

Pascal FREY

Laboratoire Jacques Louis Lions & Institut des Sciences du Calcul et des Données

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1. Degrees and education

- "Habilitation à diriger des recherches" in Mathematics, UPMC, Paris, 2002.
- PhD thesis in Applied Mathematics, University of Strasbourg, 1993.

2. Academic posts and positions

- Professor of Mathematics, UPMC, Paris, since 2003.
- Professor of Mathematics (associate), Universidad de Chile, Santiago, sept. 2007 - dec. 2009.
- Associate Professor of Mathematics, École Centrale de Paris, 2003-2013.
- Senior research scientist, INRIA Rocquencourt, 1996 - 2003.
- Visiting scholar, Rensselaer Polytechnic Institute, Troy, NY, USA, nov. 1993 - dec. 1995.

3. Latest grants and awards

- labex Calsimlab (2012-2019), PI/coordinator of the research grant (5Meuros) funded by the PIA 1 (French Ministry of Research)
- equipex equip@meso (2011-2019), PI of the research grant (1.4Meuros) funded by the PIA 1 (French Ministry of Research)
- Sesame RefICS (2011-2017), PI/coordinator of the grant (1Meuros) funded by the Region Ile de France
- FUI Rodin (2011), PI of the research grant funded by Region Ile de France
- STIC AmSud PLOMO (2008-2009), PI of the research grant funded by CNRS and foreign agencies
- Best Technical Paper Award, 21th Int. Meshing Roundtable (2012)

4. Some scientific expert positions

- Member of the Editorial Board of *Int. Journal for Numerical Methods in Fluids, Computational and Applied Mathematics*, *Int. Journal for Numerical Methods in Engineering*
- Member of program committees of various conferences, workshops and summer schools
- Member of hiring committees (professors, research engineers)
- Member of steering committees (Genci, Carnot Smiles)
- Scientific advisor (CEA-Cesta, Inria Cardamom)
- Referee for > 30 journals in applied mathematics, scientific computing, computer science, computational physics, computational mechanics,

5. Scientific activities

My research is focussed in developing new mathematical models and numerical methods and algorithms for solving problems in applied mathematics, and to apply them for dealing with challenging applications (forensics sciences, digital architecture, shape optimization, etc.).

I have co-authored 110 papers and research notes in international peer-reviewed journals and 10 books or chapters in monographies. H-index: 27.

6. Selected publications

1. Ch. Dapogny, C. Dobrzynski, P. Frey, *Three-dimensional adaptive domain remeshing, implicit domain meshing, and applications to free and moving boundary problems*, J. Comp. Phys., 2014
2. C. Ausoni, P. Frey, *Geometric algebra for vector field analysis and visualization: mathematical settings, overview and applications*, in Topological and Statistical Methods for Complex Data, Springer, 2014
3. G. Allaire, Ch. Dapogny, P. Frey, *Shape optimization with a level set based mesh evolution method*, Comput. Methods Appl. Mech. Engng., 2014
4. A nonlinear PDE model for reconstructing a regular surface from sampled data using a level set formulation on triangular meshes, A. Claisse and P. Frey, J. Comp. Phys., 2011
5. P. Frey, P.L. George, *Mesh Generation*, 2nd ed., 852 p., Wiley, 2008.