



CLAIRE PLATEAUX

PHD IN MATHEMATICS

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I am a PhD researcher in applied mathematics to systems biology, specializing in intra- and inter-cellular modeling of organoids. My work combines mechanistic and data-driven approaches to create dynamic and high-performance digital twins that simulate the effects of genetic mutations and drug treatments.

AREA OF EXPERTISE

Network Inference	Mathematical models	Multi-scale modeling
Systems Biology modeling	Digital Twins	Markov chains

KEY ACHIEVEMENTS

- **Skills Development.** Agent-based Modeling, Data Analysis and Integration (SC RNA seq), Programming and Software Tools (Python, R, PhysiBoSS).
- **Academic Excellence.** Successfully passed the highly selective “Agrégation externe de mathématiques”, certifying advanced expertise in Mathematics and enabling teaching positions in high schools and universities, at PARIS SACLAY UNIVERSITY, aged 22.

PROFESSIONAL EXPERIENCE

PhD, Institut de Mathématiques de Marseille (I2M) , Marseille Medical Genetics MMG), Marseille	Octo 2024 - Present
<ul style="list-style-type: none">• <u>Phd Title</u>: Digital Twins of organoids by multiscale modeling• Designing a digital twin model for muscle organoids, leveraging mathematical modeling and multi-omics integration in a multi-scale agent-based framework to study muscle diseases, genetic mutations, and drug responses.	
Master 2 Internship, Institut des Sciences du Mouvement (ISM), Marseille	Janu 2024 - July 2024
<ul style="list-style-type: none">• Biomechanics• <u>Title</u>: How to optimize equipment and technique to prevent tendon injuries in drummers• Analysis of muscular activity and kinematics during striking, Data Integration and Analysis	

EDUCATION

Master in Applied Mathematics to Biology, AIX MARSEILLE UNIVERSITY	Sept 2023 - June 2024
<ul style="list-style-type: none">• Major in Probability and Statistics• Computational (Data science, Networks) and Biology classes (immunology, neurobiology)	
Master in Pure Mathematics, PARIS SACLAY UNIVERSITY	Sept 2021 - June 2023
<ul style="list-style-type: none">• Major in Probability and Statistics• Agrégation externe de mathématiques, passed: 158/335	
Bachelor in Mathematics and Physics, PARIS SACLAY UNIVERSITY	Sept 2020 - June 2021
<ul style="list-style-type: none">• Analysis, Algebra, Geometry, Topology, Probability, Physics	

ADDITIONAL INFORMATION

- **Languages:** French (native), English (C1), Spanish (B2), Korean (TOPIK I).
- **Qualities:** dedicated, ambitious, resilient, inquisitive, organized, open-minded, empathetic, visionary, adaptable, leadership skills, competitive, strategic, perfectionist, proactive, responsible
- **Interests:** Yoga, Dance, Music, Languages, Singing, Art, Sport, Reading, Cooking, Traveling.