TEODORO MAYAYO CORTASA

teodoromayayo@gmail.com

EDUCATION

Universitat Autònoma de Barcelona (UAB) *January 2024 - December 2027*
PhD in Mathematics

Universitat Politècnica de Catalunya (UPC) *September 2023 - June 2024*
Master's Degree in Advanced Mathematics (focus on dynamical systems and celestial mechanics)

Universitat Autònoma de Barcelona (UAB) *September 2022 - June 2023*
Master's Degree in Mathematical Modelling (specialization in complex systems)

Universitat Politècnica de Catalunya (UPC) *August 2018 - July 2022*
Bachelor's Degree in Biomedical Engineering

Universitat Oberta de Catalunya (UOC) *August 2019 - 2022*
Final year of Bachelor's Degree in Economics still pending

International Baccalaureate (Lestonnac-L'Ensenyança Tarragona) *September 2016 - June 2018*
High School Diploma in Applied Physics and Mathematics
Physics (HL), Mathematics (SL), Philosophy (HL), English (HL).

Tarragona Conservatory *September 2006 - June 2018*
Completion of Intermediate Level Degree
Main instrument: Cello

Cambridge Advanced Exam (CAE) *June 2023*
English level C1

WORK EXPERIENCE

Institut Català d'Oncologia Can Ruti, Barcelona, Spain
Medical Physics and Radiological Protection *July 2021 - September 2021*

· Supervised by Dr. Ernest Luguera and Dr. Jaume Molero.
· Main task: evaluate how patient positioning errors affect the CTV-PTV margin.

Kintai
Risk Analysis Department *July 2023 - September 2023*

· Business analysis and valuation.

RESEARCH EXPERIENCE

LaCàN Research Group Universitat Politècnica de Catalunya
Mathematical and Computational Modelling *June 2022 - September 2022*

· Supervised by Dr. Marino Arroyo and Dr. Marco Pensalfini.
· My task was to study the pressure applied by the intermediate filament network on a rigid nucleus and to simulate the cytoskeleton dynamics of a cell. I also studied whether the entanglement metric is invariant at small and large scales.

CRM (Centre de Recerca Matemàtica) Universitat Autònoma de Barcelona
Mathematical and Computational Modelling *February 2023 - June 2023*

· Supervised by Dr. Núria Fagella (Holomorphic Dynamics - UB) and Dr. Josep Sardanyès (Mathematical and Computational Biology - CRM).

· Master's thesis on the classification of the behavior of elementary cellular automata. Combined theoretical knowledge of dynamical systems with artificial intelligence tools to address an undecidable problem.

AWARDS

1. **ARGO Chair** granted by the Nuclear Safety Council (CSN) for the completion of the Bachelor's thesis. Thesis title: *Comparison of dose calculation methods used in external radiotherapy planning under conditions of extreme inhomogeneity.*

2. **CRM Internship Programme** granted by the Centre de Recerca Matemàtica (CRM). The Master's thesis was developed during this internship.

PARTICIPATIONS

1. Participation in the **SensUS Students competition 2019**, developing a valproic acid sensor **Eindhoven, 2019**.

SKILLS

Programming Skills:
Python, Matlab/Octave, LaTeX, Bash, C and C++.

Languages:
Catalan (native), Spanish (native), English (advanced).