

Bernardo Rivas

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in bernardorivas-math 📄 bernardorivas

Employment

University of Toledo Postdoctoral Fellow, Mathematics	Ohio, US 2025 – Present
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Education

Rutgers University PhD in Mathematics	New Jersey, US 2019 – 2025
Universidade de São Paulo (ICMC) MS and BS in Mathematics	São Paulo, Brazil 2012 – 2019

Visiting appointments

University of Michigan , Ann Arbor, MI	2025
Rutgers University , New Brunswick, NJ	2018
Queen Mary University of London , London, UK	2014

Publications & Preprints

Global Dynamics of Ordinary Differential Equations: Wall Labelings, Conley Complexes, and Ramp Systems with K. Mischaikow, E. Vieira, M. Gameiro, T. Gedeon, H. Kokubu, H. Oka https://arxiv.org/abs/2412.11078 	Preprint
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Talks

Global dynamics in systems biology SIAM DS25	Denver, CO 2025
Computational dynamics of gene regulatory networks Dynamics Seminar	Athens, OH 2025
Network dynamics via combinatorics, topology and homology AMS Seminar	Toledo, OH 2025
Analytical bounds for combinatorial topological dynamics Workshop – Combinatorial topological framework for nonlinear dynamics	Montreal, Canada 2024
A computational framework for dynamics of genetic regulatory networks 2024 Spring Eastern Sectional Meeting	Washington, DC, US 2024
Combinatorial topological method for gene regulatory networks Workshop – Computing combinatorial dynamics in high dim. biological networks	Leiden, Netherlands 2023
Rigorous numerics of invariant manifolds Summer Meeting in Differential Equations	São Carlos, Brazil 2019

Posters

Id. of Gene Regulatory Network Function from Data, Providence, RI, USA	2022
International Congress in Mathematics, Rio de Janeiro, Brazil	2018
Workshop of Thesis and Dissertations, ICMC-USP, Brazil	2018
Algebraic Topology in Data and Dynamics, Montana State University, USA	2018
Summer Meeting in Differential Equations, ICMC-USP	2017
GeoGebra Global Gathering, Linz, Austria 201	2015

Teaching

Rutgers University

Instructor

Introduction to Real Analysis	Summer 2024
Introduction to Mathematical Reasoning	Summer 2023
Elementary Differential Equations	Summer 2022

Teaching Assistant

Introduction to Real Analysis	Spring 2024
Introduction to Real Analysis	Fall 2023
Differential Equations for Engineering and Physics	Spring 2023
Mathematical Theory of Statistics	Fall 2022
Advanced Calculus for Engineering	Fall 2022
Differential Equations for Engineering and Physics	Spring 2022
Calculus I for the Mathematical and Physical Sciences	Fall 2021

ICMC-USP

Instructor for a minicourse on Differential Equations	Winter 2019
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Service

Mentor for Directed Reading Program	2024
Member of the Graduate Student Liaison Committee	2022 – 2024
Undergraduate representative in Mathematics Department Committee	2015 – 2016