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Keynote Speaker II



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Gianfranco Chicco holds a Ph.D. in Electrotechnics Engineering and is a Full Professor of Electrical Energy Systems at Politecnico di Torino (POLITO), Italy. He is a Fellow of the IEEE and the vice-chair of the IEEE Italy Section. He received the title of Doctor Honoris Causa from the Universities Politehnica of Bucharest and Technical University “Gheorghe Asachi” of Iasi (Romania) in 2017 and 2018, respectively. He is the Scientific Responsible of the research group on Power and Energy Systems at POLITO, and the Responsible of the Torino unit of the Italian Consortium ENSIEL. He is the Editor-in-Chief of Sustainable Energy Grids and Networks, a Subject Editor of Energy, and an Editor of IEEE Open Access Journal of Power and Energy, IET Renewable Power Generation, and Energies. He was the Conference Chair of WESC 2006, IEEE ISGT Europe 2017, and UPEC 2020. Within POLITO, he participated in various European projects. Within ENSIEL, he was the Scientific Coordinator for the European project H2020 MIGRATE and participated in the European projects FP7 eHighway2050 and H2020 OSMOSE.

Title: **Provision of grid services from multi-energy systems**

Abstract: Nowadays, growing attention is paid to the deployment of different forms of energy. Multi-energy uses appear in different applications, and the possibility of providing different forms of energy supply to obtain the same service is of noteworthy interest. For this purpose, applying energy shifting among different energy vectors to supply the same multi-energy demand is a possibility to consider, assessing the feasibility and limits. This presentation addresses how to provide increase or reduction of the electricity input from the grid by acting on the energy-shifting capabilities of multi-energy systems. The notions of electricity shifting potential, maximum profit electricity reduction, and profitability maps are explained, to assess possible multi-energy arbitrage opportunities in the presence of variable costs and incentives.