

Colloqui della Classe di Scienze

Anno Accademico 2017/2018

Sala Azzurra | Palazzo della Carovana
Scuola Normale Superiore
Piazza dei Cavalieri, 7 - PISA

20 DICEMBRE 2017
ore 15.00

LUCA BIFERALE

Università di Roma "Tor Vergata"

*Energy Transfer and Energy Dissipation
in Turbulent Flows*

ABSTRACT:

Turbulence is everywhere on earth and in the sky. I will present a guided tour across some of the most important open questions concerning the role played by turbulence in modern Fluid Dynamics. I will address fundamental theoretical questions connected to the existence of - infinitely many - anomalous scaling exponents and applied ones, related to the formation of coherent energy-containing structures in atmospheric flows. The aim is to highlight what we do not know and what are the main mathematical, phenomenological, numerical and experimental obstacles that still make turbulence an 'unsolved' problem of paradigmatic importance in, e.g., out-of-equilibrium Statistical Mechanics, Mechanical Engineering and Atmospheric Physics.



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