mathematical Sciences Peking University 5 Yiheyuan Road Beijing, China	liguchuan@math.pku.edu.cn https://guchuanli.github.io
RESEARCH INTERESTS	Algebraic topology and homotopy theory, mainly in chromatic, equivariant, and their intersections.	
EMPLOYMENT	Assistant Professor, Peking University, Beijing	2023.6-present
	Postdoctoral Assistant Professor, University of Michigan, Ann Arbor Mentor: Igor Kriz	2020.8-2023.5
	Visiting Postdoctoral Fellow, Max Planck Institute for Mathematics.	2022.9-2022.12
	Postdoc researcher, University of Copenhagen Mentor: Jesper Grodal and Lars Hesselholt	2019.8-2020.8
EDUCATION	Northwestern University, US Ph.D. in Mathematics, June 2019 Advisor: Paul Goerss Peking University, China B.S. in Mathematics, July 2013 Advisor: Houhong Fan	
PUBLICATIONS AND PREPRINTS	<ol style="list-style-type: none">1. <i>Vanishing lines in chromatic homotopy theory</i>, with Zhipeng Duan and XiaoLin Danny Shi, Geometry & Topology 29 (2025), no. 2, 903–930. arXiv:2204.08600.2. <i>The inverse limit topology and profinite descent on Picard groups in $K(n)$-local homotopy theory</i>, joint with Ningchuan Zhang. Advances in Mathematics 471 (2025), Paper No. 110274. arXiv:2309.05039.3. <i>The \mathbb{C}-motivic Adams-Novikov spectral sequence for topological modular forms</i>, with Daniel C. Isaksen, Jia Kong, Yangyang Ruan, and Heyi Zhu. Advances in Mathematics 458 (2024), Paper No. 109966, 47 pp. arXiv:2302.09123.4. <i>$RO(G)$-graded homotopy fixed point spectral sequence for height 2 Morava E-theory</i>, with Duan, Zhipeng, Hana Jia Kong, Yunze Lu, and Guozhen Wang, Peking Mathematical Journal 2024. arXiv:2209.01830.5. <i>Relative regular sequences and generalized cohomology of infinite Real grassmannians</i>, joint with Igor Kriz, Topology and its Applications, 338, 2023.6. <i>Tate blueshift and vanishing for Real oriented cohomology</i>, joint with Vitaly Lorman and J.D. Quigley. Advances in Mathematics 411 (2022). arXiv:1910.06191.7. <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:1910.06191.8. <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.	

9. *A Thom Spectrum Model for C_2 -Integral Brown–Gitler Spectra*, joint with Sarah Petersen and Elizabeth Ellen Tatum, **To appear in Proceedings of the American Mathematical Society.** [arXiv:2308.12945](#).
10. *A sparse periodic family in the cohomology of the C -motivic Steenrod algebra*, with Daniel C. Isaksen, Jia Kong, Yangyang Ruan, and Heyi Zhu. [arXiv:2504.16220](#).
11. *Exotic periodic phenomena in the cohomology of the moduli stack of 1-dimensional formal group laws*, with Daniel C. Isaksen, Jia Kong, Yangyang Ruan, and Heyi Zhu. [arXiv:2504.14383](#).
12. *A spectrum-level splitting of the $ku_{\mathbb{R}}$ -cooperations algebra*, joint with Sarah Petersen and Elizabeth Ellen Tatum, [arXiv:2503.17149](#).
13. *Finite Spectra of Finite Type*, [arXiv:2110.08397](#).

TEACHING
EXPERIENCE

Lecturer

Peking University

Homotopy Theory	2025 Spring
Linear Algebra B	2024 Fall
Topics in Topology	2024 Spring

University of Michigan, Ann Arbor

Math 425: 001 & 002 Introduction to Probability	2023 Spring
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
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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

Electronic Computational Homotopy Theory Seminar Co-organizer (with D. Isaksen, Hana Jia Kong, J.D.Quigley)	2021-present
International Workshop on Algebraic Topology Co-organizer	2023-present