Camille Célariès

PhD student in Theoretical Biophysics

Personal informations

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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 Montpelliérain 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 Montpelliérain 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 2023 **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

Scientific diffusion

May 2024 **MATh.en.JEANS Congress**
Faculty of Sciences, Montpellier, France
Level: Middle school
Content: Organization of a two-day congress that aims at make discover mathematics to children of different ages through games and treasure hunts

Responsabilities

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	LaTeX, Beamer, Microsoft Office
Operating systems	Linux, Windows, macOS

Languages

French	Native (TEF level: C2)
English	Fluent (IELTS level: C1)
Spanish	Academic