



The
University
Of
Sheffield.

Automatic
Control and
Systems
Engineering

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

Extremum Seeking and its Wind and Solar Applications

Professor Miroslav Krstic

*Department of Mechanical and Aerospace Engineering
University of California, San Diego*

Wednesday, 4th December 2013 at 14:00
LT02, Sir Henry Stephenson Building

Abstract

I will introduce the basic tools for non-model-based real-time optimization via the method of extremum seeking and review the history of this technique. I will first present an application of extremum seeking to wind energy conversion in the sub-rated power regime, where power is being optimized by tuning the turbine speed by controlling the electrical frequency of the stator of the induction generator. I will then present a Newton-based version of multivariable extremum seeking and its application to maximum power point tracking for photovoltaic arrays under partial shading.

Biography

Miroslav Krstic received his Ph.D. in electrical engineering from the University of California, Santa Barbara, in 1994. After two years as assistant professor of mechanical engineering at the University of Maryland, he joined UCSD in 1997. Krstic presently holds the Daniel L. Alspach chair in Dynamic Systems and Control and is the founding director of the Cymer Center for Control Systems and Dynamics. Krstic has held the Russell Severance Springer Distinguished Visiting Professorship at UC Berkeley and the Harold W. Sorenson Distinguished Professorship at UC San Diego. He is a recipient of the PECASE, NSF Career, and ONR Young Investigator Awards, as well as the Axelby and Schuck Paper Prizes. Krstic was the first recipient of the UCSD Research Award in the area of engineering. He is a Fellow of IEEE and IFAC and serves as Senior Editor in IEEE Transactions on Automatic Control and Automatica. He has served as Vice President of the IEEE Control Systems Society.