# ACM/IEEE International Workshop on Timing Issues in the Specification and Synthesis of Digital Systems

## February 26-27, 2007

## Preliminary Program

**Day 1 (February 26, 2007)**

| Time | Event |
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| 8:00 – 8:30am | Registration / Breakfast |
| 8:30 – 10:10 am | **Session 1: SSTA-I**<br><br>**Efficient Computation of the Exact Worst-Delay Corner**<br>Luis Guerra e Silva, Joel R. Phillips and L. Miguel Silveira<br><br>**Early Statistical Timing Analysis with Unknown Within-Die Correlations**<br>Khaled Heloue and Farid Najm<br><br>**Correlation-based Testing Path Selection under Process Variations using Statistical Timing Analysis**<br>Charlie Chen<br><br>**Criticality Aware Latin Hypercube Sampling for Efficient Statistical Timing Analysis**<br>Vineeth Thazhathu Veetil, David Blaauw and Dennis Sylvester |
| 10:10 - 10:30am | Break |
| 10:30am -12:10 | **Session 2: Statistical and Conventional Circuit Optimization**<br><br>**Comparative Analysis of Conventional and Statistical Design Techniques**<br>Steven Burns, Keith Bowman, Noel Menezes, Mahesh Ketkar, Vivek De and James Tschanz<br><br>**Statistical Leakage Power Minimization Using Fast Equi-Slack Shell Based Optimization**<br>Xiaoji Ye, Yaping Zhan and Peng Li<br><br>**Fast Min-Cost Buffer Insertion under Process Variations**<br>Ruiming Chen and Hai Zhou<br><br>**Gate Sizing For Cell Library-Based Designs**<br>Shiyan Hu, Mahesh Ketkar and Jiang Hu |
| 12:10pm- 1:30pm | Lunch |
| 1:30-3:00 pm | **Special Session 3: Electrical DFM Innovation: Communicating Variations to Designers**<br><br>Mustafa Celik (ExtremeDA), Andrew Kahng (BlazeDFM, UCSD), Nishath Verghese (ClearShape) |
| 3:00-3:20pm | Break |
| 3:20-5:00pm | **Session 4: Waveform Modeling and Timing Analysis**<br><br>**Advanced Modeling Techniques for Accurate Transistor-Level Timing Analysis**<br>Dmitry Messerman, Alex Gershtein, Sergey Goldenberg and Vladi Tsipenyuk<br><br>**Parameterized Waveform-Independent Gate Models for Timing and Noise Analysis**<br>Zhuo Feng and Peng Li |

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| | **AccurateWaveform Modeling using Singular Value Decomposition with Applications to Timing Analysis**<br>Anand Ramalingam, Ashish Kumar Singh, Sani R. Nassif, Michael Orshansky and David Z. Pan<br><br>**Fast and Accurate Waveform Analysis with Current Source Models**<br>Vineeth Thazhathu Veetil and Dennis Sylvester |

**Day 2 (February 27, 2007)**

| Time | Event |
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| 8:00 – 8:30 | Registration / Breakfast |
| 8:30 – 9:20 | **Session 5: SSTA-II**<br><br>**Non-Linear Statistical Static Timing Analysis for Non-Gaussian Variation Sources**<br>Lerong Cheng, Jinjun Xiong and Lei He.<br><br>**Efficient variational interconnect modeling for statistical timing analysis by combined sensitivity analysis and model-order reduction**<br>Soroush Abbaspour, Revanta Banerji, Peter Feldmann and David Ling |
| 9:20 – 10:10 | **Session 6: Variation-Tolerant Design Techniques**<br><br>**Elastic Timing Scheme for Power-Efficient and Robust Performance**<br>Rupak Samanta, Ganesh Venkataraman, Nimay Shah and Jiang Hu<br><br>**On-line Failure Prediction and Its Application to Transistor Aging**<br>Mridul Agarwal, Bipul C. Paul and Subhasish Mitra |
| 10:10 - 10:30 | Break |
| 10:30 -12:10 | **Special Session 7: What CAD Community Should Know about Emergent Reliability Challenges**<br><br>Joe McPherson (Texas Instruments) and Bruce McGaughy (Cadence) |
| 12:10pm- 1:30pm | Lunch |
| 1:30-2:35 pm | **Session 8: Statistical Modeling of Process Data**<br><br>**How to Construct Spatial Correlation Models: A Mathematical Approach**<br>Frank Liu<br><br>**Variogram based robust extraction of process variation**<br>Kaviraj Chopra, Narendra Shenoy and David Blaauw<br><br>**Mining test data for ranking cells in terms of timing uncertainties**<br>Pouria Bastani, Benjamin Lee, Li-C. Wang and Magdy Abadir |
| 2:35-2:50pm | Break |

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| 2:50-4:05pm | **Session 9: STA Methodology and Algorithms**<br><br>**Enumerating the top-k aggressors set in delay-noise analysis**<br>Ravikishore Gandikota, Kaviraj Chopra, David Blaauw, Dennis Sylvester and Murat Becer.<br><br>**Static Timing: Back to Our Roots**<br>Ruiming Chen, Eric Foreman, Peter Habitz, Jeff Hemmett, Kerim Kalafala, Jeff Piaget, Peihua Qi, Natesan Venkateswaran, Chandu Visweswariah, Jinjun Xiong and Vladimir Zolotov<br><br>**A Fast Tolerance-based Incremental Timing Analysis Algorithm**<br>Kip Killpack |