DIPARTIMENTO DI INGEGNERIA DELL'ENERGIA ELETTRICA
E DELL'INFORMAZIONE "GUGLIELMO MARCONI"

Seminar announcement

Potential Research Avenues in the Integration of Plug --in Electric Vehicles with Microgrids & Smart grid

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Abstract:
To address the ongoing political, socio-economic, environmental challenges Electric, Hybrid and Plug-in Hybrid Electric vehicles are set to introduce in the Indian market. Electrified Transportation (xEVS), broadly classified as Electric (EV), Hybrid Electric (HEV) and Plug-in Hybrid Electric Vehicle (PHEV) systems, are among the emerging applications of electrical engineering principles and techniques to the automotive field. The automotive field seeks to close the gap between automotive industry and electrical engineering. The evolution of the electric fleet will require residential as well as charging infrastructure analogues to petrol pumps for the conventional automotive fleet. Charging stations are installed in various countries in the world. A detailed research is required for the integration of the emerging EV charging infrastructures with the existing grid, microgrids and smart grid under various power market operation scenarios. With a detailed background, potential research avenues in the Integration of Plug-in electric vehicles with microgrids and smart grid will be shared to explore future directions.

Bio sketch:
Dr. M. Saad Alam received his PhD from Tennessee Tech University, USA in 2009. He worked in Chrysler and Ford Motor Company R&D on concept future projects on autonomous PHEVs and EVs in Michigan, USA till 2015. Currently, Dr. Alam is an Associate Professor of Electrical Engineering at Aligarh Muslim University (AMU) and he is the Director of the Center of Advanced Research in Electrified Transportation (CARET) of AMU and executing grants of over 1 Million Euros. Dr. Alam has authored/ coauthored more than 100 publications and he is an Associate Editor for the IEEE Transactions on Transportation Electrification, USA. His current area of research interest is Electric Mobility, xEVs charging infrastructure, smart microgrids and energy hubs optimization, Large-scale new and renewable energy integration, Autonomous Electric Vehicles and deployment of V2X and X2V strategies.