Saúl Rodríguez Martín

Contact Information

Department of Mathematics
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Teaching experience

- Graduate Teaching Associate, The Ohio State University, 2023 - Present.
- Teaching Associate for V. Bergelson's minicourse in the Northwestern University Trends in Ergodic Theory Summer School, 2024.
- Directed Reading Project (DRP) at OSU, mentoring Sebastian Ghilezan in the basics of differential geometry of curves and surfaces.

Education

- Pursuing Ph.D. in mathematics under the guidance of Prof. Vitaly Bergelson, The Ohio State University, 2022 - Present.
- Master of Advanced Study, University of Cambridge, 2021 - 2022.

  Master thesis: *Outer Space.* Directed by Henry Wilton.
- Degree in Mathematics, Complutense University of Madrid, 2017 - 2021.

  Undergraduate thesis: *Topological characterization of some singular subspaces of the real line. Important applications in General Topology.* Directed by María Isabel Garrido.

Grants, honours and Awards

- Merit-based academic support during graduate studies at The Ohio State University:
  - Special Graduate Assignment, Spring 2026.
  - Research support for paper writing under F. Mémoli, Spring 2024.
- First Prize in the International Mathematical Competition for University Students, 2021.
- Collaboration with University Departments Grants (Becas de Colaboración con Departamentos Universitarios), 2020.
- Excellence Grants of the Autonomous Community of Madrid (Becas de Excelencia de la Comunidad de Madrid) for undergraduate students, 2018,2019,2020.
- Gold Medals in the Spanish Mathematical Olympiad and the Spanish Physics Olympiad, 2017.

Research Papers

1. S. Rodríguez Martín. *An inverse of Furstenberg's correspondence principle and applications to van der Corput sets.* Trans. Am. Math. Soc., 2025.
2. S. Rodríguez Martín. *Some novel constructions of optimal Gromov-Hausdorff-optimal correspondences between spheres.* arXiv preprint, arXiv:2409.02248, 2024.

3. S. Rodríguez Martín. *Gromov-Hausdorff distances from simply connected geodesic spaces to the circle.* Proc. Amer. Math. Soc. Ser. B 11 (2024), 624–637.

4. A. Della Corte, M. Farotti, S. Rodríguez Martín. *Competing holes in open dynamical systems.* Proc. Amer. Math. Soc., 2024.

Selected talks

1. Bernoulli Center - Summer School on Additive Combinatorics, Number Theory and Ergodic Theory, 15 July 2025. *Dynamical generalizations of the prime number theorem and disjointness of additive and multiplicative semigroup actions.*

2. Rutgers Math and Data Seminar, 27 March 2025. *Gromov-Hausdorff distance and its connection to topology.*

3. Ohio State University - What is...? Seminar, 11 June 2024. *What is non-standard analysis?*

4. Ohio State University - Topology, Geometry and Data Seminar, 16 April 2024. *Gromov-Hausdorff distances from simply connected geodesic spaces to* $\mathbb{S}^1$.

5. Ohio State University - What is...? Seminar, 20 June 2023. *What are Cantor Spaces?*

6. Universidad Complutense de Madrid - Dedekind's Army project, 6 April 2022. *El Teorema de Banach-Tarski.*

Other presentations

1. Ohio State University Ergodic Ramsey Theory student seminar, 31 October 2025. *Sumsets in* $\mathbb{N}$.

2. Ohio State University reading classics seminar, 23 September 2025. *Early History of Convexity.*

3. Ohio State University - What is...? Seminar, 5 June 2025. *What are smooth bump functions?*

4. Ohio State University Ergodic Ramsey Theory student seminar, 24 February 2025. *An inverse of Furstenberg's correspondence principle.*

5. Ohio State University Ergodic Ramsey Theory student seminar, 25 October 2024. *Loeb measures. Applications in Ergodic Ramsey Theory.*

6. Ohio State University Topology, Geometry and Data Seminar, 1 October 2024. *Some novel constructions of Gromov-Hausdorff-optimal correspondences between spheres.*

7. Ohio State University Reading Classics seminar, 6 February 2024. *Who proved the Fundamental Theorem of Algebra?*

8. Ohio State University Reading Classics seminar, 7 November 2023. *Euler's Essay on Continued Fractions.*