

Albert Jinghui Yang

yangjh@sas.upenn.edu • <https://kclo3-naoh.github.io/> • 304-992-4866

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

- 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: *Homotopy Groups of Spheres in Homotopy Type Theory*.
- 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](#).

Honors and Scholarships

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

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: L^AT_EX, JAVA, HTML 5, C, Python

Languages

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