Nanosystem Design and Variability
Workshop, 18 March 2011, EPFL

Morning Session: Technology

9:00-9:20 **Nanosystems: technologies, devices, architectures and applications**
Giovanni De Micheli
Swiss Federal Institute of Technology, Lausanne, Switzerland

9:20-9:40 **On-Chip Monitoring for Self-Improvement**
Dennis Sylvester
University of Michigan, Ann Arbor, Michigan - USA

9:40-10:00 **Nanometer-scale CMOS vs Silicon nanowire technologies: Novel approaches for mitigating delay variations**
Yusuf Leblebici
Swiss Federal Institute of Technology, Lausanne, Switzerland

10:00-10:40 DISCUSSION + *Coffee break*

10:40-11:00 **Thermal-Aware Design for 3D Multi-Processor ICs in Datacenters**
David Atienza
Swiss Federal Institute of Technology, Lausanne, Switzerland

11:00-11:20 **Robust System Design**
Subhashish Mitra
Stanford University, Stanford, California - USA

11:20-11:40 **Process Variation Effects in 3-D Clock Distribution Networks**
Vasilis Pavlidis
Swiss Federal Institute of Technology, Lausanne, Switzerland

11:40-12:00 DISCUSSION

Afternoon Session: Systems

14:00-14:20 **Characterization and Visualization of Power use Variability in High Performance Platforms**
Rajesh Gupta
University of California, San Diego, California - USA

14:20-14:40 **Telecommunications in the Deep Submicron Regime**
Heinrich Meyr[1], Andreas Burg[2]
[1]RWTH Aachen University, Germany; [2]Swiss Federal Institute of Technology, Lausanne, Switzerland

14:40-15:00 **Under-designed and Opportunistic Computing Machines**
Puneet Gupta
University of California, Los Angeles, California - USA

15:00-15:40 DISCUSSION + *Coffee break*

15:40-16:00 **Variability Models and Sensors with Impacts on Hardware Security**
Wayne Burleson
University of Massachusetts, Amherst, Massachusetts - USA

16:00-16:20 **Integrating End-to-End and Cross-Layer Optimizations for Reliable Cyber-Physical Systems**
Nikil Dutt
University of California, Irvine, California - USA

16:20-16:40 **Varibility in Datacenters**
Tajana Šimunić Rosing
University of California, San Diego, California - USA

16:40-17:00 DISCUSSION