

Mukundan, Malavika

<https://MalavikaMukundan.github.io>

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EMPLOYMENT	<i>Postdoctoral Associate Teaching Scholar</i> Department of Mathematics and Statistics Boston University, Boston, MA	Sep 2024 -
	<i>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

<i>Math 215</i> (Calculus III) Teaching Assistant	Fall 2019
<i>Math 115</i> (Calculus I)	Fall 2018, Winter 2019

Chennai Mathematical Institute , Chennai, India	
<i>Analysis II</i> Teaching Assistant	Spring 2018
<i>Analysis I</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

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

Student Talks

<i>University of Michigan</i> Student DGT Seminar	Winter 2020
<i>University of Michigan</i> Student Topology Seminar	Fall 2019
<i>University of Michigan</i> 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 Several Variables, MSRI, Berkeley, CA, Jan - May 2022

	<p><i>Midwest Dynamical Systems Conference</i>, Northwestern University, Nov 2021</p> <p><i>Advancing Bridges in Complex Dynamics</i> (online participation), CIRM, Luminy, France, Sep 2021</p> <p><i>Midwest Dynamical Systems Conference</i>, University of Illinois Chicago, Nov 2019</p> <p><i>Summer School on Dynamical Systems</i>, University of Houston, Jun 2019</p> <p><i>School on Low-Dimensional Geometry and Topology: Discrete and Algorithmic Aspects</i>, Institut Henri Poincaré, Paris, France, Jun 2018</p>
SERVICE	<p><i>Volunteer Artist</i>, AWM EvenQuads Deck 2 2023</p> <p><i>Participating Mentor</i>, AWM Mentor Network 2021, 2023</p> <p><i>Lecturer</i>, Monsoon Math Camp 2021</p> <p>University of Michigan, Ann Arbor, MI</p> <p><i>Co-Chair</i>, Graduate Student Advisory Committee Sep 2022 - Present</p> <p><i>Grad Member</i>, Math Department Climate Committee Sep 2022 - Aug 2023</p> <p><i>Co-Organizer</i>, Jobs in Academia for Mathematics (JAMS) Sessions Apr 2023</p> <p><i>Leader</i>, Michigan Math Circle Nov 2019, Feb 2020, Feb 2021, Apr 2022</p> <p><i>Board Member</i>, AWM Student Chapter Sep 2020 - Aug 2022</p> <p><i>Steward</i>, Graduate Employees' Organization (GEO) 3550 Sep 2021 - Aug 2022</p> <p><i>Co-Organizer</i>, MREG Workshop Jun 2022</p> <p><i>Teacher's Assistant</i>, MREG Workshop Jun 2021</p> <p><i>Volunteer</i>, F.E.M.M.E.S Capstone Jun 2020</p> <p><i>Volunteer</i>, Math Corps summer camp July 2020</p> <p>Chennai Mathematical Institute, Chennai, India</p> <p><i>Guest Lecturer</i>, EGMO Training Camp Dec 2022</p>
INTERNSHIPS	<p>MGGG Redistricting Lab Jun - Aug 2023</p> <p><i>Tufts University</i>, Medford, MA</p> <ul style="list-style-type: none"> o The mathematics of ranked choice voting o Software development: VoteKit package for alternative voting https://pypi.org/project/votekit/ <p>Research Lab in Computer Science (ReLaX) Initiative May - Jun 2018</p> <p><i>LIGM, L'Université Paris-Est Marne-la-Vallée</i>, Paris, France</p> <ul style="list-style-type: none"> o Parameterized algorithms in computational geometry o Discrete systolic geometry <p>Undergraduate Summer Research Internship Jun - Jul 2017</p> <p><i>Jawaharlal Nehru Center for Advanced Scientific Research</i>, Bengaluru, India</p> <ul style="list-style-type: none"> o Techniques in probability and functional analysis
COMPUTER SKILLS	<p>Python</p> <p>Julia</p> <p>Git</p> <p>C++</p> <p>Haskell</p>
LANGUAGES	<p>English (fluent)</p> <p>Tamil (native)</p>