

**SPECIAL SESSIONS**

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**Validation of Simulation/Modeling Results***Chair: Bruce Archambeault, IBM*

The special session will address recent advances on the study of the techniques to validate modelling and simulation results. This is a very important topic that is often over looked by engineers who assume that commercially available software simulation tools are providing the correct answer to their simulations. While the software tools provide a very accurate answer to the specific question asked of it, there is significant opportunity for the user to mis-use the software tool, or to incorrectly model specific problem of interest. This special session will address typical examples of incorrect simulations, how to discover them, and how to quantify how accurate the results are.

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**Recent Advances in Jitter and BER Analysis in High Speed Serial Links***Chair: Xiaoning Ye, Intel Corporation*

This special session intends to report some recent advances in Jitter and BER analysis in high speed serial link design. Prediction of jitter/BER performance (empirically or statistically) at multi-Gbps and beyond is critical for current and future high speed serial design. Experts from both IO design industry and EDA industry will share different algorithms, and demonstrate various applications during this special session. Lab validation of the analysis tools will also be presented.

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**Parallel Processing Algorithms***Chair: Albert Riehli,*

This special session will focus on new techniques and processes to use parallel computing to provide solutions to large computational EM problems that would otherwise be unable to be solved with traditional computers. Computational techniques include Method of Moments, Finite-Difference Time-Domain, as well as specialized techniques such as the Fast Multipole Method. All simulation techniques are open for discussion in this session.

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**Impact of External Noise Sources on High Speed Signal Integrity***Chair: Bruce Archambeault,*

The special session will address recent advances on the study of the impact of external noise sources to the board on the integrity of the digital signals. Typically, high speed signals (Gb/s) are routed as a differential pair. This is intended to improve signal integrity as well as reduce EMI emissions. However, the PCB traces, inter-board connectors, etc. may have significant levels of common-to-differential mode conversion, resulting in possible data corruption. This special session will address these concerns and discuss how to analyze these high speed signal paths to determine the impact of this mode conversion.

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