Stanford

Teresa Salomone

Postdoctoral Scholar, Mechanical Engineering

Bio

BIO

Teresa Salomone is a postdoctoral fellow at Stanford's Center for Turbulence Research. She earned her PhD through a joint collaboration between Queen's University in Canada and the University of Campania in Italy. Her research focuses on computational studies of turbulent flows using large eddy simulation and wall modeled large eddy simulation with high performance computing, with an emphasis on roughness, separated flows, and complex external aerodynamics.

More recently, her work has expanded to include simulations of marine species in collaboration with Hopkins Marine Station, where she studies the hydrodynamics of cetaceans to estimate drag, gliding energetics, and cost of locomotion across different species and swimming conditions. She is also exploring how computational fluid dynamics can be applied to questions in human physiology, particularly in modeling cerebrospinal fluid dynamics.

She is also involved in facilitating workshops on breathwork, reflecting a broader interest in the role of respiration and its interaction with physiological systems.

HONORS AND AWARDS

- Department Prize for Outstanding Student Performance at University of Naples Federico II, University of Naples Federico II (2019)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Queen's University (2024)
- PhD, Queen's University , Fluid mechanics; Turbulence Modeling; High Performance Computing (2024)
- PhD, University of Campania Luigi Vanvitelli , Fluid mechanics; Turbulence Modeling; High Performance Computing (2024)
- MS Aerospace Engineering, University of Naples Federico II (2019)

STANFORD ADVISORS

- Gianluca Iaccarino, Postdoctoral Faculty Sponsor

COMMUNITY AND INTERNATIONAL WORK

- Breathwork and Meditation Workshops
- PhD Community Initiative, Queen's University (Canada)

LINKS

- LinkedIn: https://www.linkedin.com/in/tsalomone/

Publications

PUBLICATIONS

- **Wall-model response to departure from equilibrium in turbulent flows over rough surfaces** *JOURNAL OF FLUID MECHANICS*
  Salomone, T., Meneveau, C., De Stefano, G., Piomelli, U.
  2025; 1023

- **Wall-Modeled and Hybrid Large-Eddy Simulations of the Flow over Roughness Strips** *FLUIDS*
  Salomone, T., Piomelli, U., De Stefano, G.
  2023; 8 (1)

- **Computational Evaluation of Control Surfaces Aerodynamics for a Mid-Range Commercial Aircraft** *AEROSPACE*
  Natale, N., Salomone, T., De Stefano, G., Piccolo, A.
  2020; 7 (10)