Jiantong Liu*

Contact Information	◇ Phone: (424)440-9698 ◇ Email: jl106@illinois.edu ◇ Website: jiantongliu.github.io	273 Altgeld Hall Department of Mathematics University of Illinois Urbana-Champaign Urbana, IL 61801

Research Interest

Algebraic K-theory and its applications in motivic homotopy theory.

Education

University of Illinois Urbana-Champaign (UIUC)   *Aug 2023 - Present*
Ph.D., Mathematics

University of California, Los Angeles (UCLA)   *Sept 2019 - Jun 2023*
B.S., Mathematics, with Departmental Highest Honors

B.S., Cognitive Science, with Specialization in Computing

Publications

◇ *Bounds in Simple Hexagonal Lattice and Classification of 11-stick Knots.* (With Y. Bao, A. Benveniste, M. Campisi, N. Cazet, A. Goh, E. Sherman.) J. Knot Theory Ramif. (2023), Vol. 32, No. 14, 2350097.

Selected Talks

External

◇ *Bounds in Simple Hexagonal Lattice and Classification of 11-stick Knots.* AMS Special Session at Joint Mathematics Meeting, January 2023, Boston, MA.

Internal

◇ *Descent Properties in Algebraic K-Theory.* UIUC Graduate Student Homotopy Theory Seminar, April 2025.
◇ *Reinterpreting Universal Localizing Invariant.* UIUC Motivic Homotopy Theory Literature Seminar, April 2025.
◇ *Categorifying Spectra.* UIUC Motivic Homotopy Theory Literature Seminar, October 2024.
◇ *A Tropical Proof of the Brill-Noether Theorem.* UIUC Graduate Algebraic Geometry and Commutative Algebra Seminar, September 2024.
◇ *How to Overcomplicate the Brill-Noether Theorem.* UIUC Graduate Algebraic Geometry and Commutative Algebra Seminar, September 2024.
◇ *Equivariant Cohomology.* UIUC Equivariant Homotopy Theory Learning Seminar, February 2024.
◇ *Triangulated Category's Christmas Wish List.* UIUC Graduate Algebraic Geometry and Commutative Algebra Seminar, September 2023.
◇ *Enriched Categories and Applications.* UCLA Directed Reading Program Colloquium, March 2022.

Awards

UCLA Latin Honors, Magna cum laude   *Jun 2023*

UCLA Departmental Highest Honors in Mathematics   *Jun 2023*

Teaching

At UIUC   *Aug 2023 - Present*
Teaching Assistant
◇ MATH 227, *Linear Algebra for Data Science.*
◇ MATH 257, *Linear Algebra with Computational Applications.* ($\times 2$)
◇ MATH 444, *Elementary Real Analysis.*

Course Grader
◇ MATH 241, *Calculus III.*

At UCLA   *Sept 2020 - Sept 2022*
Course Grader
◇ MATH 115AH, *Upper Division Linear Algebra (Honors).* (×5)
◇ MATH 115A, *Upper Division Linear Algebra.* (×2)
◇ MATH 105, *Mathematics and Pedagogy for Teaching Secondary Mathematics.* (×3)

OUTREACH &   **Illinois Mathematics Lab**   *Aug 2024 - Present*
SERVICE   Graduate Team Leader

                UIUC Math Circle   *Aug 2024 - Dec 2024*
                Instructor

                UIUC Graduate Affairs Committee   *Aug 2023 - May 2024*
                Graduate Student Member

                UCLA Olga Radko Endowed Math Circle   *Sept 2021 - Jun 2023*
                Assistant Instructor for Intermediate-level Group

RECENTLY-   Interactions between C^*-algebraic KK-theory and Homotopy Theory, Remote.   *Jan 2025*
ATTENDED
CONFERENCES &   Life after the Telescope Conjecture, Berkeley, CA.   *Dec 2024*
WORKSHOPS
                Midwest Topology Seminar, Chicago, IL.   *Nov 2024*

                Workshop on Tevelev Degrees and Related Topics, Champaign, IL.   *Oct 2024*