

## Microprocessor Design in the Nanoscale Era

An IEEE Distinguished Lecture jointly organised by IME and IEEE Solid-State Circuits Society Singapore Chapter

### GUEST SPEAKER

#### **Stefan Rusu**

Senior Principal Engineer  
Intel Corporation

When: **4<sup>th</sup> November 2010, 4.30 p.m. to 5.30 p.m.**

Where: **Institute of Microelectronics, Singapore**  
11 Science Park Road Singapore Science Park II Singapore 117685

### **Abstract**

Moore's Law has fueled the worldwide technology revolution for over 40 years and will continue to drive higher feature integration in leading-edge microprocessors with multiple cores and larger on-die caches. CMOS process technology will continue its historical scaling trend, while research activities are focusing on novel devices and manufacturing techniques. Process, voltage and temperature variations are driving a paradigm shift from a deterministic to a probabilistic design methodology. Active and leakage power will remain the main limiters for both server and client processors. This presentation will review several techniques to control switching power and leakage with practical examples from Intel designs. Continued improvements in packaging technology enhance the cooling capabilities, while providing better power delivery and higher pin counts.

### **About the Speaker**



Stefan Rusu received the MSEE degree from the Polytechnic University in Bucharest, Romania. His industry experience includes over 18 years with Intel Corp. and 6 years at Sun Microsystems. He is presently a Senior Principal Engineer in Intel's Microprocessor and Graphics Division leading the technology and special circuits design for the Xeon® Processors. Stefan has authored over 90 papers on VLSI circuit technology and holds 34 U.S. patents. He is an IEEE Fellow and a member of the Technical Program Committee for ISSCC, ESSCIRC and A-SSCC conferences. Stefan is an Associate Editor of the IEEE Journal of Solid-State Circuits and a Distinguished Lecturer of SSCS.

### **Registration**

Pre-registration is required. Closing date is 3<sup>rd</sup> November 2010. To register, please log on:

[http://easstar.eventshub.sg/ems\\_wb\\_Details.aspx?CallID=28&EventID=144978](http://easstar.eventshub.sg/ems_wb_Details.aspx?CallID=28&EventID=144978)

## Location Map

