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Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

An Overview of Recent Advances in Multiphase Variable-speed Drives

Professor Emil Levi

*Professor of Electric Machines and Drives
Liverpool John Moores University*

Wednesday, 19th February 2014 at 14:00
LT02, Sir Henry Stephenson Building

Abstract

The areas of multiphase (more than three phases) variable speed drives and generation systems have in recent times become of considerable interest worldwide. Numerous advances have been reported, related to various aspects of multiphase machine design, modelling, and control, as well as to the multiphase power electronic converter control. The talk will concentrate on three particular areas where important advances have been made. Power electronic solutions for multilevel multiphase supply will be addressed first, with the emphasis placed on PWM techniques for multilevel multiphase inverters in single-sided supply mode and on open-end multiphase stator winding topology with dual two-level inverter supply. Next, recent and emerging solutions for integrated on-board battery charging of electric vehicles, based on utilisation of multiphase machines and power electronics, will be addressed. The last topic of the talk will address some new developments related to topologies and fault tolerant control of multiphase machines, with the focus on an asymmetrical six-phase system. The theoretical considerations will be accompanied with extensive experimentally recorded results throughout.

Biography

Emil Levi was born in 1958 in former Yugoslavia. He received his Dipl. Ing. (BEng Honours equivalent) degree from the University of Novi Sad, Yugoslavia in 1982 and MPhil and PhD degrees from the University of Belgrade, Yugoslavia in 1986 and 1990, respectively.

From 1982 till 1992 he was with the Department of Electrical Engineering, University of Novi Sad. He joined Liverpool John Moores University, UK in May 1992 and is since September 2000 Professor of Electric Machines and Drives. He has served as Co-Editor-in-Chief of the IEEE Trans. on Industrial Electronics from 2009 until 2014 and is an Editor of the IEEE Trans. on Energy Conversion and Editor-in-Chief of the IET Electric Power Applications.

Emil is a Fellow of the IEEE (Class of 2009) and the recipient of the Cyril Veinott award of the IEEE Power and Energy Society for 2009. He was also the recipient of the Best Paper Award from the IEEE Transactions on Industrial Electronics for 2008.

*Refreshments will be available following the talk in the
Foyer of the Sir Henry Stephenson Building*