Lorenzo Campana

Curriculum vitæ

27 Rue Berberis, Nice, France
+33 22 686 881
lorenzo_campana@icloud.com
campanalorenzo.github.io

About me. My research interests are twofold and concern the fundamental aspects of turbulence and modelling particles embedded in a turbulent environment. During my PhD, I focused on developing physical models to represent the macro-scale particle's dynamics in turbulent flows through a stochastic approach, allowing me to acquire analytical and numerical competencies in stochastic processes. Furthermore, working to understand better key aspects of turbulence has always interested me since my Master's thesis. My expertise includes developing and implementing numerical schemes and their convergence study, especially in a stochastic framework, as well as data analysis and interpretation. I am strongly motivated and passionate about a professional career. I like sharing opinions and knowledge and cooperating to enrich my teamwork capabilities and improve my skills.

Education

Ph.D. Science for Engineering — **Nice, France**
Université Côte d'Azur - INRIA — *Dec. 2017–Mar. 2022*
Thesis title: *Stochastic modelling of non-spherical particles in turbulence.*
Advisor: DR. Mireille Bossy

M.Sc. Mechanical Engineering — **Rome, Italy**
University of Rome, "La Sapienza" — *Oct. 2014–Mar. 2017*
Thesis title: *Turbulent Drag Reduction by Superhydrophobic Surfaces.*
Advisor: Prof. Carlo Massimo Casciola

B.Sc. Mechanical Engineering — **Rome, Italy**
University of Rome, "La Sapienza" — *Nov. 2010–Mar. 2014*
Thesis title: *Low Mach number asymptotic of the Navier-Stokes equations.*
Advisor: Prof. Paolo Gualtieri

Research Publications

Journal Articles

Lorenzo Campana, Mireille Bossy, and Christophe Henry (n.d.). *Lagrangian stochastic model for the orientation of inertialess non spherical particles in turbulent flows: an efficient numerical method for CFD approach.* In preparation

Lorenzo Campana, Mireille Bossy, and Jérémie Bec (2022). *Stochastic model for the alignment and tumbling of rigid fibres in two-dimensional turbulent shear flow.* url: https://arxiv.org/abs/2207.02649. submitted to "Physical Review Fluids"

Conference Proceedings

- Lorenzo Campana, Mireille Bossy, and Jean-Pierre Minier (May 2019). *A Lagrangian stochastic model for rod orientation in turbulent flows*. In: *ICMF 2019 - 10th International Conference Multiphase Flow*. Rio de Janeiro, Brazil. url: https://hal.inria.fr/hal-02369274

Dissertations

- Lorenzo Campana (Mar. 2022). *Stochastic modelling of non-spherical particles in turbulence*. Ph.D. Thesis. url: https://hal.archives-ouvertes.fr/tel-03666030
- Lorenzo Campana (Mar. 2017). *Turbulent Drag Reduction by SHSs*. M.Sc. Thesis. Rome, Italy: University of Rome, "La Sapienza"

Talks

Conferences

- ETC 2019 - "17th European Turbulence conference". Turin, Italy. September 2019.
- ICMF 2019 - "10th International conference of multiphase flow". Rio de Janeiro, Brazil. May 2019.
- GDR 2018 - "Phénoménologie de la turbulence". Nice, France. October 2018.
- DTPF 2018 - "Dispersed two phase flow". Toulouse, France. September 2018.

Seminars

- Réunion dynamique des fibres. Online. November 2020.
- Physique des écoulements turbulents. Nice, France. May 2019.
- Journée Numeric. Nice, France. April 2019.
- Rencontre de mécanique de fluid, Nice, France. April 2018.

Attended schools

- CISM Advanced school - "Anisotropic particles in viscous and turbulent flow". Udine, Italy. July 2020.
- Les Houches School of Physics - "New challenges in turbulence research". Les Houches, France. April 2019.

Skills

Languages

- Italian mother tongue. Strong reading, writing and speaking competencies for English and intermediate of French.

Coding Advanced knowledge of Python, Fortran, C which I have also used in HPC clusters. Moreover, I acquired competencies in OpenMPI, Bash, Git and basic knowledge of C++ and Matlab.

Softwares Mathematica, Pycharm, Tecplot360

Misc. Academic research, LaTeX typesetting, operating systems

Other information

Award "UCA Doc Walker" PhD International Mobility Programme of Université Côte d'Azur (2019).

Hobby My personal interests include travelling, cycling, play tennis and reading.

References

Available on Request