



**IEEE co-Sponsor**  
**11:30 AM to 12:30 PM**  
**Thursday 18, March 2010**  
**White Building, Room 411**

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**Electrical Engineering and**  
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**The University of Toledo**

## The Incredible Power Chip

### ABSTRACT

Bob Galvin, Founder of Motorola describes a perfect power system as one that is plentiful in energy and never fails the consumer. According to Morgan Stanley, silicon will reconfigure 21<sup>st</sup> century electric power grid just as it did the 20<sup>th</sup> century information infrastructure. George Gilder, Wall Street “guru” says information-quality power is the greatest business opportunity of our time. These insightful comments provide a plethora of evidence to the importance of energy and environment, and the critical role that the semiconductor technology will play in shaping the 21<sup>st</sup> century global economy. This talk will focus on key challenges and opportunities in semiconductor materials and devices, nano technology, and renewable energy generation and utilization in developing next generation smart electrical power system.

*Department Colloquium*

**Electrical Engineering and  
Computer Science**



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**Krishna Shenai, Ph.D.** has over 25 years of combined industrial, academic, and entrepreneurial experience in developing and deploying advanced semiconductor technologies for electric energy conversion and power management. He is best known for his contributions to semiconductor metallization, power MOSFETs, smart-power ICs, synchronous power rectifiers, wide bandgap semiconductors (SiC and III-Nitride) for power, soft-switching power technology, high-density power converters, power system field-reliability, and RF and microwave power amplifiers. He is a Fellow of IEEE, Fellow of AAAS, Fellow of IETE (India), a Distinguished Lecturer of IEEE Electron Device Society, and a member of Yugoslavian Academy of Engineering.



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