

Anirban Bhaduri

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Education

University of South Carolina, Columbia, South Carolina Jan. 2021–Present
Ph.D. in Mathematics
Advisor: Matthew Ballard

University of Calcutta, Kolkata, West Bengal, India Aug. 2014–Jun. 2019
B.Sc. (Honours) and M.Sc. in Mathematics

Research Interests

Algebraic geometry, derived categories, representation theory of finite-dimensional algebras, and noncommutative algebra.

Publications and Preprints

1. A. Bhaduri, S. Dey, and P. Lank. “Preservation for generation along the structure morphism of coherent algebras over a scheme.” *Bulletin of the London Mathematical Society* **57** (2025), 1885–1896.
2. A. Bhaduri, I. Goldberg, and A. A. Robotis. “Dimension Theory of Noncommutative Curves.” Submitted.
3. A. Bhaduri, Y. Davidov, E. Faber, K. Honigs, P. McDonald, C. E. Overton-Walker, and D. Spence. “An Explicit Derived McKay Correspondence for Some Complex Reflection Groups of Rank Two.” Accepted for publication in *Advances in Mathematics* (2026).
4. A. Bhaduri, T. De Deyn, M. Hrbek, P. Lank, and K. Manali Rahul. “Nonexistence of Singly Compactly Generated t -Structures for Schemes.” Submitted.
5. M. Ballard and A. Bhaduri. “Orlov Spectra for Weighted Projective Lines.” In preparation.

Teaching Experience

University of South Carolina, Columbia, South Carolina

Instructor of Record

- MATH 115: Precalculus Mathematics Spring 2026
- MATH 111I: Intensive Basic College Mathematics Fall 2025
- MATH 151: Calculus Workshop Spring 2025
- MATH 152: Calculus Workshop Fall 2024
- MATH 170: Finite Mathematics Spring 2024
- MATH 115: Precalculus Mathematics Fall 2023
- MATH 142: Calculus II Summer 2023

- MATH 122: Calculus for Business Administration Spring 2023
- MATH 111: Basic College Mathematics Fall 2022
- MATH 141: Calculus I Summer 2022
- MATH 115: Precalculus Mathematics Spring 2022

Teaching Assistant

- MATH 141: Calculus I Fall 2021
- MATH 141: Calculus I Summer 2021
- MATH 141: Calculus I Spring 2021

Invited Talks

- Auburn Algebra Seminar, Auburn University Spring 2026
- Commutative Algebra and Algebraic Geometry Seminar, University of Minnesota Twin Cities Fall 2025
- AMS Special Session on Homological and Categorical Methods in Commutative Algebra, Southeastern Sectional Meeting, Tulane University Fall 2025
- Hawai'i Algebra Seminar, University of Hawai'i at Mānoa Fall 2025
- Georgia Algebraic Geometry Symposium, University of Georgia Spring 2025
- Syzygies and Mirror Symmetry Virtual Seminar Spring 2025
- Derived Obsessed Graduate Students Seminar Spring 2025
- Graz Algebra and Geometry Seminar, University of Graz Fall 2024
- AGNES, Dartmouth College Fall 2024

Professional Service and Activities

- Co-organizer, AMS Spring Eastern Sectional Meeting Special Session on Derived Categories, Stability Conditions, and Homological Mirror Symmetry, Boston College *Spring 2026*
- Co-organizer, Toric Geometry in Mirror Symmetry Reading Seminar, University of South Carolina *Summer 2025*
- Co-organizer, Derived and (Non)Commutative Enthusiasts (D.A.N.C.E.) Seminar *Spring–Fall 2025*
- Co-organizer, Mathematical Research Communities Sectional at the Joint Mathematics Meetings, San Francisco, CA *Spring 2024*
- Co-organizer, A.G.C.A.N.T. Graduate Student Seminar, University of South Carolina *Fall 2023*
- Graduate Mentor, Graduate Peer Mentoring Program, University of South Carolina *Spring 2023–Spring 2024*

Selected Conferences and Workshops

- Southeastern Sectional Meeting, Tulane University Oct. 3–5, 2025
- Commutative Algebra Market Preparation Workshop,
University of Nebraska–Lincoln Aug. 12–14, 2025
- Georgia Algebraic Geometry Symposium, University of Georgia Mar. 21–23, 2025
- AGNES, Dartmouth College Nov. 8–10, 2024
- Introductory Workshop on Noncommutative Algebraic Geometry, SLMath Feb. 5–9, 2024
- Connections Workshop on Noncommutative Algebraic Geometry, SLMath Feb. 1–2, 2024
- Mathematics Research Communities, American Mathematical Society Jun. 4–10, 2023
- Concluding Conference of the Simons Collaboration on
Homological Mirror Symmetry,
Simons Center for Geometry and Physics Apr. 25–28, 2023
- Derived Categories, Moduli Spaces,
and Hyperkähler Varieties Mini-school and Conference,
University of Michigan Jul. 30–Aug. 5, 2022
- Homological Mirror Symmetry, University of Miami Apr. 4–8, 2022

Technical Skills

Mathematical and computational tools: LaTeX, SageMath, Macaulay2, Git, Overleaf

Programming: Python (basic), C++ (coursework), Lean (coursework)

Languages: English (fluent), Bengali (native)