

# MCEN GRADUATE SEMINAR

**Roger Schmidt**

IBM Fellow

Chief Engineer for Data Center Energy Efficiency

## **IT Power and Cooling Trends: Industry Thermal Issues**

October 15, 2009 3:30PM-4:45PM

Math 100

### **Abstract:**

Today, more than ever before, the IT industry is going through a tremendous period of change and turmoil. Topics like multi-core processors, 32 nm lithography and beyond, high performance servers with ever increased power levels, container data centers, increased focus and emphasis on energy consumption and efficiency, rising energy prices, paradigm shifts in operating costs, increasing power densities, IT carbon footprint reporting, virtualization, and a host of others challenge affect the landscape of the modern facilities and IT professional. The increased focus of governmental bodies to legislate energy efficiency improvements will have a large effect on data center designs of the future. The topics that will be discussed in this seminar will focus on packaging of modern servers and some of the thermal issues that are facing the industry from the silicon to the data center.

### **Biography:**

Dr. Roger R. Schmidt, IBM Fellow, National Academy of Engineering Member, IBM Academy of Technology Member and ASME Fellow, has over 30 years experience in engineering and engineering management in the thermal design of IBM's large scale computers. He has led development teams in cooling mainframes, client/servers, parallel processors and test equipment utilizing such cooling mediums as air, water, and refrigerants. He now leads our lab services team on providing customer support for power and cooling issues in data centers. He has published more than 100 technical papers and has over 100 patents/patent pending in the area of electronic cooling. He is a member of ASME's Heat Transfer Division and an active member of the K-16 Electronic Cooling Committee. He has been an Associate Editors of the Journal of Electronic Packaging and the ASHRAE Research Journal and is now Associate Editor of the ASME Journal of Heat Transfer. He has taught extensively over the past 25 years Mechanical Engineering courses for prospective Professional Engineers and has given seminars on electronic cooling and power and cooling trends of IT equipment to a number of organizations. He is past Chair of the ASHRAE TC9.9 committee on Mission Critical Facilities, Technology Spaces, and Electronic Equipment.