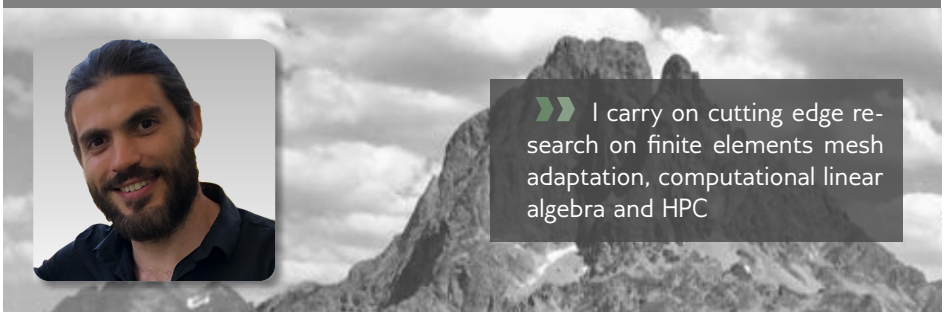
VINCENT DARRIGRAND



I carry on cutting edge research on finite elements mesh adaptation, computational linear algebra and HPC

CONTACT

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RESEARCH INTERESTS

Finite Element Method
Mesh Adaptivity
Goal-Oriented Adaptivity
Numerical Linear Algebra
Domain Decomposition
High-Performance Computing
Structural Mechanics
Wave Propagation # Geophysics

COMPETENCIES

Research and Development

Scientific writing

Scientific presentations

Team Work

Fast Learner

TECHNOLOGIES

Fortran, Python, C/C++

PETSc, MUMPS MPI-OpenMP

Git LaTeX

scikit-learn TensorFlow

HTML, CSS

OPERATING SYSTEMS

LANGUAGES

French: Mother tongue

English: C1 certification

Spanish: C1 certification

Status

Ph.D. in Applied Mathematics, specialized in Finite Elements Methods, Mesh Adaptivity and High Performance Computing.

Experience

2020 - 2022 — IRIT-ENSEEIHT-CNRS, Toulouse, France

Post-Doctoral Researcher

- Consulting on sparse direct solver for the european project `EOCOEII`,
- Performance improvement of Domain Decomposition methods using recent features of sparse direct solver.

2019 - 2020 — Cerfacs,Toulouse, France

Post-Doctoral Researcher

- Collaboration with EDF R&D on linear solver for saddle-point problems applied to structural mecanics,
- Developments on Golub-Kahan Bidiagonalization, implementation in `PETSc`.

2017 - 2019 — University of the Basque Country & Basque Center for Applied Mathematics, Bilbao

Post-Doctoral Researcher

- Developed a novel hp-mesh adaptive method for hierachical finite elements,
- Maintainer of the in-house finite elements library p`FEM` written in `Fortran`.

2013 - 2017 — University of the Basque Country & University of Pau

Predoctoral Researcher

- Novel Goal-Oriented p-mesh adaptive method for Helmholtz equation applied to Geophysics,
- Prototyping with `matlab` and integrated in p`FEM`.

2014 - 2015 — University of Pau, France

Temporary Assistant Teacher and Researcher

- Teaching statistics for first year students,
- Titularisation of the “agrégation de Mathématiques”

Education

2013 - 2017 — University of the Basque Country, Spain & University of Pau, France

Ph.D in Applied Mathematics

- PhD title: *Goal-Oriented Adaptivity using Unconventional Error Representation*
- Supervisors: Prof. David Pardo (Bilbao, Spain) and Prof. Hélène Barucq (Pau, France)

2010 - 2011 — University of Toulouse, France

Master degree in Mathematics

- Applied Analysis, Modelisation, Scientific Computing
- Master thesis: “Étude d’un modèle d’intéraction fluide/structure”

2009 - 2010 — University of Toulouse, France

Master degree in Mathematics

- “Agrégation de Mathématiques”, rank 215.
- Competitive mathematical examination.