



Corentin Raveleau

PhD in applied mathematics and modeling

Numerical simulation and fluid dynamics.

Contact

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Skills

- Fluid mechanics :
 - Stokes flows
 - Particular flows
 - Finite Volume method
- Thermodynamic
- Solid mechanics:
 - Continuum mechanics
 - Finite Element Analysis
- Numerical simulation:
 - YALES2BIO / YALES2 (IMAG)
 - ANSYS
 - Comsol
 - HPC environnements
- Numerical tools
 - GMSH, Paraview
 - Solidworks, Créo
 - Git, Linux environment
- Programming :
 - Python
 - FORTRAN90
 - C++

Languages

- French : Native
- English : Fluent - TOEIC 990/990
- German : Basic notions

Hobbies

- Music: Electric guitar, composition
- Sport: Climbing, Running

Profile

PhD in applied mathematics and modeling with a background in mechanical engineering, specialized in scientific computing and large-scale numerical simulation. Experienced with computationally intensive CFD workflows, and strongly interested in AI-driven approaches for scalable and efficient engineering simulation.

Work experience

PhD in Mathematics and Modeling - IMAG, Montpellier (2022 - 2025)

Numerical simulation of blood platelets adhesion on structured artificial surfaces.

- Developpement of a blood platelets model in the CFD solver YALES2BIO
- Study of the interaction between particles, flow and structured surfaces
- **Filling of a patent**
- **Best oral presentation award (ESAO 2025)**

Master's thesis - LMGC, Montpellier (2021)

Numerical simulation of crack initiation and propagation in an induction hardened shaft.

- Use of Cohesive Zone Modeling and Finite Element Analysis
- Simulation of crack initiation in an heterogeneous material

Master's Internship - Zagreb, Croatie (2021)

Numerical simulation of crack initiation in a MI-8 helicopter tail beam.

- Generation of a complex geometry using Solidworks
- Mesh generation using ANSYS Meshing
- Simulation with the XFEM method using ANSYS APDL

Training

Master in Mechanical Engineering - Polytech Montpellier (2019 - 2022)

General formation on theoretical mechanics (continuum mechanics, fluid dynamics, thermodynamics) and numeric simulation (Finite differences, Finite element analysis, CFD)

Ranking : 1/28

Preparatory classes (PEIP) - Polytech Nantes (2017-2019)

National Ranking : 50/1618