

Data-driven Control Design

Centro residenziale universitario di Bertinoro, July 11-13, 2024

Organizers and Speakers: Claudio De Persis* and Pietro Tesi°

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Day 1 – program. Speakers: Claudio De Persis (morning) and Pietro Tesi (afternoon)

- 9.00 – 10.30. Introduction to data-driven control (DDC).
- 10.30-11.00. Break
- 11.00 – 12.30. DDC for linear systems: Stabilization and optimality
- 13.00 – 15.00. Lunch break
- 15.00 – 16.30. Robustness to noisy data
- 16.30 – 17.00. Break
- 17.00 – 18.30. Probabilistic results and sample complexity

Day 2 – program. Speakers: Pietro Tesi (morning) and Claudio De Persis (afternoon)

- 9.00 – 10.30. DDC for nonlinear systems: Basic concepts
- 10.30-11.00. Break
- 11.00 – 12.30. Lyapunov's indirect method and linear dominance
- 13.00 – 15.00. Lunch break
- 15.00 – 16.30. Feedback linearization methods
- 16.30 – 17.00. Break
- 17.00 – 18.30. Bilinear systems and Lur'e form

Day 3 – program. Speaker: Claudio De Persis

- 9.00 – 10.30. Advanced design: Contractivity
- 10.30-11.00. Break
- 11.00 – 12.30. Open problems in DDC