

PhD Winter School on Autonomous Systems 2026

The PhD Winter School on Autonomous Systems 2026 was held at the Politecnico di Bari, Italy, from January 19 to 23, 2026, and brought together PhD students and early-stage researchers with interests in autonomous and intelligent systems.

The School was organized by the Politecnico di Bari, Department of Electrical and Information Engineering, in collaboration with the Italian Society of Teachers and Researchers in Automatics, the IEEE CSS, RAS, and SMC Italian Chapters, IFAC Italy, and the IEEE RAS Technical Committee on Automation Cluster.



The School took place **in person from January 19 to January 22**, offering an intensive and well-structured program of lectures, discussion sessions, and networking activities. The scientific program was designed to provide participants with a clear and coherent overview of current research directions in autonomous systems, spanning **control systems, robotics, machine learning, distributed and networked systems, and decision making**, with strong links between theory and applications.

The lecture series opened with **Michele Cucuzzella** (University of Groningen), who introduced participants to passivity-based control and consensus methods for interconnected systems. On the following day, **Nicanor Quijano** (Universidad de los Andes) presented game theoretic tools and evolutionary dynamics for autonomous systems, while **Jan Jantzen** (University of the Aegean) offered a broader perspective on control methods applied to global warming and large-scale systems.



Midweek lectures were delivered by **Umberto Montanaro** (University of Surrey), who focused on model reference adaptive control, and by **Carlos Ocampo-Martinez** (UPC BarcelonaTech), who discussed predictive control approaches for networked microgrids and energy systems. The final lecture day featured contributions from **Bruno Siciliano** (Università di Napoli Federico II), addressing key challenges in robotics and interaction technologies, **Stefania Santini** (University of Naples Federico II), who presented control methods for multi agent systems with time delays, and **Birgit Vogel-Heuser** (Technical University of Munich), who concluded the program with lectures on machine intelligence and industrial automation.

Throughout the week, the Winter School emphasized interaction and community building. Coffee breaks, shared lunches, daily aperitifs, and a dedicated **social event on January 21** created an informal and welcoming environment that encouraged discussion and networking among participants and lecturers.



The 2026 edition confirmed the PhD Winter School on Autonomous Systems as a high-quality educational initiative, successfully combining advanced training, scientific exchange, and international networking in a focused academic setting.



Organizers

Scientific Committee

- **Mariagrazia Dotoli**, Polytechnic University of Bari
- **Raffaele Carli**, Polytechnic University of Bari
- **Alberto Cavallo**, University of Campania Luigi Vanvitelli
- **Laura Giarrè**, University of Modena and Reggio Emilia

- **Federica Pascucci**, Roma Tre University

Local Arrangement Committee

- **Paolo Scarabaggio**, Polytechnic University of Bari
- **Nicola Mignoni**, Polytechnic University of Bari

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