Matías Andrés Palumbo

Based in London, United Kingdom

map25@imperial.ac.uk | matiaspalumbo19@gmail.com | matiaspalumbo.github.io

SUMMARY

PhD student at Imperial College London and the MRC Laboratory of Medical Sciences. Specialized in mathematical modelling of biological systems, especially those involving cellular and genetic processes during embryonic development.

EDUCATION

Imperial College London & MRC Laboratory of Medical Sciences — 2025 - Present
PhD — *London, United Kingdom*

- Transdisciplinary PhD program between biomathematics and clinical sciences.
- Four-year MRC LMS studentship funded by UKRI.
- Supervised by Dr. Omer Karin (Imperial College London) and Dr. Vicki Metzis (MRC LMS).
- Research focus: Mathematical modeling of gene regulatory networks, particularly of the transcriptional mechanisms that underlie cell fate decisions during neural crest development.

National University of Rosario — 2019 - 2024
Five-year integrated Bachelor's Degree in Mathematics (Licenciatura en Matemática) — *Rosario, Argentina*

- Graduated with distinction (academic average of 9.73 out of 10).
- Final thesis: "The Dynamics of Linear Operators in the Hardy Space of Dirichlet Series". Topics covered include functional analysis, complex analysis and topological dynamics.

WORK EXPERIENCE

Assistant Professor — Feb. 2025 – Aug. 2025
Catholic University of Argentina — *Rosario, Argentina*

- Two courses taught as part of the position: Quantitative Methods (probability and statistics applied to economics and finance) and Database Theory.

Research Assistant — Sep. 2023 – Dec. 2024
National University of Rosario — *Rosario, Argentina*

- Member of the CIFASIS-CONICET (National Scientific and Technical Research Council) research project "Dynamics of Linear Operators and Operator Semigroups".

Junior Engineer — Mar. 2022 – Dec. 2024
Paddle — *Rosario, Argentina*

- Support Engineer in charge of troubleshooting and fixing technical customer issues.

Teaching Assistant — Mar. 2023 – Aug. 2023
National University of Rosario — *Rosario, Argentina*

- Assistantship in the Mathematical Analysis I course organized by the Department of Mathematics of the Faculty of Exact Sciences, Engineering and Surveying.

Test Engineer — Apr. 2021 – Jan. 2022
RWS Language Services & Technology — *Rosario, Argentina*

- Member of the Testing Data team, in charge of compiling and delivering data packages for software testing.

Volunteer at NGO — Feb. 2019 – Nov. 2021
Asociación Conciencia — *Rosario, Argentina*

- NGO aimed at fostering civic engagement among high school students through projects like Model UN.
- Member of the General Coordination team in charge of event logistics.

CERTIFICATIONS

TOEFL iBT English Exam — Dec. 2023
C1 Level (score: 113/120)

Cambridge Certificate of Proficiency in English (CPE) — Nov. 2018
C2 Level (Grade A)

Publications

(Submitted) **Dual Hardy spaces of Dirichlet series, multiplicative Toeplitz operators and their dynamics** (2025). Cardeccia R., Muro S., Palumbo M.

- Latest version available in [my personal webpage](.).

Technical Skills

- Advanced knowledge of **Python** and **R**. Experience using common scientific libraries (numpy, matplotlib, scikit-learn) and bioinformatics tools (scde, PAGODA). Experience working with large-scale codebases.
- Strong background in both pure and applied mathematics.
- Solid foundation in computer science, with coursework in Python, C programming, data structures and algorithms.
- Advanced knowledge of the **LaTeX** typesetting language.
- Experience working with **Octave**, **Maxima** and **SageMath**.

Awards & Scholarships

MRC LMS Studentship — Sep. 2025 - Present
Funded by UKRI
- Studentship to support doctoral studies at Imperial College London.

EVC-CIN Scholarship — Sep. 2023 - Aug. 2024
Awarded by the National Interuniversity Council of Argentina
- Research scholarship for participation in a CIFASIS-CONICET research project.

First Prize in National Monograph Contest — Sep. 2022
Awarded by the Mathematical Union of Argentina
- First prize as author of "Transcendental Number Theory", a survey of the main results in transcendental number theory with a focus on proofs involving analytical number theory.

Friends of Fulbright Scholarship — Jan. 2022 - Mar. 2022
Awarded by Fulbright Association
- Seven-week academic exchange program in the University of Arkansas, United States.

Given Scientific Presentations & Workshops

Dynamics of Multiplication Operators in Hardy Spaces of Dirichlet Series — Sep. 2024
At the Annual Conference of the Mathematical Union of Argentina (in Catamarca, Argentina)
- Presented a characterization of hyperciclic and chaotic adjoint multiplication operators acting on Hardy spaces $\mathcal{H}_p$ of Dirichlet series.

LaTeX Workshop — Sep. 2024
At the National University of Rosario
- Three-hour workshop on intermediate-to-advanced LaTeX techniques. Contents available in [Github](.).

Transcendental Number Theory — Sep. 2022
At the Annual Conference of the Mathematical Union of Argentina (in Neuquén, Argentina)
- Presented a survey of the main results in transcendental number theory. Contents adapted from the work submitted to the National Monograph Contest organized by the Mathematical Union of Argentina.

Attended Forums & Conferences

Applied Mathematics Summer School — Jan. 2025 - Feb. 2025
Fundação Getulio Vargas EMAp (Rio de Janeiro, Brazil)
- Courses taken: *Introduction to Optimal Control* (8 hours), *Introduction to Multiobjective Optimization* (10 hours), *The Machine Learning Behind Recommendation Systems* (12 hours), *Computational Methods for Optimization in Julia* (12 hours) and *Dynamics in Complex Networks with Applications to Epidemiology* (18 hours).

Annual Conference of the Mathematical Union of Argentina — Sep. 2024
National University of Catamarca, Catamarca, Argentina

Escuela de Ciencias Informáticas Jul. 2024

University of Buenos Aires

- Two 15-hour courses taken: *Modeling and Analysis of Complex Systems* and *Large Language Models.*

10th Heidelberg Laureate Forum (HLF) Sep. 2023

Heidelberg, Germany

IX Congress in Applied, Computational and Industrial Mathematics May. 2023

National University of The Litoral, Santa Fe, Argentina

- 6-hour course taken: *Statistical Machine Learning.*

Annual Conference of the Mathematical Union of Argentina Sep. 2022

National University of Comahue, Neuquén, Argentina