



Lecture Series 2025 - IEEE SMC Italy Chapter

Integration of cooperative, connected and automated mobility: solutions based on the artificial intelligence

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On line: [LINK](#)

Abstract: This talk will present some approaches developed to accelerate the integration of innovative Cooperative, Connected and Automated Mobility technologies and systems in terms of design and implementation of enhanced physical, digital and operational infrastructures. In particular, the talk will show some innovative techniques based on Artificial Intelligence for designing and applying traffic control methods such as signalized intersection management, route planning services and last mile delivery strategies. The used methodologies encompass global and distributed optimization, artificial intelligence techniques and simulation frameworks applied for a full integration of Cooperative, Connected and Automated Vehicles in the real traffic for transportation of both passengers and goods. The talk will also describe some recent results obtained in case studies by simulation environments and in the field.



Bio: Maria Pia Fanti, IEEE Fellow, received the Laurea degree in electronic engineering from the University of Pisa, Pisa, Italy, in 1983. She was a visiting researcher at the Rensselaer Polytechnic Institute of Troy, New York, in 1999. Since 1983, she has been with the Department of Electrical and Information Engineering of the Polytechnic of Bari, Italy, where she is currently a Full Professor of system and control engineering and Chair of the Laboratory of Automation and Control.

Her research interests include management and modeling of complex systems, such as intelligent transportation, logistics and manufacturing systems; discrete event systems; Petri nets; fault detection and cybersecurity. Prof. Fanti has published more than 370 papers and two textbooks on her research topics.

She is senior editor of the IEEE Trans. on Automation Science and Engineering, and Associate Editor of the IEEE Trans. on Systems, Man, and Cybernetics: Systems and the IEEE Transaction on Intelligent Vehicles. She is member of the Board of Governors of the IEEE Systems, Man, and Cybernetics Society, and was member of the Administrative Committee of the IEEE Robotics and Automaton Society, founder and chair of the Technical Committee on Automation in Logistics of the IEEE Robotics and Automation Society. Prof. Fanti was general chair, program chair and member of the organizing committee of many international conferences, in particular she was General Chair of the 2011 IEEE Conference on Automation Science and Engineering, the 2017 IEEE International Conference on Service Operations and Logistics, and Informatics and the 2019 IEEE Systems, Man, and Cybernetics Conference.

PhD students attending the lecture can request a certificate of attendance by sending an email after the lecture to: laura.giarre@unimore.it and graziana.cavone@uniroma3.it