Yu Zhang

Personal Information

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Employment

Sep 2020 - present Nankai University Postdoctoral Researcher, Collaborating Advisor: Xiangjun Wang

Education

2014 - 2020 The Ohio State University Columbus, Ohio, USA

Ph.D. in Mathematics, Dissertation Advisor: John E. Harper

2010 – 2014 **Peking University** Beijing, China

B.S. in Mathematics, Dissertation Advisor: Huijun Fan

Publications and preprints

- The secondary periodic element β_{p^2/p^2-1} and its applications (joint with J. Hong and X. Wang), Submitted
- \circ The p-primary subgroup of the cohomology of BPU_n in dimension 2p+6 (joint with Z. Zhang, X. Wang and L. Zhong), Submitted
- Homotopy pro-nilpotent structured ring spectra and topological Quillen localization

Submitted

 \circ The p-primary subgroups of the cohomology of BPU_n in dimensions less than 2p+5

(joint with X. Gu, Z. Zhang and L. Zhong), Proc. Amer. Math. Soc. 150 (2022), 4099-4111

• Topological Quillen localization of structured ring spectra (joint with J. E. Harper), Tbilisi Mathematical Journal 12(3):69–91, 2019

Grants received

2021 - 2022 Postdoctoral International Exchange Program

2021 - 2022 Tianjin City Talents Recruitment Program

Invited talks

Aug 10, 2022 Inner Mongolia Minzu University, National Conference for Young Topologists, "Some Differentials in the Algebraic Novikov Spectral Sequence and Its Applications"

Nov 23, 2021 **Chern Institute of Mathematics**, Higher Structures in Geometry and Physics (online), "Structured ring spectra and Topological Quillen homology"

- Jul 25, 2021 Shanghai Center for Mathematical Sciences, IWoAT 2021 Junior Researcher Forum, "Some spectral sequence computations towards stable homotopy groups of spheres at odd primes"
- Jul 17, 2021 **Northeast Normal University**, National Conference for Young Topologists, "Some spectral sequence computations towards stable homotopy groups of spheres at odd primes"
- Dec 16, 2020 **Vietnam National University**, The 8th East Asian Conference on Algebraic Topology (online), "Koszul duality and TQ-homological Whitehead theorem of structured ring spectra"
- Nov 4, 2020 **University of Regina**, Topology Seminar (online), "Koszul duality and TQ-homological Whitehead theorem of structured ring spectra"
- Nov 21, 2019 **Binghamton University**, Geometry and Topology Seminar, "Topological Quillen localization of structured ring spectra"
- Nov 19, 2019 **The University of Chicago**, Algebraic Topology Seminar, "Topological Quillen localization of structured ring spectra"
- Nov 1, 2019 **Penn State Altoona**, Topology Seminar, "Topological Quillen localization of structured ring spectra"
- Oct 30, 2019 **Indiana University Bloomington**, Topology Seminar, "Topological Quillen localization of structured ring spectra"
- Oct 29, 2019 **University of Illinois at Urbana-Champaign**, Topology Seminar, "Topological Quillen localization of structured ring spectra"
- Jul 29, 2019 Norwegian University of Science and Technology, Equivariant Topology and Derived Algebra conference, "Topological Quillen completion and localization of structured ring spectra"
- Mar 30, 2019 **University of Illinois at Urbana-Champaign**, Graduate Student Topology and Geometry Conference, "An easy proof of the homological Whitehead theorem for nilpotent spaces"
- Sep 27, 2018 **The Ohio State University**, Homotopy Theory Seminar, "Localization of structured ring spectra with respect to TQ homology"
- Jul 10, 2018 **University of Copenhagen**, Young Topologists Meeting, "Bousfield localization of structured ring spectra"

Conference participation

- Aug 2022 Summer School on Chromatic Homotopy Theory and Higher (Infinity-Categorical) Algebra (online), organized by Shanghai Center for Mathematical Sciences, Fudan University, and Yanqi Lake Beijing Institute of Mathematical Sciences and Applications
- Aug 2022 National Conference for Young Topologists, at Inner Mongolia Minzu University
- Jul 2022 Mid-South Algebraic Topology and Geometry Workshop (online), organized by Huazhong University of Science and Technology and South China University of Technology

- Nov 2021 **Higher Structures in Geometry and Physics (online)**, organized by Chern Institute of Mathematics
- Jul 2021 **IWoAT 2021 Junior Researcher Forum (online)**, organized by Shanghai Center for Mathematical Sciences
- Jul 2021 **Summer School on Equivariant Homotopy Theory**, at Shanghai Center for Mathematical Sciences
- Jul 2021 National Conference for Young Topologists, at Northeast Normal University
- Dec 2020 The 8th East Asian Conference on Algebraic Topology (online), organized jointly by Vietnam National University and Vietnam Institute for Advanced Study in Mathematics
- Aug 2020 **The First Joint Workshop on Topology and Data Science**, at Chongqing University of Technology
- May 2020 Midwest Topology Seminar (online), organized by Wayne State University
- Oct 2019 Mayday 2019, at The University of Chicago
- Sep 2019 AMS Fall Central Sectional Meeting, at University of Wisconsin-Madison
- Aug 2019 International Workshop on Algebraic Topology, at Shanghai Center for Mathematical Sciences
- Aug 2019 **Summer School on Equivariant Homotopy Theory**, at Shanghai Center for Mathematical Sciences
- Jul 2019 **Equivariant Topology & Derived Algebra**, at Norwegian University of Science and Technology
- Jul 2019 Young Topologists Meeting, at École polytechnique fédérale de Lausanne
- May 2019 Midwest Topology Seminar, at Michigan State University
- Apr 2019 Shanks Workshop on Homotopy Theory, at Vanderbilt University
- Mar 2019 **Graduate Student Topology and Geometry Conference**, at University of Illinois at Urbana-Champaign
- Mar 2019 Workshop on Functor Calculus, at The Ohio State University
- Sep 2018 Midwest Topology Seminar, at University of Kentucky
- Jul 2018 Young Topologists Meeting, at University of Copenhagen
- Apr 2018 Midwest Topology Seminar, at Indiana University Bloomington
- Mar 2018 AMS Special Session on Homotopy Theory, at The Ohio State University
- Mar 2018 Midwest Topology Seminar, at Northwestern University
- Nov 2017 Midwest Topology Seminar, at Wayne State University
- Jul 2017 **Homotopy Theory: Tools and Applications**, at University of Illinois at Urbana-Champaign
- May 2017 The MIT Talbot Workshop: Obstruction theory for structured ring spectra, at Gooding Talbot house,
- Mar 2017 Shanks Workshop on Homotopy Theory, at Vanderbilt University

Feb 2017 Conference for Young researchers in homotopy theory and categorical structures, at Max Planck Institute for Mathematics

Teaching Experience

As lecturer in Nankai University

Spring 2022 Probability and Statistics for Liberal Arts

Autumn 2021 Advanced Mathematics for Liberal Arts

As teaching associate in The Ohio State University

Autumn 2018 MATH 2177: Mathematical Topics for Engineers

Autumn 2017 MATH 1172: Engineering Mathematics A

Autumn 2016 MATH 1172: Engineering Mathematics A

Spring 2016 MATH 1152: Calculus II

Languages

English: fluent (speaking, reading, writing)

French: basic (reading)

Mandarin: native language