Monday, Nov 30, 2020
5:00 PM – 6:00 PM (US Eastern Time)

https://temple.zoom.us/j/95797980434

All are invited to attend

Bi-directional Wireless Power Transfer Technologies for V2G-H2V Applications

Prof. Udaya K. Madawala, Ph.D.

Department of Electrical & Computer Engineering
The University of Auckland, New Zealand

Abstract

Electric vehicles (EVs) are gaining global acceptance as the means of future transport for sustainable living and as an alternative energy storage to offer services through the vehicle-to-home (V2H) and vehicle-to-grid (V2G) concepts. For V2G and V2H applications, EVs essentially require a bi-directional power interface with either the electricity network (grid) or home to allow for both storing (charging) and retrieval (discharging) of energy. This can be achieved by both wired and wireless means, but the latter, based primarily on Inductive Power Transfer (IPT) technology, is becoming more popular being convenient, safe, and ideal for both stationary and dynamic charging of EVs. The seminar discusses the standards, challenges and future directions of V2G-H2V technologies, and presents the latest advances in bi-directional wireless power transfer (BD-WPT) technology developed for V2G-H2V applications.

Brief Biography

Udaya K. Madawala graduated with a B.Sc. (Electrical Engineering) (Hons) degree from The University of Moratuwa, Sri Lanka in 1987, and received his PhD (Power Electronics) from The University of Auckland, New Zealand in 1993 as a Commonwealth Doctoral Scholar. At the completion of his PhD, he was employed by Fisher & Paykel Ltd, New Zealand, as a Research and Development Engineer to develop new technologies for motor drives. In 1997 he joined the Department of Electrical and Computer Engineering at The University of Auckland and, at present as a Full Professor, he focuses on a number of power electronics projects related to wireless grid integration of EVs for V2G applications and renewable energy.

Udaya is a Fellow of the IEEE and a Distinguished Lecturer of the IEEE Power Electronics Society (PELS), and has over 30 years of both industry and research experience in the fields of power electronics and energy. He has served both the IEEE Power Electronics and Industrial Electronics Societies in numerous roles, relating to editorial, advisory, conference, technical committee and chapter activities. Currently, Udaya is an Associate Editor for IEEE Transactions on Power Electronics, and a member of both the Administrative Committee and Membership Development Committee of the IEEE Power Electronics Society. He was the General Chair of the 2nd IEEE Southern Power Electronics Conference (SPEC)- 2016, held in New Zealand, and is also the Chair of SPEC Steering Committee. Udaya, who has over 300 IEEE and IET journal and conference publications, holds a number of patents related to wireless power transfer (WPT) and power converters, and is a consultant to industry.

Seminar contact person: Dr. Xiaonan Lu, xiaonan.lu@temple.edu