

# Camille Célariès

*PhD student in Theoretical Biophysics*



---

## Personal informations

Email [camille.celariesc@umontpellier.fr](mailto:camille.celariesc@umontpellier.fr)  
Website [camillecelaries.github.io](https://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*

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:**  $\varphi$ -FEM method for solving linear elasticity problem  
**Advisor:** Vanessa Lleras

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

---

## Responsibilities

- Octobre 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 <sup>A</sup> T <sub>E</sub> X, Beamer, Microsoft Office
Operating systems	Linux, Windows, macOS

---

## Languages

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