Abhishek Mallick

CONTACT INFORMATION

Max-Planck-Institut für Mathematik
Department of Mathematics
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RESEARCH INTERESTS

Low dimensional topology. Floer homology. Equivariant Floer homology. Khovanov homology.

EMPLOYMENT

Mathematical Sciences Research Institute (SLMath), Berkeley

Postdoctoral Fellow Fall, 2022

Max-Planck-Institut für Mathematik, Bonn

Postdoctoral Research Fellow 2021-22

EDUCATION

Michigan State University

Ph.D. Mathematics 2021

- Advisor: Matthew Hedden

Ramakrishna Mission Vivekananda Educational and Research Institute, India

M.Sc. in Mathematics, 2015

PUBLICATIONS

Rank-expanding satellites, Whitehead doubles, and Heegaard Floer homology **arXiv preprint** (with Dai, Hedden and Stoffregen).

The (2,1)-cable of the figure-eight knot is not smoothly slice **arXiv preprint** (with Dai, Kang, Park and Stoffregen).

Knot Floer homology and surgery on equivariant knots **arXiv preprint**.

Equivariant knots and knot Floer homology **arXiv preprint** (with Dai and Stoffregen).

Corks, Involutions, and Heegaard Floer Homolgy. To appear in the **Journal of the European Mathematical Society**, (with Dai and Hedden).

INVITED TALKS

Princeton University, Topology seminar, 2022.

IBS Center for Geometry and Physics, CGP seminar, 2022.

Max Planck Institute for Mathematics, Surfaces in 4-manifolds, 2022.

American Institute of Mathematics, Program on 4-manifolds, virtual, 2021.

American Mathematical Society, special session on the Topology and Geometry of 3- and 4-manifolds, at the AMS Southeastern Sectional Meeting, virtually at Georgia Tech 2021.

Joint Mathematics Meetings: AMS Special Session on Low Dimensional Topology, I (Associated with AMS Invited Maryam Mirzakhani Lecture), virtual conference, 2021.

Nearly Carbon Neutral Geometry Topology Conference, mini-session on 4-manifolds, virtual conference, 2020.

American Mathematical Society, Sectional Meeting; Special Session on Low-dimensional Topology, Purdue University (canceled), 2020.

University of Virginia, Geometry Seminar, 2020.

HONORS AND AWARDS	2010–2015	Jagadis Bose National Science Talent Search Scholarship.
	2010–2015	Innovation in Science Pursuit for Inspired Research Fellowship, Department of Science and Technology, Govt.of India.
	2016	Paul and Wilma Dressel Endowed Scholarship, MSU.
	2016	College of Natural Science Dissertation Continuing Fellowship, MSU.
	2018	Paul and Wilma Dressel Endowed Scholarship, MSU.
	2020	Douglas A. Spragg Endowed Fellowship in Mathematics, MSU.
	2020	College of Natural Science Dissertation completion Fellowship, MSU.

TEACHING EXPERIENCE	Summer	2016	Lecturer, Calculus II (Integration, Series, Sequence)
	Fall	2016	Lecturer, Calculus II (Integration, Series, Sequence)
	Spring	2017	Lecturer, Calculus IV (Differential Equation)
	Summer	2017	Lecturer, Calculus IV (Differential Equation)
	Fall	2017	Teaching Assistant, Transition to Proofs
	Spring	2018	Teaching Assistant, Calculus III (Multivariable Calculus)
	Fall	2018	Teaching Assistant, Calculus III (Multivariable Calculus)
	Spring	2019	Grader, Graduate course on Algebraic Topology
	Summer	2019	Lecturer, College Algebra
	Fall	2019	Teaching Assistant, Calculus III (Multivariable Calculus)
	Spring	2020	Teaching Assistant, Calculus III (Multivariable Calculus)

PROFESSIONAL SERVICE	Referee for *Algebraic & Geometric Topology*

ORGANIZATION	Co-organized *Graduate Student Topology and Geometry Conference, MSU, 2017.*

Weekly Departmental student Geometry and Topology seminar, MSU, 2017-2018.

Leading teaching assistant at MSU for Spring-17, Fall-18, Fall-19 and Spring-20.

Nearly Carbon Neutral Geometry Topology Conference, co-organized a mini-session, virtual conference, 2021.

OUTREACH	Mentor for a non-profit organization, *Padakshep*, based in India, which supports underprivileged meritorious school students with financial assistance and academic guidance.