

CURRICULUM VITAE

Legrand C. Jones II

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Education

Ph.D. Mathematics (*in progress*)
Indiana University, Bloomington, IN

MA Mathematics
Indiana University, Bloomington, IN
June 2023

Bachelor of Science
University of Washington, Seattle, WA
Majors: Math (B.S. option), Physics (comprehensive option)
June 2021

Talks

- Jones, L., II "Infinity-Categories, (co)limits, and Hopefully Some 'Why'" presented at the *Topology and Friends Graduate Student Seminar*, hosted at Indiana University Bloomington, **November 2025**.
- Jones, L., II "Some Simplicial Stuff and a Skosh on Its Significance" presented at the *Topology and Friends Graduate Student Seminar*, hosted at Indiana University Bloomington, **November 2024**.
- Jones, L., II "Geometric Realization of Simplicial Sets" presented at the *eCHT Kan Seminar*, hosted online by Wayne State University, **October 2024**.
- Jones, L., II; Pandey, A. "Basic Examples of, and Constructions with, Spectra" presented at the *eCHT Course on Stable Homotopy Theory*, hosted online by Wayne State University, **February 2024**.
- Jones, L., II; McCarthy, G. "The Acyclic Models Theorem" presented in an algebraic topology course at Indiana University, **October 2022**.
- Herr, F.; Jones, L., II "Two Questions on Matching Complexes" presented at the *Young Mathematician's Conference*, hosted online (due to COVID-19) by The Ohio State University, **August 2020**.

(Recording: <https://www.youtube.com/watch?v=ZtmvdP4Qu5s>)

- Herr, F.; Jones, L., II "Two Questions on Matching Complexes" presented at the *Undergraduate Research Symposium*, hosted online (due to COVID-19) by the University of Washington, **May 2020**.

Papers

J. Bose, T. Chih, H. Housden, L. Jones, C. Lewis, K. Ormsby, M. Rose (2025) "Combinatorics of Factorization Systems on Lattices," *arXiv: 2503.22883*.

B. Goeckner, F. Herr, L. Jones, and R. Rowlands (2023) "A Characterization of Two-Dimensional Buchsbaum Matching Complexes," *The Electronic Journal of Combinatorics*: Vol. 30: Iss. 1.

F. Herr and L. Jones (2022) "Iterated Jump Graphs," *Rose-Hulman Undergraduate Mathematics Journal*: Vol. 23: Iss. 2, Article 7.

Ongoing Projects

- Category theoretic generalizations of results on connections between factorization systems, transfer systems, and endofunctors; joint with Hannah Housden and Millie Rose - paper in progress
- Examining occurrences of splitting in the Brun spectral sequence for topological Hochschild homology

Paid Teaching, Indiana University

- Basic Algebra for Finite Mathematics, Fall 2025 – instructor of record for a course focused on foundational mathematical skills/knowledge, including some basics of sets, probability, and algebra.
- Brief Survey of Calculus, Summer 2025 - held online recitations for a course focused on elementary applications of calculus.
- Intro to College Math I, Fall 2024 - instructor of record with many first-generation students and those with particular socioeconomic barriers to pursuing college.
- Linear Algebra for Undergraduates, Summer 2024 - Grading
- Math of Decision and Beauty, Spring 2026, Spring 2025, Spring 2024, Summer 2023, Spring 2023, Summer 2022 - facilitated small group exploration in a homegrown course involving

topics of math non-major undergraduates usually do not see (including graph theory, some pre-group theory, and more) as the only human contact for students.

- Pre-calculus, Fall 2023 - instructor of record.
- Calculus I, Fall 2022, Fall 2021 - recitation leader.

Volunteer Teaching

- Directed Reading Program (DRP) mentor, Fall 2025 – led an undergraduate through selected sections of *An Introduction to Algebraic Topology* by Joseph Rotman.
- Bloomington Math Circle assistant instructor, Fall 2025 – helped engage elementary through middle school students with a range of mathematical concepts and gems on a weekly basis.
- Directed Reading Program (DRP) mentor, Fall 2025 - led an undergraduate through selected sections of *Categories for the Working Mathematician* by Saunders Mac Lane.
- Directed Reading Program (DRP) mentor, Fall 2024 - led an undergraduate through sections of *A Course in Topological Combinatorics* by Mark de Longueville.

Learning and mathematical development outside home institution

- eCHT Kan Seminar, **Fall 2024**.
- Mathematical Research Community in Homotopical Combinatorics, run through the AMS, **July 2024**.
- eCHT online course on stable homotopy theory, **Spring 2024**.