

Curriculum Vitae

Aditya De Saha

Updated September 1, 2026

Education

- **Post-doctorate** at Ben-Gurion University of the Negev, starting October 2026
- **Ph.D. in Mathematics**, University of Florida under Alexander Dranishnikov (2021 - 2026)
- **Master of Mathematics**, Indian Statistical Institute (2019-2021)
- **Bachelor of Mathematics**, Indian Statistical Institute (2016-2019)

Research Interests

- Coarse Geometry, Asymptotic Dimension theory.
- Geometric Group theory, Boundaries of Hyperbolic spaces or groups, and CAT(0) complexes
- Group (co)homology, cohomological dimension of groups, spaces, and associated problems (like cohomological dimension of homomorphisms, etc.)
- Persistent homology theory, developing equivariant methods for computing persistent homology/cohomology.

Awards or Fellowships

- **Center for Applied Mathematics Summer Fellowship** grant for summer 2025.

Publications

- **On the Coarse Lusternik-Schnirelmann Category of Groups**, Aditya De Saha. *Topology and Applications* (2026), 109954. arXiv:2510.10367 | DOI:10.1016/j.topol.2026.109954
- **On Cohomological Dimension of Homomorphisms**, Aditya De Saha, Alexander Dranishnikov. *Proceedings of the American Mathematical Society* 152 (2024), no. 11, pp. 4607–4621. arXiv:2302.09686 | DOI:10.1090/proc/16943

Preprints

- **Fixed-point-free Involutions on the Boundaries of Right-angled Coxeter Groups**, Aditya De Saha. Preprint, 2025. arXiv:2503.11725

Submitted

- **Persistent Equivariant Cohomology**, Henry Adams, Evgeniya Lagoda, Michael Moy, Nikola Sadovek, Aditya De Saha. Submitted, 2024. arXiv:2408.17331

Past Talks

- (September 2026) *Introduction to Persistent Cohomology, and Homotopy Types of Vietoris-Rips Complexes of Circles*, Colloquium, Indian Statistical Institute, Delhi.
- (August 2026) *An Introduction to LS Category*, Math Club Talk, Indian Statistical Institute, Bangalore.
- (August 2026) *An Introduction to Coarse Geometry, and coarse LS category*, Colloquium, Indian Statistical Institute, Bangalore.
- (May 2026) *Lusternik-Schnirelmann Category, in the coarse setting*, Redbud Topology Conference, University of Oklahoma.
- (March 2026) *Coarse Homotopy Groups*, GMA Colloquium, University of Florida.
- (January 2026) *Coarse Lusternik-Schnirelmann Category*, UF/FSU joint Topology and Geometry conference, Gainesville.
- (October 2025) *Coarse Lusternik-Schnirelmann Category*, Topology and Geometry Seminar at University of Florida.
- (July 2023) *On Cohomological Dimension of Group Homomorphisms*, 40th Annual Workshop in Geometric Topology at Colorado College, Colorado Springs.
- (May 2023) *On Cohomological Dimension of Group Homomorphisms*, Geometry Topology and Algebra:Philadelphia 2023, Temple University
- (February 2023) *On Cohomological Dimension of Group Homomorphisms*, Topology and Dynamics Seminar, University of Florida
- **Graduate Student Topology Seminar Talks:**
 - (February 2026) *On Higson's Corona*, series of two lectures.
 - (October 2025) *Roe's Coarse Cohomology Theory*, series of two lectures.
 - (November 2024) *Yu's Property A for Metric Spaces*, series of two lectures
 - (September 2023) *Bestvina's Complex*, series of two lectures.
 - (September 2022) *Group Cohomology and Group Extensions*.
 - (April 2022) *The Eilenberg-Ganea Theorem and Finite-Dimensional $K(G, 1)$ -complexes*.

Teaching Experience

I have been a Teaching Assistant for the following courses (leading 2-3 discussion sessions a week, office hours and grading duties for 70-110 students):

- *Calculus 3*, Spring 2025, Fall 2024, Fall 2023, Spring 2026
- *Calculus 2*, Fall 2025, Summer 2023, Spring 2023
- *Calculus 1*, Summer 2024, Fall 2022, Summer 2022
- *Pre-calculus Algebra and Trigonometry*, Spring 2022
- *Math for Liberal Sciences Majors*, Spring 2024, Fall 2021

Additional Skills

- Proficient in programming languages: C, C++, Julia, python, R