

Mukundan, Malavika

<https://MalavikaMukundan.github.io>

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EMPLOYMENT	<i>Postdoctoral Associate</i> Department of Mathematics and Statistics Boston University, Boston, MA	Sep 2024 -	
	<i>UC President's Postdoctoral Fellow</i> Department of Mathematics University of California, Los Angeles, CA	Jul 2024 - Aug 2024	
EDUCATION	University of Michigan , Ann Arbor, MI <i>PhD in Mathematics</i> Advisor: Sarah C. Koch <i>MS in Mathematics</i>	Sep 2018 - May 2024 Sep 2018 - Aug 2020	
	Chennai Mathematical Institute , Chennai, India <i>BSc. (Hons.) in Mathematics and Computer Science</i>	Jul 2015 - Apr 2018	
	RESEARCH INTERESTS Holomorphic dynamics Teichmüller theory Computational social choice		
GRANTS & AWARDS	<i>AMS Graduate Student Travel Grant</i>	Feb 2024	
	University of Michigan , Ann Arbor, MI <i>Rackham Conference Travel Grant</i>	Jun 2023, Dec 2023	
	<i>Usha Sharma Bhalla Fellowship Fund</i>	Summer 2022, Fall 2023	
	<i>Carroll V. Newsom Scholarship</i>	May 2023	
	<i>Rackham Graduate Student Research Grant</i>	2023	
	<i>Departmental Fellowship</i>	Summer 2020, 2021, 2022	
	<i>Lauter Program Associate Fellowship</i> , MSRI, Berkeley, CA <i>Stipend</i> , Chennai Mathematical Institute, Chennai, India <i>Summer Research Fellowship</i> , JNCASR, Bengaluru, India	Jan - May 2022 2015 - 2018 May - Jun 2017	
PUBLICATIONS & PREPRINTS	<ul style="list-style-type: none">• Marked cycle curves for quadratic polynomials and rational maps (joint with C. Davis, D. Stoll and G. Tiozzo) In preparation.• Dynamical approximation of post-singularly finite exponentials Preprint (2023). arXiv:2305.18245• Dynamical approximations of post-singularly finite entire functions (joint with N. Prochorov and B. Reinke) Submitted (2023). arXiv:2305.17793• Embedding unicritical connectedness loci Accepted at <i>Conformal Geometry and Dynamics</i> Preprint (2022). arXiv:2209.02601• A solution to the degree-d twisted rabbit problem (joint with R. Winarski) Submitted (2022). arXiv:2209.06099		
	TEACHING EXPERIENCE	Boston University , Boston, MA <i>MA 123</i> (Calculus I)	Fall 2024
		University of Michigan , Ann Arbor, MI <i>Math 116</i> (Calculus II) <i>Math 105</i> (Data, Functions and Graphs)	Fall 2021, Winter 2020, 2021, 2023, 2024 Fall 2020

Math 215 (Calculus III) Teaching Assistant Fall 2019
Math 115 (Calculus I) Fall 2018, Winter 2019

Chennai Mathematical Institute, Chennai, India

Analysis II Teaching Assistant Spring 2018
Analysis I Teaching Assistant Fall 2017

**INVITED
TALKS**

Conference Talks & Presentations

Early Career Complex Dynamics Workshop, Indiana University Bloomington, Jul 2024
Midwest Dynamical Systems Early Career Conference, The Ohio State University, May 2024
17th Annual Bloomington Geometry Workshop, Indiana University Bloomington, April 2024
Joint Mathematics Meetings: Special Session on the Mathematics of Decisions, Elections and Games, San Francisco, Jan 2024
AMS Fall Southeastern Sectional Meeting: Special Session on Ergodic Theory and Dynamical Systems, University of South Alabama, Oct 2023
Early Career Complex Dynamics Workshop, Indiana University Bloomington, Jun 2023
CMS Summer Meeting: Session on Geometric Topology, pseudo-Anosov Maps and Complex Dynamics, Jul 2023
Midwest Dynamics Early Career Conference (poster presentation), University of Notre Dame, May 2022

Colloquium & Seminar Talks

Boston University Dynamical Systems Seminar Sep 2024
IMS and SUNY Stony Brook Dynamics Seminar Aug 2024
University of Illinois Chicago Dynamics Seminar Jan 2024
Boston University Dynamical Systems Seminar Jan 2024
Quasiworld Seminar (online) Dec 2023
Cornell University Dynamics Seminar Nov 2023
University of Michigan CADG Seminar Nov 2020, Apr, Oct 2021, Nov 2023
The Open University Dynamical Systems Seminar (online) Apr 2023
University of Liverpool Dynamical Systems Seminar Mar 2023
University of Warwick Geometry and Topology Seminar Mar 2023
Institute of Mathematical Sciences Chennai, Colloquium Dec 2022
University of Toronto Dynamics Seminar Nov 2022
University of Chicago Topology and Geometry Seminar Oct 2022
TIFR Infosys Chandrasekharan Random Geometry Colloquium (online) Oct 2022
MSRI Complex Dynamics Junior Seminar Apr 2022
IUPUI Dynamical Systems Seminar Nov 2021

Student Talks

University of Michigan Student DGT Seminar Winter 2020
University of Michigan Student Topology Seminar Fall 2019
University of Michigan Student Analysis Seminar Winter 2018

**CONFERENCES
& WORKSHOPS**

Thematic Program on Randomness and Geometry, Fields Institute, Toronto, Canada, April 2024
Big Ideas in Dynamics (online participation), Fall 2023
Randomization, Neutrality, and Fairness Workshop, Simons Laufer Mathematics Institute, Berkeley, California, Oct 2023
Quasiworld Workshop, University of Helsinki, Helsinki, Finland, Aug 2023
Around the Mandelbrot set: A conference celebrating the 60th birthday of Mitsuhiro Shishikura (online participation), Tokyo, May 2023
Midwest Dynamical Systems Early Career Conference, University of Notre Dame, May 2022
Complex Dynamics School: Building a Bridge to Higher Dimensions, IUPUI, Mar 2022
Complex Dynamics: from Special Families to Natural Generalizations in One and Sev-

eral Variables, MSRI, Berkeley, CA, Jan - May 2022
Midwest Dynamical Systems Conference, Northwestern University, Nov 2021
Advancing Bridges in Complex Dynamics (online participation), CIRM, Luminy, France, Sep 2021
Midwest Dynamical Systems Conference, University of Illinois Chicago, Nov 2019
Summer School on Dynamical Systems, University of Houston, Jun 2019
School on Low-Dimensional Geometry and Topology: Discrete and Algorithmic Aspects, Institut Henri Poincaré, Paris, France, Jun 2018

SERVICE

Volunteer Artist, AWM EvenQuads Deck 2 2023
Participating Mentor, AWM Mentor Network 2021, 2023
Lecturer, Monsoon Math Camp 2021

University of Michigan, Ann Arbor, MI

Co-Chair, Graduate Student Advisory Committee Sep 2022 - Present
Grad Member, Math Department Climate Committee Sep 2022 - Aug 2023
Co-Organizer, Jobs in Academia for Mathematics (JAMS) Sessions Apr 2023
Leader, Michigan Math Circle Nov 2019, Feb 2020, Feb 2021, Apr 2022
Board Member, AWM Student Chapter Sep 2020 - Aug 2022
Steward, Graduate Employees' Organization (GEO) 3550 Sep 2021 - Aug 2022
Co-Organizer, MREG Workshop Jun 2022
Teacher's Assistant, MREG Workshop Jun 2021
Volunteer, F.E.M.M.E.S Capstone Jun 2020
Volunteer, Math Corps summer camp July 2020

Chennai Mathematical Institute, Chennai, India

Guest Lecturer, EGMO Training Camp Dec 2022

INTERNSHIPS

MGGG Redistricting Lab Jun - Aug 2023

Tufts University, Medford, MA
 o The mathematics of ranked choice voting
 o Software development: VoteKit package for alternative voting
<https://pypi.org/project/votekit/>

Research Lab in Computer Science (ReLaX) Initiative May - Jun 2018

LIGM, L'Université Paris-Est Marne-la-Vallée, Paris, France
 o Parameterized algorithms in computational geometry
 o Discrete systolic geometry

Undergraduate Summer Research Internship Jun - Jul 2017

Jawaharlal Nehru Center for Advanced Scientific Research, Bengaluru, India
 o Techniques in probability and functional analysis

COMPUTER SKILLS

Python
 Julia
 Git
 C++
 Haskell

LANGUAGES

English (fluent)
 Tamil (native)