Bernardo Rivas

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Employment

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

Education

Rutgers University	New Jersey, US
PhD in Mathematics	2019 – 2025
Universidade de São Paulo (ICMC)	São Paulo, Brazil
MS and BS in Mathematics	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	Preprint
with K. Mischaikow, E. Vieira, M. Gameiro, T. Gedeon, H. Kokubu, H. Oka	
https://arxiv.org/abs/2412.11078 🔗	

Talks

Global dynamics in systems biology	Denver, CO
SIAM DS25	2025
Computational dynamics of gene regulatory networks	Athens, OH
Dynamics Seminar	2025
Network dynamics via combinatorics, topology and homology	Toledo, OH
AMS Seminar	2025
Analytical bounds for combinatorial topological dynamics	Montreal, Canada
Workshop – Combinatorial topological framework for nonlinear dynamics	2024
A computational framework for dynamics of genetic regulatory networks	Washington, DC, US
2024 Spring Eastern Sectional Meeting	2024
Combinatorial topological method for gene regulatory networks	Leiden, Netherlands
Workshop – Computing combinatorial dynamics in high dim. biological networks	2023
Rigorous numerics of invariant manifolds	São Carlos, Brazil
Summer Meeting in Differential Equations	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 for Introduction to Real Analysis	Summer 2024
TA for Introduction to Real Analysis	Spring 2024
TA for Introduction to Real Analysis	Fall 2023
Instructor for Introduction to Math Reasoning	Summer 2023
TA for Differential Equations for Engineering and Physics	Spring 2023
TA for Mathematical Theory of Statistics	Fall 2022
TA for Advanced Calculus for Engineering	Fall 2022
Instructor for Elementary Differential Equations	Summer 2022
TA for Differential Equations for Engineering and Physics	Spring 2022
TA for Calculus I for the Mathematical and Physical Sciences	Fall 2021

ICMC-USP

Instructor for a minicourse on Differential Equations	Winter 2019

Service

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