

ROSTER

Name/Term		Area of Research
Postdoctoral Fellows		
BROUZET, Dr. Davy 10/2020–present	Ph.D. Mechanical Engineering, 2020, University of Melbourne, Australia	Turbulent combustion, aeroacoustics and combustion noise, direct numerical simulation, and large-eddy simulations of reacting flows
GOMEZ, Dr. Salvador 11/2023–present	Ph.D. Aeronautics, 2023, California Institute of Technology	Resolvent analysis, hydrodynamic stability, compressible turbulent flows, direct numerical simulation
GONZALEZ-HERNANDEZ, Dr. Carlos 01/2023–01/2024	Ph.D. Applied Mathematics and Mathematical Physics, 2020, Imperial College London, UK	Physics of turbulent shear flows, boundary layer receptivity, reduced-order modeling of high-speed flows, data-driven methods
HWANG, Dr. Hanul 04/2022–present	Ph.D. Mechanical Engineering, 2022, Stanford University	Multiphase flows, hydrodynamic stability, atomization, wind-wave interaction, and numerical methods
JAIN, Dr. Suhas 01/2022–12/2023	Ph.D. Mechanical Engineering, 2022, Stanford University	Multiphase flows, compressible turbulent flows, fluid-structure interaction, high-performance computing, scientific computing

JAROSLAWSKI, Dr. Tomek 04/2023–present	Ph.D. Fluid Mechanics, ONERA and Institut Supérieur de l'Aéronautique et de l'Espace, 2023, Toulouse, France	Experimental fluid mechanics, transitional and turbulent boundary layers, microfluidics, particle sedimentation, canopy flows, and insect aerodynamics
KHANWALE, Dr. Makrand 08/2021–present	Ph.D. Mechanical Engineering and Applied Mathematics, 2021, Iowa State University	Multiphase flows, electrochemical systems, numerical analysis, turbulence
LAURENT, Dr. Charlelie 01/2022–present	Ph.D. Mechanical Engineering, 2021, National Polytechnic Institute of Toulouse, France	Turbulent combustion, data-driven modeling deep learning, rocket propulsion, and reduced-order modeling
PASSIATORE, Dr. Donatella 10/2022–present	Ph.D. Mechanical Engineering, 2021, Politecnico di Bari, Italy and ENSAM Paris, France	High-speed, multi-component and reacting flows, large-eddy and direct numerical simulations
PATIL, Dr. Aakash 05/2023–present	Ph.D. Computational Mathematics, 2023, MINES Paris Tech, France	Deep learning, predictive modeling, DL-assisted modeling of turbulent flows
TONICELLO, Dr. Niccolò 01/2023–03/2023	Ph.D. Mechanical Engineering, 2021, Université de Rouen, France	High-order methods, compressible turbulence, multi-phase flows, surrogate modeling, reduced-order models
WANG, Dr. Jianyu 11/2023–present	Ph.D, Hydraulic Engineering, 2023, Tsinghua University, China	Non-uniform wind flow, atmospheric boundary layer, atmospheric turbulence, and numerical simulations

ZABALETA, Dr. Federico 10/2023–present	Ph.D, Civil and Environmental Engineering, 2023, University of California, Davis	Multiphase flows, ice accretion modeling, air entrainment
ZAHTILA, Dr. Tony 08/2023–present	Ph.D. Mechanical Engineering, The University of Melbourne, 2023, Australia	Uncertainty quantification, computational fluid dynamics, turbulent flows
Research Associates		
MAEDA, Dr. Kazuki 08/2019–05/2023	Ph.D. Mechanical Engineering, 2018, California Institute of Technology	Physics, modeling, and simulation of high-speed, multi-component flows, and their engineering applications
MIRJALILI, Dr. Shahab 07/2019–present	Ph.D. Mechanical Engineering, 2019, Stanford University	Numerical methods and physics of multiphase flows high-performance computing, and machine learning
Visiting Scholars		
BASTIAANS, Dr. Robert 05/2023–08/2023	Associate Professor, Department of Mechanical Engineering, Eindhoven University of Technology, Netherlands	Turbulent combustion, fluid dynamics, modeling, simulation and analysis
PANESI, Dr. Marco 01/2023–12/2023	Professor, Department of Aerospace Engineering, University of Illinois at Urbana-Champaign	Uncertainty quantification and machine learning, non-equilibrium, weakly ionized plasmas, non-equilibrium chemistry and radiation, hypersonics
TONICELLO, Dr. Niccolò 07/2023–08/2023	Assistant Professor, Department of Mathematics, Scuola Internazionale di Studi Superiori Avanzati (SISSA), Italy	High-order methods, compressible turbulence, multi-phase flows, surrogate modeling, reduced-order models

WU, Dr. Wen
06/2023–08/2023

Assistant Professor, Department of Mechanical Engineering, University of Mississippi

Roughness and flow separation

Senior Research Fellows

BOSE, Dr. Sanjeeb

Adjunct Professor, Institute for Computational and Mathematical Engineering, and Cadence Design Systems

Wall models for LES, numerical methods, and high-performance computing

DI RENZO, Dr. Mario

Researcher, Università del Salento, Italy, and CTR

Hypersonics, electrified combustion, interaction of turbulence with shock waves and chemistry, and numerical methods for compressible reacting flows