

Ph.D course in Mathematical Analysis, Modelling, and Applications

Head of the Ph.D course:

Prof. Massimiliano Berti

Web site:

[Mathematical Analysis, Modelling, and Applications](#)

Research lines:

- Conservation Laws
- Transport Problems
- Geometric PDEs
- Numerical Analysis of PDEs
- Nonlinear Analysis
- Dynamical Systems
- Hamiltonian and dispersive PDEs
- Calculus of Variations
- Gamma-Convergence and Multiscale Analysis
- Rate independent evolution problems
- Geometric Control Theory
- Sub-Riemannian Geometry
- Inelastic behavior of solids: plasticity, damage, fracture
- Mechanobiology of the cell and cell motility
- Mechanics of soft and active materials
- Reduced basis methods
- Boundary integral methods and isogeometric analysis
- Fluid-structure interaction problems
- Computational Fluid and Solid Mechanics
- Uncertainty quantification
- Shape optimization
- Flow control
- Machine Learning

Fellowships available: 8

Admission: Academic and scientific qualifications + written exam + oral exam (in presence – upon Committee discretion candidates domiciled beyond 200 km from Trieste will be allowed to attend remotely contemporaneously to the other candidates)

Beginning of the Courses: 1st October, 2025

Evaluation of academic and scientific qualifications: 10 points

Access to Written Exam: minimum mark of 7/10 on academic and scientific qualifications

Evaluation of Written Exam: 40 points

Access to Oral Exam: minimum mark of 28/40 in the written exam evaluation

Evaluation of Oral Exam: 50 points

To be considered eligible, candidates must pass all the phases (academic qualifications, written test, and interview) with a minimum mark of 7/10 or equivalent.

Deadline for online submission of applications: 9th February, 2025

Written Exam: 10th March, 2025

Oral Exam: 11th March, 2025

Second Session (only if there should still be places available after the first one)

Deadline for online submission of applications: 30th August, 2025

Written Exam: 10th September, 2025

Oral Exam: 11th September, 2025

Admission to the oral exam and results of all evaluations will be notified by email.