

Camille Célariès

PhD student in Theoretical Biophysics



Personal informations

Email camille.celariesc@umontpellier.fr
Website camillecelaries.github.io
Office N°27 (3rd floor, left corridor)
Charles Coulomb Laboratory (building 21)
Faculty of Sciences, Montpellier, France

Work experience

- March 2024 - Present **PhD Student in Biophysics**
Charles Coulomb Laboratory, Montpellier, France
Subject: Theoretical physics modeling of bacterial respiration and charge transfer
Advisors: Andrea Parmeggiani, Nils-Ole Walliser
- April 2024 - Present **Teaching Assistant at the Physics Department**
Faculty of Sciences, Montpellier, France
Courses given: Calculus (1st year BSc), Simulation tools (3rd year BSc)
- March - July 2023 **Research Intern in Geosciences**
Geosciences Laboratory, Montpellier, France
Subject: Modeling the morphodynamics of the coastline by non-linear diffusion
Advisor: Frédéric Bouchette
- 2017 - 2023 **Private Tutor in Sciences and Humanities**
Montpellier, France
- March - July 2022 **Research Intern in Mathematics**
Institut Montpellierain Alexander Grothendieck, Montpellier, France
Subject: φ -FEM method for solving linear elasticity problem
Advisor: Vanessa Lleras
- December 2021 **Substitute Teacher in Mathematics**
Sète, France
Level: 6th Grade
- May - June 2021 **Research Intern in Mathematics**
Institut Montpellierain Alexander Grothendieck, Montpellier, France
Subject: Finite volume method for gaz dynamics
Advisor: François Vilar

Education

- 2020 - 2023 **Master's Degree in Theoretical and Numerical Analysis of PDEs**
Faculty of Sciences, Montpellier, France
Courses followed: theoretical and numerical analysis of PDEs, functional analysis, differential geometry, a posteriori estimates and mesh adaption, inverse problems, programming, modeling, optimization, machine learning
- 2016 - 2020 **Bachelor's Degree in Pure and Applied Mathematics**
Faculty of Sciences, Montpellier, France
Courses followed: linear and bilinear algebra, topology, measure and integration theory, probability, statistics, differential calculus, arithmetic, ODE analysis, programming modeling, optimization

2016 **High School Diploma in Sciences, specialized in Mathematics**
Lycée La Borde Basse, Castres, France

Projects

- April 2021 **Heat equation on Freefem++**
Faculty of Sciences, Montpellier, France
Description: Equation of heat propagation in a room with constraints, numerical resolution with FEM and implementation
Advisor: Vanessa Lleras
- Sept - Dec 2020 **Machine Learning code for database analysis**
Faculty of Sciences, Montpellier, France
Description: Database analysis and programming of regression methods for machine learning
Advisor: Bijan Mohammadi

Events

- January 2024 **Geosciences Workshop**
Vercors, France
Content: One-week workshop on geosciences advances: we shared our experience, research and tools together with interns, PhD students and researchers

Responsibilities

- October 2024 **Representative of the non permanent members of the Theoretical Physics team**
Charles Coulomb Laboratory, Montpellier, France
Goal: Collect the requests and observations of the previous and actual interns, PhD students and postdoctoral researchers of my laboratory team and do a report to the future direction of the laboratory members in order to improve the non permanent people working conditions
- June 2024 **Supervision of 1st-year undergraduate students' internship**
Charles Coulomb Laboratory, Montpellier, France
Goal: Introduce the bacterial respiration to beginners and make them practice on the problem with the resolution of a simple EDO and statistical modeling
- May - June 2023 **Supervision of a 1st-year graduate student's internship**
Geosciences Laboratory, Montpellier, France
Goal: Work on the coastline analysis, using a GIS (Geographic Information System) to collect data of the evolution of Mediterranean coastline portions

Computer skills

| | |
|---------------------|---|
| Programming | Python, C/C++, Java, R |
| Softwares | Mathematica, Matlab, FreeFEM++ |
| Markup languages | HTML, CSS, PHP |
| Typesetting systems | L ^A T _E X, Beamer, Microsoft Office |
| Operating systems | Linux, Windows, macOS |

Languages

| | |
|---------|--------------------------|
| French | Native (TEF level: C2) |
| English | Fluent (IELTS level: C1) |
| Spanish | Intermediate |