

**Thursday, November 19<sup>th</sup>**

Scaife Hall Auditorium

Room 125

4:30 p.m.

Refreshments at 4:00 p.m.



**Professor Ian A. Hiskens**

Electrical Engineering & Computer Science  
University of Michigan, Ann Arbor

Ian A. Hiskens is the Vennema Professor of Engineering in the Department of Electrical Engineering and Computer Science at the University of Michigan in Ann Arbor. He has degrees in electrical engineering and mathematics, and obtained his Ph.D. degree from the University of Newcastle, Australia, in 1991. He has held prior appointments with the Queensland Electricity Supply Industry, Australia, from 1980 to 1992, the University of Newcastle, from 1992 to 1999, the University of Illinois at Urbana-Champaign, from 1999 to 2002, and the University of Wisconsin-Madison from 2002 to 2008. Dr Hiskens' major research interests lie in the area of power system analysis, in particular system dynamics, security, and numerical techniques. Other research interests include nonlinear and hybrid dynamical systems, and control. He is actively involved in various IEEE societies, and is Treasurer of the IEEE Systems Council. He is a Fellow of the IEEE, a Fellow of Engineers Australia, and a Chartered Professional Engineer in Australia.

## What's Smart about the "Smart Grid"?

The concept of "smart grid" is receiving a great deal of attention in the media, yet remains poorly defined. The talk will seek to establish the essential characteristics of a "smart" grid. We will discuss emerging trends in electricity generation and supply, and motivate the need for increased grid responsiveness. In particular, the talk will consider the consequences of increased renewable generation and widespread adoption of plug-in electric vehicles. These changes will challenge various axioms that underlie current practices in power system operation and control. New strategies will be required to cope with the increasingly stochastic nature of generation and load patterns, with non-disruptive load control certain to play an important role. The seminar will discuss these issues, and argue that future power systems will be highly dependent upon wide-area monitoring, reliable and secure information networks, and distributed control.

**ECE Seminar Hosts**

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