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# University Day 2026



Mariagrazia Dotoli, PhD, IEEE Fellow, is a Full Professor of Systems and Control Engineering at Politecnico di Bari, Italy. She is an internationally recognized researcher whose work focuses on decision-making, optimization, and the modelling, simulation, management, and control of complex systems. Her research interests encompass a broad range of application areas, including smart cities, transportation and logistics systems, industrial automation, production systems, supply chains, healthcare, and energy management, with particular emphasis on intelligent control and decision-support methodologies.

In 2012, she founded the Decision and Control Laboratory at Politecnico di Bari, where she serves as its scientific lead. Since 2022, she has also coordinated the Italian National PhD Programme in Autonomous Systems, which she helped establish and which brings together 25 affiliated Italian universities. Her extensive scientific contributions include more than 270 Scopus-indexed publications, reflecting her sustained engagement with the international research community.

In recognition of her contributions to the control of logistics systems in smart cities, Professor Dotoli was elevated to IEEE Fellow in 2024 by the IEEE Robotics and Automation Society. She also serves as Editor-in-Chief of IEEE Transactions on Automation Science and Engineering for the 2026–2031 term. Through her research, academic leadership, and editorial activities, she contributes to advancing automation, intelligent systems, and control engineering, fostering innovation and interdisciplinary collaboration.

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## Decision and Control Strategies for Smart Energy Systems

**A powerful solution contributing to the green transformation of modern power systems is represented by smart energy systems. The term 'smart energy system' denotes a community of users (private, public, or mixed) located in a specific reference area, where all stakeholders – such as end-users (e.g., citizens, companies, etc.), market players (e.g., utilities, service providers), practitioners, planners and policy-makers – actively cooperate for the intelligent optimization of energy costs and efficiency using innovative technology to build and operate a sustainable system. While smart energy systems typically encompass various types of energy exchanges, in this talk we focus on electricity, whose share in the world energy consumption is rapidly increasing and is currently at more than 20%. Independently from the implemented architecture, the success of smart electrical energy systems relies on the deployment of suitable decision and control mechanisms that efficiently and widely exploit renewable sources and distributed storage, while enabling the application of measures oriented to cost-effectiveness, sustainability, and reliability. In this context, the talk presents innovative decision and control frameworks, such as game-theoretic methodologies, for smart electrical energy systems composed of heterogenous actors equipped with trading and sharing service-oriented energy systems. The effectiveness of the presented approaches is shown through several examples.**

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