

Albert Jinghui Yang

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Research interests

Homotopy theory, especially stable homotopy theory, equivariant (stable) homotopy theory, chromatic homotopy theory, and their connections to algebraic K-theory, e.g. trace methods, telescope conjecture.

Education

- 2023 – Present **University of Pennsylvania** – Philadelphia, PA
Ph.D. in Mathematics
Advisor: Mona Merling
- 2021 – 2022 **University of Oxford** – Oxford, United Kingdom
M.S. in Mathematics
Thesis: *Homotopy Groups of Spheres in Homotopy Type Theory*.
- 2018 – 2021 **University of Illinois, Urbana Champaign** – Urbana, IL
B.S. in Mathematics
Advisor: Randy McCarthy

Honors and Scholarships

- 2023 Benjamin Franklin Scholarship (University of Pennsylvania)
- 2021 Most Outstanding Undergraduate Major Award in Mathematics (University of Illinois, Urbana Champaign)

Research Experience

- Sep 2023 - Present **Reading Seminar on Topological Hochschild Homology and Trace Method**, University of Pennsylvania
- Mentor: Mona Merling.
 - Lecture (Nov 2023): *Classical approach to cyclotomic trace and the comparison to the new approach*.

- Sep 2023 - Present **Reading Seminar on Algebraic K-theory**, University of Pennsylvania
- Mentor: Danny Krashen.
 - Lecture (Nov 2023): *Q-construction and ∞ -categorical analogue and basic theorems.*
 - Lecture (Oct 2023): *Quillen's +-construction, Barratt-Priddy theorem, and K-theory of finite fields.*
- May 2022 - Present **Reading Seminar on Homotopy Theory (Remote)**, Fudan University, China
- Mentor: Guozhen Wang.
 - Lecture (Expected: Fall 2023): *J-homomorphism.*
 - Lecture (Dec 2022): *Thick subcategory theorem in chromatic homotopy theory.*
 - Lecture (Aug 2022): *Simplicial theory, Quillen's theorem A and B.*
- Jun - Oct 2020 **Research Experiences for Undergraduates**, University of Chicago
- Mentors: Peter May, Hana Jia Kong.
 - Title: *Algebraic K-theory and trace method.*

Teaching

- Fall 2019 **Course assistant**, University of Illinois, Urbana Champaign
- Fall 2019, Math 231 E: Engineering Calculus.

Industry Experience

- Jun - Sep 2021 **Asset Management Intern**, Hefei, China
- Guoyuan Securities Co.

Talks

- Dec 2023 **TBA**
University of Pennsylvania Graduate Topology/Geometry Seminar, University of Pennsylvania.
- Nov 2023 **The Trace Method in Algebraic K-theory**
2023 BUGCAT Conference, Binghamton University.
- Nov 2019 **Intro to Turán's Method**
Analytic Number Theory Reading Seminar, University of Illinois, Urbana Champaign.

Mar 2019 **The Number $N(T)$ and $N(T, \chi)$**
Analytic Number Theory Reading Seminar, University of Illinois, Urbana Champaign.

Oct 2019 **Kuratowski 14-sets theorem and related classifications of topological spaces via K-numbers**
Undergraduate Friday Seminar, University of Illinois, Urbana Champaign.

Service

Jun - Sep 2022 **Seminar on Homological Mirror Symmetry (Co-organizer)**
Mathematical Institute, University of Oxford, United Kingdom.
URL: <https://kclo3-naoh.github.io/HMS.html>

Technical Skills

Programming languages

Proficient in: \LaTeX , JAVA, HTML 5, C, Python

Languages

English (fluent), Mandarin (native speaker), French (Intermediate), Japanese (Intermediate)