



In the framework of the activities of the PhD programme in Mathematical Sciences

Prof. **Anna Laura Mazzucato**

Penn State University

will offer a PhD course on

Boundary layers and applications to the vanishing viscosity limit for incompressible fluids

Abstract

The main goal of the course is to introduce the theory of boundary layers with emphasis on viscous boundary layers for incompressible flows, discussing some recent developments in the rigorous analysis of viscous boundary layers and the vanishing viscosity limit. We will first discuss the case of boundary layers for linear equations (ordinary differential equations and the Laplace equation), in order to present the topics in a context more familiar to the students, and then for fluids leading to Prandtl equation. We will provide the necessary tools to analyze more complex models and to let interested students study open problems from an analytic standpoint.

Scheduling

The course will be held at the Department of Mathematics, Via C. Saldini n.50 – Milano
from 9 to 24 January 2024

with the following scheduling:

9, 10, 12, 15, 17, 19, 22, 24 January, **hours 10.00 AM - 12.00 PM**

Room: **Aula Dottorato**, 1st floor