

Philippe Moireau

Full Professor in Applied Mathematics, Ecole Polytechnique

in secondment from **Corps des Mines** (Ingénieur Général)

27-10-1979 – french citizen, *married*, 2 children 2013,2015

Research ID : D-1282-2010 – ORCID 0000-0001-9996-5213

✉ philippe.moireau@polytechnique.edu

🌐 m3disim.saclay.inria.fr/people/philippe-moireau/



Education

- 2016 **Habilitation**, in Mathematics *Université Paris-Sud*
- 2008 **PhD** in Applied mathematics, *Ecole Polytechnique*
- 2005 **Master** PDE and numerical analysis, LJLL, *Université Paris VI*
- 2005 **Engineer deg.**, *Telecom ParisTech – Corps des Telecom*
- 2005 **Engineer deg.**, *Ecole Polytechnique*

Academic career

- 2024 **Full Professor** at Ecole Polytechnique, member of Center for Applied Mathematics
- 2017 - 2024 **Inria Senior researcher, Leader** of Project-Team MEDISIM, Inria Saclay & Polytechnique
- 2012 - 2016 **Junio Researcher** in Team MEDISIM, Inria Saclay
- 2009 - 2012 **Junior Researcher** in Team MACS, Inria Paris Rocquencourt
- 2009 **Post-doc**, *Cardiovascular Group, Stanford University, USA*
- 2006 - 2008 **PhD**, *Ecole Polytechnique and Inria Paris-Rocquencourt, France*
- 2004 **Intern**, *King's College London and Inria, UK & France*
- 2003 **Intern**, *Applied Phys. & Math. Dep., Columbia University, USA*

Scientific production

- Publications** **71 articles** (Google Scholar h-index : 28) divided in 3 themes :
 - (a) Inverse problems** : 26 articles + 7 peer-reviewed conference proceedings ;
 - (b) Mathematical modeling** : 17 articles + 3 peer-reviewed conference proceedings ;
 - (c) (Cardiovascular) Applications** : 12 articles + 6 peer-reviewed conference proceedings.
- Patents** 3 EU patent extended in the US
- Software** Creator main dev. of heartLab/cardiacLab : Cardiac Simulation and Estimation (150 000 lines)
Co-architect of the librairies MoReFEM (HPC) and Verdandi (Data assimilation)

Mentoring

- PhD** 16 co-supervision in inverse problems with 2 GAMNI PhD Awards

Teaching

- 2024 - Auj. **Eng.**, Variational analysis of PDEs, Ecole Polytechnique
- 2018 - Auj. **Master 2**, Data completion for PDEs, Université Paris-Saclay,
- 2015 - Auj. **Master 2**, Biomechanical Engineering, Université Paris-Saclay,
- 2014 - 2020. **Master 2**, Inverse problems, Laboratoire Jacques-Louis Lions (LJLL), Paris VI ,
- 2016 - 2019. **Associate professor**, Applied mathematics, Ecole Polytechnique
- 2006 - 2018. **Lectures and practical trainings**, Numerical analysis, ENSTA ParisTech,

Activity for the scientific community

- Reviews** In control (COCV,MCSS,IEEE-US,...), Num. Anal. (ACOM,M2AN,JOMP,IJNME,...) and mechanical modeling (BMMB,EMJSOL,...); reviews for ANR, Region N. Aquitaine
- Instances** Member of the steering committee of LMS (Ecole Polytechnique), of the Communauté Mathématiques of IPP, Member of the scientific career commission Corps des Mines
- Organisations** Conference VPH2020, Inria-Saclay App Math Seminar, Summer schools CEMRACS 2016 and CEA-EDF-Inria School 2008
- Jurys** 10 thesis juries (5x reviewer), 1 Inria junior researchers, 2 Associate Prof., Member of 1 ANR Jury
- Vulgarisation** Olympiades de mathématiques Conférences, Inria movie "the numerical heart" (2006)

Grants

- 2019 - 2022 ANR Odisse (observer theory), 30 staff-months, Partner Leader
- 2019 - 2022 ANR SIMR (cardiac valves simulation), 27 staff-months, Partner Leader
- 2013 - 2016 VP2HF, 42 staff-months, European STREP, Co-leader of the workpackage Estimation
- 2011 - 2015 VPH-Share, 27 staff-months, European FP7-IP, HPC and data assimilation
- 2008 - 2013 euHeart, 55 staff-months, European FP7-IP, Co-leader of the workpackage Estimation