Camilla Fiorini

Curriculum Vitae

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Info

Born	February, 9th 1990, in Milan, Italy.
Citizenship	Italian.
Personal Page	https://camillafiorini.netlify.com

Current Position

2021 - Now	**Associate professor**, *M2N Laboratory*, CNAM, Paris.

Education

2014-2018	**PhD in Applied Mathematics**. *LMV*, *UVSQ*, Versailles, France and *ACUMES, INRIA*, Sophia Antipolis, France. Title: Sensitivity analysis for nonlinear hyperbolic systems. Advisors: Christophe Chalons, Régis Duvigneau.
2012-2014	**Master of Science in Mathematical Engineering**, *Politecnico di Milano*, Milan, Italy. Thesis: Optimization of unsteady PDEs systems using a multi-objective descent method. Final grade: 110/110 cum laude.
2009-2012	**Bachelor in Mathematical Engineering**, *Politecnico di Milano*, Milan, Italy. Thesis: Numerical and mathematical model of lower limbs and cerebral venous system. Final grade: 108/110.
2004-2009	**Classical High School**, *Liceo Classico G. Carducci*, Milan, Italy.

Awards

2019	**SMAI-GAMNI PhD Award** for the best PhD thesis in the field of computational methods in applied sciences and engineering defended in France in 2018.
2019	Finalist for the Eccomas Award for the two best PhD theses in the field of computational methods in applied sciences and engineering defended in Europe in 2018.
2017	Siam Travel Award to attend the conference SIAM OP17 in Vancouver, Canada.

Work experience

Sept. 2020 - 2021	**Post-doctoral researcher**, *Équipe Fluminance*, Inria, Rennes. Postdoctoral contract within the STUOD project.
2018 - 2020	**Post-doctoral researcher**, *Jacques Louis Lions laboratory*, Sorbonne Université, Paris. Forward uncertainty quantification for the Navier–Stokes equations.
Apr.-Aug. 2014	**Internship**, *Inria*, Sophia Antipolis, France. Numerical minimisation of time dependent cost functionals for flow control problems.

Teaching activity

2019-2020	Labs for numerical methods for differential equations ("Méthodes numériques pour les équations différentielles"), third year. Sorbonne Université.
2019-2020	Problem sessions for mathematics for science ("Mathématiques pour les sciences 1"), first year. Sorbonne Université.
2015-2018	Lectures and problem sessions for general mathematics ("Mathématiques générales 1"), first year. Université de Versailles.

Computer skills

Languages	C, C++, LaTeX, Matlab, Python. Basics of OpenMP, MPI, CUDA.

Languages

Italian	Mother tongue.
English	Excellent.
French	Excellent.

Other Activities

2017-2018	**Organisation of CANUM 2018**, member of the organising committee.
2016-2017	**Organisation of Junior Seminars**, *LMV - Université Paris Saclay*, Versailles, France. Monthly seminar for PhD students and Post-docs.
2016-2017	**PhD students delegate to the EDMH board**, *Université Paris Saclay*, France.

Conferences

Nov. 2020	Séminaire d'analyse numérique, Lille, France. Talk.
Feb. 2020	Séminaire du STMF, CEA, Saclay, France. Talk.
July 2019	3rd TrioCFD user meeting, CEA, Saclay, France. Poster.
June 2019	Séminaire d'analyse numérique - IRMAR, Rennes, France. Talk.
May 2019	Tiger SHARK-FV, Minho, Portugal. Talk.
March 2019	Journées Jeunes EDPistes, Rennes, France. Poster presentation.
March 2019	Colloque d'ouverture 50 ans du LJLL, Roscoff, France. Talk.
June 2018	École de recherche en mathématiques pour l'énergie nucléaire, Roscoff, France. **Invited speaker**.
June 2018	HYP2018, State College, PA, USA. Talk.
May 2018	CANUM, Cap d'Agde, France. Talk.
May 2018	Silver SHARK-FV, Minho, Portugal. Talk.
Feb. 2018	CEA-SMAI/GAMNI, Paris, France. **Invited speaker**.
June 2017	FVCA8, Lille, France. Poster presentation.
June 2017	Congrès SMAI 2017, Ronce-les-Bains, France. Talk.
May 2017	SIAM OP17, Vancouver, Canada. Talk. **Winner of the SIAM Travel Award.**
May 2017	Purple SHARK-FV, Ofir, Portugal. Talk.
April 2017	School on Uncertainty Quantification for Hyperbolic Equations and Related Topics, GSSI, L'Aquila, Italy. Talk.

Nov. 2015   Mathematics and Social Sciences Workshop, Imperial College, London, UK. Poster presentation.

Publications

[1] C. Fiorini, R. Duvigneau and J.-A. Désidéri. *Optimization of an Unsteady System Governed by PDEs using a Multi-Objective Descent Method*. RR-8603 - INRIA. 2014

[2] C. Fiorini. *Optimization of running strategies according to the physiological parameters for a two-runner model*. Bulletin of Mathematical Biology, 79(1): 143-162. 2017.

[3] C. Chalons, R. Duvigneau, C. Fiorini. *Sensitivity analysis for the Euler equations in Lagrangian coordinates*. In International Conference on Finite Volumes for Complex Applications (pp. 71-79). Springer, Cham, 2017.

[4] C. Chalons, R. Duvigneau, C. Fiorini. *Sensitivity analysis and numerical diffusion effects for hyperbolic PDE systems with discontinuous solutions. The case of barotropic Euler equations in Lagrangian coordinates*, SIAM Journal on Scientific Computing, 40(6): A3955-A3981. 2018.

[5] C. Fiorini, C. Chalons, R. Duvigneau. *A modified sensitivity equation method for the Euler equations in presence of shocks*, Numerical methods for PDEs, 36(4) : 839-867. 2020.

[6] C. Fiorini, B. Després, M. A. Puscas. *Sensitivity equation method for the Navier–Stokes equations applied to uncertainty propagation*, International journal for Numerical Methods in Fluids, 93(1) : 71-92. 2021.