David Jongwon Lee

Contact

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Research Interest

Homotopy Theory (higher algebra, K-theory, chromatic homotopy theory)

Education

Massachusetts Institute of Technology   2020 - present
  - Ph.D. in mathematics, in progress
  - Advisor: Jeremy Hahn
Korea Advanced Institute of Science and Technology   2014 - 2020
  - B.S. in Mathematics

Papers

Uniqueness of p-local truncated Brown-Petereson spectra (2024), available on arXiv:2405:00889
Topological Hochschild homology of the image of j, submitted (2023), available on arXiv:2307.04248
Integral topological Hochschild homology of connective complex K-theory, submitted (2022), available on arXiv:2206.02411

Research Talks

On p-local homotopy type of $\mathrm{BP}\langle n \rangle$, UCLA Algebraic Topology Seminar   May 2024

Expository Talks

Pro-étale cohomology of rigid analytic spaces, MIT Babytop	Apr. 2024
Topological automorphic forms on $U(1,1)$, MIT Babytop	Nov. 2023
Ambidexterity in chromatic homotopy theory, MIT Babytop	Feb. 2023
Bousfield class of $\mathbb{E}_\infty$-*rings*, MIT Juvitop	Nov. 2022
Differentiating EHP sequence and Hilton-Milnor theorem, MIT Juvitop	Apr. 2022
Calculations with synthetic spectra, MIT Babytop	Oct. 2021

Teachings and Mentorships

Introduction to Topology, TA	Spring 2024
Calculus, TA	Fall 2023
Algebraic Topology, TA	Fall 2022

Introduction to PDE, TA	Spring 2022
Algebraic Topology, TA	Fall 2021
UROP(Undergraduate Research Opportunities Program) Mentor	Summer 2021, 2022
RSI Mentor	Summer 2021, 2023

Awards

KAIST Presidential Fellowship	2014 - 2020
Korea Presidential Science Scholarship, Korea Student Aid Foundation	2014 - 2019
54th International Mathematical Olympiad	2013

- Gold Medal