

SERGIO SERRANO DE HARO IVÁÑEZ

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EDUCATION

DPhil in Cancer Science <i>University of Oxford</i>	2023 – Present
MSc in Mathematical Sciences <i>University of Oxford</i> Dissertation: Homological approaches to graph evasiveness.	2021 - 2022
BSc in Mathematics <i>Universitat Autònoma de Barcelona</i> Dissertation: On the original proof of the Chern theorem.	2016 - 2021
BSc in Physics <i>Universitat Autònoma de Barcelona</i> Dissertation: How can we interpret probability in the quantum framework?	2016 – 2021

WORK EXPERIENCE

College Lecturer <i>Keble College, University of Oxford</i> Tasks involve tutoring undergraduate courses and participating in the admissions process.	2024 – Present
Project Administrator <i>Numerical Factory, Universitat Politècnica de Catalunya</i> Co-organised an outreach campaign and coding video contest funded by MathWorks and Catalan universities.	2022 – 2023

GRANTS & AWARDS

Cancer Sciences Doctoral Training Centre Scholarship DPhil scholarship including tuition fees and stipend.	2023-2027
Oxford Maths Engagement Grants Scheme Awarded to carry out a project on Public Engagement with Research.	2025
Academic Merit State Scholarship (Matrícula de Honor) Undergraduate performance awards, funded 50% of my BScs fees.	2016 - 2021

PRIZES

3-MINUTE TALK, 2ND PRIZE

3-Minute Thesis Competition 2025, Oxford SIAM-IMA Chapter.

2025

BEST POSTER PRIZE

Interphace Symposium 2025, Francis Crick Institute London.

2025

ACADEMIC TEACHING

University of Oxford

St Peter's College, Co-supervisor:

- 4th year undergraduate research project – 2024-2025

Keble College, Tutor:

- ASO Number Theory – TT 2026, 2025, 2024
- M1 Linear Algebra II – HT 2026, 2025
- M1 Linear Algebra I – MT 2025, 2024
- ASO Special Relativity – TT 2024

Doctoral Training Centre, Demonstrator:

- Introduction to Mathematical Modelling in Biology – HT 2024

PUBLICATIONS

1. **S. Serrano de Haro Iváñez**, J. W. Moore, L. Grzesiak, E. J. Mullholand, H. Harrington, S. J. Leedham, H. M. Byrne (2025). TopROI: A topology-informed network approach for tissue partitioning. *arXiv:2510.12772*
2. **S. Serrano de Haro Iváñez***, L. Fesser*, K. Devriendt, M. Weber, R. Lambiotte (2024). Augmentations of Forman's Ricci Curvature and their Applications in Community Detection. *Journal of Physics: Complexity 5 (3), 035010 (2024)*.

*Joint first authors

PEER REVIEW

Journal of Physics: Complexity (1 article)

TALKS AND PRESENTATIONS

Invited Speaker Seminar at Universidad Autónoma San Luis Potosí, 18 Nov 2025.

Poster at the London-Oxford-Paris TDA Seminar, University of London, 6 Nov 2025.

Talk and Poster at ESSB Spatial Biology: the melting pot, EMBL, 14-17 Oct 2025.

Talk at Annual Meeting of the Society for Mathematical Biology, University of Alberta, 13-18 Jul 2025.

Talk at 3 Minute Thesis Contest of the Oxford SIAM-IMA Chapter, University of Oxford, 30 May 2025.

Talk at joint meeting with the Max Planck Institute of Molecular Cell Biology and Genetics, Lwówek Śląski, 8 May 2025.

Poster at Interphace Symposium 2025, Francis Crick Institute London, 24 Feb 2025.

Poster at Annual Meeting of the Society for Mathematical Biology, Konkuk University, 1-5 Jul 2024.

OUTREACH AND VOLUNTEERING

SOCIAL MEDIA ADVISOR <i>Mathematical Institute, University of Oxford</i> Member of the Institute's media advisory group, supporting social media content creation through campaign design (e.g. the Tower of Babel series), and on-camera video contributions.	2025 - Present
TALK PRESENTER <i>Balliol College, University of Oxford</i> Prepared and presented a talk titled "Topology and the shape of cancer" to high school students as part of Balliol College's <i>Insight into Maths</i> programme.	2026
DEMONSTRATOR <i>Mathematical Institute, University of Oxford</i> Activity demonstrator at Oxford Maths Festival.	2024
SUPPORT TEACHER <i>Save the Children Spain</i> Co-supervised two groups of 12 secondary school students. Offered weekly after-school mathematics support throughout the academic year.	2023
STAFF MEMBER <i>Universitat Autònoma de Barcelona</i> Co-tutored 6 mathematics workshop sessions aimed at high school students.	2019
WORKSHOP ORGANISER <i>Catalunya-La Pedrera Foundation</i> Co-designed and presented a workshop in mathematics and magic devoted to 30 primary school students.	2016

OTHER SKILLS

PROGRAMMING: Python, C, and LaTeX.

Experience with topological data analysis, network science, and mathematical animation libraries.

LANGUAGES: English (Proficiency); Spanish (Mother tongue); Catalan (Mother tongue).