

Camille Célariès

Student in applied mathematics



Personal informations

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Studies

- 2020 - Present **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, machine learning, differential geometry, a posteriori estimates and mesh adaption, inverse problems, programming, modeling,
Honors : Ranked 1st at Semester 8, valedictorian in mathematical mechanics and finite-element courses.
- 2016 - 2020 **Bachelor's Degree in Pure and Applied Mathematics**,
Faculty of Sciences, Montpellier, France,
Courses followed : topology, differential calculus, differential equations, measure and integration theory, optimization, linear and bilinear algebra, programming.
- 2016 **High-School diploma, specialized in Mathematics**,
Lycée La Borde Basse, Castres, France,
Honors : Mention Très Bien.

Experiences

- March - July 2023 **Research Intern**,
Laboratoire Géosciences Montpellier, France,
Subject : Modeling the morphodynamics of the coastline by non-linear diffusion,
Advisor : Frédéric Bouchette.
- March - July 2022 **Research Intern**,
Institut Montpelliérain Alexander Grothendieck, France,
Subject : φ -FEM method for solving linear elasticity problem,
Advisor : Vanessa Lleras.
- 2016 - 2022 **Private Tutor in Sciences and Humanities**,
Montpellier, France.

Internships & Projects

- March - July 2023 **Modeling the morphodynamics of the coastline by non-linear diffusion**,
Supervised by Frédéric Bouchette,
Abstract : Development of a numerical simulation tool for the dynamics of the coastline in plan (sky view) from a set of formalisms based on a principle of diffusion. Solving the problem with different numerical schemes applied to a set of PDEs belonging to the family of linear and non-linear diffusion equations.
- March - July 2022 **φ -FEM method for solving linear elasticity problem**,
Supervised by Vanessa Lleras,
Abstract : Development of a new non-conform finite-element method called φ -FEM on unstructured meshes. Applying it to solid mechanics problems, especially from linear elasticity.

- March - June 2021 **Finite-Volume method for gaz dynamics**,
Supervised by François Vilar,
Abstract : Implementing Finite-Volume methods for solving one-dimensional Euler equations.
- May - July 2021 **Heat equation on Freefem++**,
Supervised by Vanessa Lleras,
Abstract : Equation of heat propagation in a room with constraints, numerical resolution with FEM and implementation.
- Sept. - Dec. 2020 **Machine Learning code for database analysis**,
Supervised by Bijan Mohammadi,
Abstract : Database analysis and programming regression methods for machine learning.

Competences

Informatic skills

Programming	Python, C/C++, Java, R.
Softwares	Matlab, Freefem++.
Markup languages	HTML, CSS, PHP.
Typesetting systems	L ^A T _E X, Microsoft Office.

Languages

French	Native.
English	Fluent.
Spanish	Intermediate.