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

Head of the Ph.D course: Prof. Gianluigi Rozza
Web site: Mathematical Analysis, Modelling, and Applications

Research lines:
• Conservation Laws
• Transport Problems
• Geometric PDEs
• Numerical Analysis of PDEs
• Nonlinear Analysis
• Dynamical Systems
• 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
• Machine learning
• Uncertainty quantification
• Shape optimization
• Flow control

Fellowships available: 8
Admission: Academic and scientific qualifications + written exam + oral exam
Beginning of the Courses: 1 October, 2020

<table>
<thead>
<tr>
<th>Evaluation of academic and scientific qualifications: 10 points</th>
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<tbody>
<tr>
<td>Access to Written Exam: minimum mark of 7/10 on academic and scientific qualifications</td>
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<tr>
<td>Evaluation of Written Exam: 40 points</td>
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<td>Access to Oral Exam: minimum mark of 28/40 in the written exam evaluation</td>
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<td>Evaluation of Oral Exam: 50 points</td>
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<td>Total Evaluation: 100 points</td>
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<td>Eligibility: 70 points</td>
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First Session
Deadline for online submission of applications: 3 March, 2020

Written Exam: 18 March, 2020
Oral Exam: 19 March, 2020

Second Session (only if there should still be places available after the first one)
Deadline for online submission of applications: 15 July, 2020

Written Exam: 10 September, 2020
Oral Exam: 11 September, 2020

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