

**Pascal FREY**

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**1. Degrees and education**

- Habilitation à diriger des recherches, Mathematics, Université Pierre et Marie Curie, Paris, 2002.
- PhD thesis in Computer Science and Applied Mathematics, Université de Strasbourg, 1993.

**2. Academic posts and positions**

- Institut des Sciences du Calcul et des Données, FED 3, Sorbonne Université, director (2010- ).
- Professor of Mathematics, Sorbonne Université, 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**

- FEDER project ICS@SU (fonds européen de développement régional), PI/coordinator, 2015.
- Structuring grant, ICS@SU, Idex SUPER, Sorbonne Université, PI/coordinator, 2015.
- Chair Facile on facial reconstruction for forensics, Idex SUPER, Sorbonne Université, PI/coordinator, 2014.
- Research grant, labex CalSimLab (French Ministry of Research), PI/coordinator, 2012-2019.
- Research grant, equipex equip@meso (French Ministry of Research), PI, 2011-2019.
- Research grant Sesame RefICS (Region Ile de France), PI/coordinator, , 2011-2017.
- Research grant, FUI Rodin (Region Ile de France), PI, 2011.
- Research grant STIC AmSud PLOMO (CNRS), PI, 2008-2009

**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.
- Elected member of the "conseil académique" at Sorbonne Université, since 2018,
- Member of the scientific committee "Chaires Blaise Pascal, Région Ile de France, since 2018,

**5. Scientific activities**

My research is focussed in developing new mathematical models, numerical methods and efficient 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 150 papers and research notes in international peer-reviewed journals and 10 books or chapters in monographies. H-index: 32, 4, 442 citations (1, 750 since 2014) ([Google scholar](#)).

**6. Selected recent publications**

1. C. Dapogny, P.F. F. Omnès, Y. Privat, *Geometrical shape optimization in fluid mechanics using FreeFem++*, Structural and Multidisciplinary Optimization, 58 (6), 2761-2788, 2018.
2. P.F., D. Kazerani, T.T.M. Ta, *An adaptive numerical scheme for solving incompressible 2-phase and free-surface flows*, Int. J. for Numer. Methods in Fluids, 87 (11), 543-582, 2018.
3. M. de Buhan, C. Dapogny, P.F., C. Nardoni, *An optimization method for elastic shape matching*, C.R. Mathématique, 354 (8), 783-787, 2016.
4. Ch. Dapogny, C. Dobrzynski, P.F., *Three-dimensional adaptive domain remeshing, implicit domain meshing, and applications to free and moving boundary problems*, J. Comp. Phys., 2014.
5. 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.