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Bio

Dr. Gioacchino Scaglione is a Research Fellow at the Sustainable Development and Energy Saving Laboratory of the University of Palermo, Italy. He received his M.Sc. in 2021 and Ph.D. in 2025 from the University of Palermo, with a thesis entitled "*Advanced Model Predictive Control of Cascaded H-Bridge-fed Drives for E-Mobility Applications.*" His research encompasses the implementation of modulation strategies for multilevel converters, the development of advanced control techniques for AC drives fed by multilevel inverters, and the design and implementation of Model Predictive Control (MPC) strategies for both AC drives and grid-connected applications using Cascaded H-Bridge inverters.

Dr. Scaglione has contributed to multiple international conferences and journals, addressing topics such as predictive control, multilevel converter topologies, modulation strategies, and power electronics applications beyond traditional drives. In this tutorial, he will explore the benefits and open challenges of FCS-MPC in multilevel inverter-fed systems, discussing practical implementation, performance optimization, and emerging research directions for both industrial and grid-connected applications.