AEROSPACE ENGINEERING

DIMEAS - Scientific machine learning and digital twins in Fluid mechanics

Funded By	DIMEAS - Progetti ricerca finanziati da Ateneo

Supervisor	MAGRI LUCA - luca_magri@polito.it

Contact	

Context of the research activity	Scientific machine learning; fluids mechanics

Objectives	Wind energy and offshore wind energy are crucial sources of renewable energy, which are necessary for the EU sustainable energy strategy for achieving a de-carbonised economy by 2050. Rapid progress has seen the EU, and other countries', agreed strike price per MWh fall in ten years to maintain the attractiveness of offshore wind energy in a competitive market, which requires innovation to improve efficiency. There are two factors to the goal functional of a wind-farm optimisation: maximising the power output from a given land area whilst minimising maintenance costs by reducing fatigue damage to wind-turbine components. The accurate and real-time optimisation of wind farms is still an open problem.

Skills and competencies for the development of the activity	Scientific machine learning; fluid mechanics; computing; programming; optimisation