

José Giral Barajas

PHD STUDENT · MATHEMATICS RESEARCH

Imperial College London, South Kensington, London, SW7 2AZ, UK

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Education

Imperial College London

London, UK

PH.D. MATHEMATICS

2024 - present

- Advisor: Professor Paul C Bressloff

Universidad Nacional Autónoma de México (UNAM)

Mexico City, Mexico

M.Sc. MATHEMATICS

2022 - 2024

- Advisor: Dr. Sergio I. López Ortega
- Thesis: Probabilistic epidemiological model for heterogeneous populations
- Qualifying exams in partial differential equations, probability and stochastic processes, and graph theory.

Universidad Nacional Autónoma de México (UNAM)

Mexico City, Mexico

B.Sc. APPLIED MATHEMATICS

2017 - 2021

- Advisor: Dr. Sergio I. López Ortega
- Thesis: Probabilistic epidemiological model with microdynamics and reverse time (Spanish)
- First-class honours, ranked top of class, and awarded the Gabino Barreda medal

Professional Experience

2021-2022 **Business Intelligence Specialist**, Totalplay Telecomunicaciones, S.A. de C.V., Mexico City, Mexico

Publications

JOURNAL PAPERS

2. **J. Giral-Barajas** and P. C. Bressloff. Resetting-induced instability in queues fed by a search process in an interval *Phys. Rev. E* (2026).
2. **J. Giral-Barajas** and P. C. Bressloff. Stochastic 1D search-and-capture as a G/M/c queueing model. *J. Phys. A: Math. Theor* **58** 355001 (2025).
3. **J. Giral-Barajas**, C. I. Herrera-Nolasco, M. A. Herrera-Valdez and S. I. López. A probabilistic approach for the study of epidemiological dynamics of infectious diseases: Basic model and properties. *J. Theor. Biol.* **572** 111576 (2023).

Scholarships and Awards

SCHOLARSHIPS

2024 **Roth Scholarship for Ph.D. Degree**, Department of Mathematics, Imperial College London, UK

2022 **Graduate Scholarship for M.Sc. Degree**, National Council of Humanities, Sciences and Technologies (CONAHCYT), Mexico

UNIVERSITY AWARDS

2025 **PhD Symposium Award**, Imperial College London, UK

2022 **Gabino Barreda medal**, Universidad Nacional Autónoma de México (UNAM), Mexico

TRAVEL AWARDS

2026 **SIAM Student Travel Award**, To attend the SIAM Conference of the Life Sciences 2026

2026 **Doris Chen Mobility Award**, Imperial College London, UK

Teaching Experience

Spring 2026 **Imperial College London**, Graduate Teaching Assistant, Probability and statistics
Fall 2025 **Imperial College London**, Graduate Teaching Assistant, Probability and statistics
Spring 2025 **Imperial College London**, Graduate Teaching Assistant, Probability and statistics
Spring 2024 **UNAM**, Graduate Teaching Assistant, Stochastic processes
Fall 2023 **UNAM**, Teaching Assistant, Probability I
Spring 2022 **UNAM**, Teaching Assistant, Mathematical Modelling Workshop

Posters

Jun 2025 Department of Mathematics PhD Symposium Poster Competition (1st prize), *Imperial College London, London, UK*
Nov 2023 Evento Inaugural de la Red Mexicana de Biología & Matemáticas, *UNAM, Cuernavaca, Mexico*

Talks and Workshops

CONTRIBUTED TALKS

Feb 2026 Online Conference on Population Dynamics, Ecology and Evolution, *Society for Mathematical Biology, Online*
Nov 2025 SIAM Postgraduate Conference 2025, *University of Bristol, Bristol, UK*
Jun 2025 End-of-year Biomath Symposium, *Imperial College London, London, UK*
Dec 2024 Non-equilibrium Systems Group seminar, *Imperial College London, London, UK*

WORKSHOPS ATTENDED

Jun 2026 NITMB Workshop on Extreme Events in Biological Function, *National Institute for Theory and Mathematics in Biology, Chicago, USA*
Jan 2026 4th London Workshop on Active Matter, *Imperial College London, London, UK*

Outreach

Oct 2025 - present **Member of the SIAM Student chapter committee**, Student chapter at Imperial College London, *Imperial College London, London, UK*
Oct 2025 **Imperial Natural Sciences blog post**, Wandering searchers and supermarket queues: mathematically exploring how cells move resources, *Imperial College London, London, UK*
Aug 2025 **Research Fest**, Modelling Accumulation of Resources Queueing Theory and First-Passage Processes, *Imperial College London, London, UK*
Mar 2019 **Science Fair Workshop**, Cómo calcular Pi con balines (General public), *UNAM, Mexico City, Mexico*