

UNIFI June 3rd seminar – Speakers' bios

Aliza Abraham



Aliza is a postdoctoral researcher studying wind energy and atmospheric science at NREL. Her work focuses on characterizing fluid-structure interactions in the atmosphere using data collected during field campaigns.

Aliza received her PhD from the University of Minnesota, where she employed a novel technique using snow to visualize the air flow around a utility-scale wind turbine. This work got her interested in understanding how wind turbines behave under complex real-world conditions.

She joined the Wind Energy Science team at NREL in 2023, and is currently investigating interactions between wind plant wakes and the atmospheric boundary layer, as well as wind loading on concentrating solar power collectors.

Stefano Letizia



Stefano is currently a full-time remote sensing scientist at NREL, working on the characterization of the atmospheric boundary layer for wind energy applications.

An UNIFI alumnus, he graduated in 2016 with an MS in Energy Engineering with a thesis focused on the performance enhancement of a vertical-axis wind turbine studied through CFD. He later transitioned to experimental field research during his PhD at UT Dallas, where he worked intensively with LiDARs for the investigation of utility-scale wind turbine wakes.

He joined the Wind Energy Science team at NREL in 2022 as a postdoctoral and later a full-time researcher, where he currently supervises the fleet of remote sensing instruments deployed in several field campaigns for wind energy. His scientific interests now include statistical methods for the reconstruction of wind fields, thermodynamic profiling of the atmosphere, and atmosphere-wind plant interactions.

Matteo Puccioni



Matteo graduated in Aerospace Engineering in 2013 (BS) and in Aeronautical Engineering in 2016 (MS) with a thesis entitled "Development of a calibrated model for the estimation of mean flow past wind turbines" focused on the optimal closure of a numerical RANS solver to reproduce the mean velocity within a wind turbine wake. In 2017 Matteo was hired as PhD student in the Mechanical Engineering department at The University of Texas at Dallas. Based on the field data obtained from a multi-LiDAR experimental station, Matteo's research focused both on the characterization of large turbulent motions within the Atmospheric Surface Layer (ASL), and the impact of the atmospheric flow variability on the performance of utility-scale wind turbines. After graduating in 2022 with a PhD thesis entitled "Investigation on the organization of turbulence for high Reynolds-number boundary layers through Lidar experiments", Matteo was hired as Postdoctoral Research Associate at Lawrence

Livermore National Laboratory (LLNL) in Livermore, CA, where he currently studies the Atmospheric Boundary Layer in presence of complex features, i.e. forest canopies, sea-land transitions and wind farm clusters.