Sumanta Das

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Department of Mathematics

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Education	
	Indian Institute of Science Ph.D., Mathematics, August 2019 - Present. Thesis Advisor: Siddhartha Gadgil.
	Indian Statistical Institute M. Math, June 2017 - May 2019. Project Advisor: Aniruddha C. Naolekar.
	Ramakrishna Mission Vidyamandira B.Sc Mathematics, 2014 - 2017. Minors in Statistics and Computer Science.

Research Interests

Low dimensional topology:
- Non-zero degree maps between two surfaces or two 3-manifolds.
- Mapping class groups of finite and infinite type surfaces.
- Goldman Lie algebra.

Algebraic Topology:
- Lusternik-Schnirelmann category.
- Proper homotopy theory.

Papers

Accepted:
- Strong topological rigidity of non-compact orientable surfaces, arXiv: 2111.11194v3. 2023. To appear in Algebraic and Geometric Topology.
- Surfaces of infinite-type are non-Hopfian, with S. Gadgil. arXiv:2210.03395v2. 2023. To appear in Comptes Rendus Mathématique.

Submitted:
- The Goldman bracket characterizes homeomorphisms between non-compact surfaces, with S. Gadgil and A. K. Nair, 2023. arXiv:2307.02769v1.

In preparation:
- Degree one domination of non-compact surfaces, 2023.
- The center of the Goldman Lie algebra of an infinite type surface, 2023.

Presentations

Invited Talks:

• 11th Sep 2023. Strong topological rigidity of non-compact orientable surfaces. Prospectos en Topología, CCM UNAM, México.

• 10th Feb 2023. Surfaces of infinite type are non-Hopfian. Geometry & Topology Seminars (GaTs), IISER Bhopal.

Contributed Talks:

• 31st Jan 2023. The Lusternik-Schnirelmann category. Prime Time Seminars, Department of Mathematics, IISc.

• 24th Nov 2022. Strong topological rigidity of non-compact orientable surfaces. Postdoc-Student Symposium, Department of Mathematics, IISc.

Awards & Fellowships

• National Board of Higher Mathematics M.A./M.Sc. Scholarship, 2018.
• National Board of Higher Mathematics Ph.D. Scholarship, 2019.
• CSIR National Eligibility Test, 2019, Junior Research Fellowship, Rank 23.

Teaching Assistance

• Introduction to Algebraic Topology (MA232), IISc, Bangalore:
  Oct 2020 - Jan 2021, Instructor - Siddhartha Gadgil.
  Aug 2021 - Dec 2021, Instructor - Basudeb Datta.
  Aug 2022 - Dec 2022, Instructor - Harish Seshadri.
• Dec 2022, Annual Foundation School - I, Mepco Schlenk Engineering College, Sivakasi, Instructor - HA Gururaja.