

Albert Jinghui Yang

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Research interests

Algebraic topology, with a particular emphasis on homotopy theory, especially computations in stable homotopy theory, equivariant (stable) homotopy theory, motivic homotopy theory, chromatic homotopy theory, and their connections to algebraic K-theory and topological cyclic homology.

Education

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| 2023 – Present | University of Pennsylvania – Philadelphia, PA
Ph.D. in Mathematics
Advisor: Mona Merling, XiaoLin Danny Shi (University of Washington) |
| 2021 – 2022 | University of Oxford – Oxford, United Kingdom
M.S. in Mathematics
Thesis: <i>Homotopy Groups of Spheres in Homotopy Type Theory</i> . |
| 2018 – 2021 | University of Illinois, Urbana Champaign – Urbana, IL
B.S. in Mathematics, magna cum laude
Advisor: Randy McCarthy |

Publications and Preprints

1. **Very effective algebraic and hermitian K-theory of the cyclic group of order two**,
with Rebecca Field, Arjun Nigam, Prerna, and J.D. Quigley. [arXiv: 2509.25006](https://arxiv.org/abs/2509.25006).

Honors and Scholarships

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

Teaching

Summer 2025	TA , Math 2400: Calculus, Part III.
Spring 2025	TA , Math 3610: Advanced Calculus II.
Fall 2024	TA , Math 6000: Topology and Geometric Analysis.

Talks

Feb 2025	Intro to motivic homotopy theory <i>AMTRaK (Atlantic Meeting on Topology, Representation theory, and K-theory) seminar, University of Virginia.</i>
Feb 2025	Tensor-triangulated geometry <i>University of Pennsylvania Graduate Topology/Geometry Seminar.</i>
Nov 2024	Topological cyclic homology of local fields <i>Fall 2024 eCHT Kan Seminar.</i>
Sep 2024	Introduction to equivariant homotopy theory <i>AMTRaK (Atlantic Meeting on Topology, Representation theory, and K-theory) seminar, University of Pennsylvania.</i>
Aug 2024	The cyclotomic trace and Dundas-Goodwillie-McCarthy theorem <i>2024 Talbot, TX.</i>
Jun 2024	Goerss-Hopkins obstruction theory <i>University of Pennsylvania.</i>
Feb 2024	From exotic spheres to stable homotopy theory <i>University of Pennsylvania Graduate Topology/Geometry Seminar.</i>
Nov 2023	The trace method in algebraic K-theory <i>2023 BUGCAT Conference, Binghamton University.</i>

Service

Fall 2025	eCHT secondary Steenrod algebra reading seminar (TA) online. URL: https://s.wayne.edu/echt/echt-reading-seminars/echt-secondary-steenrod-algebra-reading-seminar-fall-2025/
Fall 2025	Seminar on Computational Methods in Algebraic K-theory (Co-organizer) online. URL: https://maroon-scorch.github.io/cmak-2025/

- Summer 2025 **Seminar on Motivic Homotopy Theory (Co-organizer)**
online. URL: <https://kclo3-naoh.github.io/Motivic.html>
- Fall 2024,
Spring 2025 **Graduate Student Geometry-Topology Seminar (Organizer)**
University of Pennsylvania.
- Summer 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)