

Courses of the School

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| 1. Dott.ssa Giovanna Carnovale
Lie Algebras | S-1 |
| 2. Dott. Daniele Castorina
Qualitative properties of solutions to semilinear elliptic PDEs | S-2 |
| 3. Dott. Marco Di Summa, Francesco Rinaldi
Optimization methods for large-scale problems | S-3 |
| 4. Prof. Francesco Fassò
Symmetry, Lie groups and dynamical systems | S-4 |
| 5. Prof. Franco Flandoli
Elementi Matematici in Oncologia | S-5 |
| 6. Prof. Edward B. Saff
Minimal Discrete Energy Problems | S-6 |

Courses of the “Computational Mathematics” area

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| 1. Prof. Martino Grasselli
Stochastic Volatility Models | MC-1 |
| 2. Prof. Masaaki Kijima
Financial Engineering | MC-3 |
| 3. Prof. Jacopo Pantaleoni
Introduction to GPUs and Parallel Computing | MC-4 |
| 4. Prof. Tiziano Vargiolu
Topics in Mathematical Finance | MC-5 |
| 5. Proff. Rossana Vermiglio, Dimitri Breda
Numerical stability of dynamical systems described by delay differential equations | MC-6 |
| 6. Prof. Marino Zennaro
Numerical methods for Ordinary Differential Equations | MC-7 |

Courses of the “Mathematics” area

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| 1. Dott.ssa Giovanna Carnovale
Representation Theory of Groups | M-1 |
| 2. Prof. Massimo Fornasier
From sparse optimization to sparse optimal control | M-2 |

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| 3. Prof. Andrea Lucchini
Introduzione alla teoria dei gruppi | M-3 |
| 4. Prof. Marc Quincampoix
Averaging and Asymptotic Behavior in Deterministic Optimal Control | M-4 |
| 5. Proff. Benjamin Schraen, Stefano Morra
Topics on p-adic Langlands | M-5 |
| 6. Dott. Iulian Ion Simion, Prof. Jay Taylor
Introduction to Linear Algebraic Groups | M-6 |
| 7. Prof. Peter Vamos
Ordered K-theory (The theory of additive and non-negative invariants for rings and modules.) | M-7 |

Courses in collaboration with the Doctoral Course “Brain, Mind and Computer Science”

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| 1. Prof. Ivan Martinovic
Selected Topics in Wireless System and Network Security | CS-1 |
| 2. Prof. Ivan Martinovic
Cognitive User Authentication and Behavioral Biometrics | CS-2 |
| 3. Prof. Claudio Palazzi
Networking issues and solutions in online games | CS-3 |
| 4. Prof. Alessandro Sperduti
Introduction to Machine Learnings | CS-4 |
| 5. Prof. Tullio Vardanega
Principles of Cloud Computing | CS-5 |
| 6. Prof. Tullio Vardanega, Alessandro Beghi
Internet of Things | CS-6 |

Courses in collaboration with the Doctoral School on “Information Engineering”

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| 1. Prof. Lorenzo Finesso
Statistical methods | DEI-1 |
| 2. Prof. Nicola Laurenti
Information theoretic Methods in Security | DEI-2 |
| 3. Prof. Fabio Marcuzzi
Computational Inverse Problems | DEI-3 |
| 4. Prof. Morten Gram Pedersen
Mathematical modeling of cell Biology | DEI-4 |

5. Prof. Giorgio Picci
Applied Linear Algebra

DEI-5

6. Prof. Gianluigi Pillonetto
Applied Functional Analysis

DEI-6