



Department of Physics
University of Pisa

Dipartimento di Eccellenza, 2023-2027



UNIVERSITÀ
DI PISA

PhD Lectures

Dipartimento di Fisica - Università di Pisa

Federico Toschi

(Eindhoven University of Technology)

Lectures on Turbulence

In these lectures we discuss the physics of fluid dynamics turbulence from Kolmogorov theory for the energy cascade to the multifractal formalism, in both Eulerian and Lagrangian frameworks. Turbulence in non-homogenous and non-isotropic settings will also be briefly discussed. The course integrates theoretical foundations with hands-on data analysis and computational exercises to develop solid understanding of turbulence physics. No prior knowledge of turbulence is required.

10/11/2025 10:30-12:30 (Sala Galilei, piano terra, Ed. C, Polo Fibonacci)

11/11/2025 14:30-16:30 (Sala Galilei, piano terra, Ed. C, Polo Fibonacci)

12/11/2025 10:30-12:30 (Sala Galilei, piano terra, Ed. C, Polo Fibonacci)

13/11/2025 14:30-16:30 (Sala Gerace, Il piano, Ed. C, Polo Fibonacci)

14/11/2025 10:30-12:30 (Sala Galilei, piano terra, Ed. C, Polo Fibonacci)

This activity is performed in the framework of the project 'Nano-Meta-Materials and Devices: New Frontier Concepts for Particle and Radiation Detection, (Grant 'Dipartimento di Eccellenza, 2023-2027 from the Italian Ministry of University, CUP I57G22000720004) at the Department of Physics of the University of Pisa