



Praveen Jain, Ph.D.



Alireza Bakhshai, Ph.D.

Tuesday, June 8, 2010; 1:00 PM – 5:00PM

(T05) Green Technology

Tutorial Description:

This tutorial will present techniques to significantly reduce energy consumption while increasing energy generation capability of wind- and solar-based cleaner, environmentally-friendly, green technologies. This will be accomplished by research and development of new power electronic technologies tailored to information processing centers (IPCs). Innovative, state-of-the-art solutions to address all relevant issues related to energy generation, distribution, and consumption in the information systems will be presented. The 21st century belongs to the 'information age' in which people around the globe are linked through information networks to communicate with anyone, anywhere, and at any time. The amount of energy needed to power and maintain the information infrastructures, however, is considerable. For example, information systems (data centers, telecommunication networks, personal computers) in North America alone consume over 350 trillion BTU of energy every year; this translates into 3-5% of all electricity produced. This amount of electricity produces about 120 million tones of greenhouse gas emissions every year.

Who Should Attend?

- 1) IC and chipset providers
- 2) Managers seeking new applications, technology advancements and opportunities

3) System engineers, system integrators, OEM design engineers and integrators of battery products and systems

COURSE LEVEL: Basic; some knowledge of power electronics and systems required.

COURSE BENEFITS: Developing understanding of how to conserve energy and reduce operating cost of electricity; designing greener infrastructures for information systems.

ABOUT THE PRESENTERS

Praveen Jain received a BE (Hons.) degree from the University of Allahabad, India, and MASc and PhD degrees from the University of Toronto, Canada, in 1980, 1984, and 1987, respectively, all in electrical engineering. Presently, he is a Professor and Tier-1 Canada Research Chair in Power Electronics at Queen's University in Kingston, Ontario, Canada. He is also the founding Director of the Queen's Centre for Energy and Power Electronics Research (ePOWER).

Dr. Jain has published over 375 publications including 40 patents in the area of power electronics. Dr. Jain is a Fellow of the Institute of Electrical and Electronics Engineering (FIEEE), a Fellow of the Engineering Institute of Canada (FEIC) and a Fellow of the Canadian Academy of Engineering (FCAE). He is also the recipient of 2004 Engineering Medal (R&D) of the Professional Engineers of Ontario.

Alireza Bakhshai received his BSc and MSc from the Isfahan University of Technology, Iran, in 1984 and 1986, respectively, and his PhD from Concordia University in 1997 all in electrical engineering. Presently, Dr Bakhshai is an associate professor in the Department of Electrical and Computer Engineering at Queen's University. Dr. Bakhshai is a licensed Professional Engineer (PEng) in Ontario, and a senior member of the Institute of Electrical and Electronics Engineers (IEEE). He has published more than 100 papers in fields including renewable energy conversion, high power electronics and applications, and control systems.