

### **Title: Good Fences Don't Make Good Neighbors: A Comprehensive SoC and System Verification and Validation Tutorial**

#### **Abstract:**

Successfully completing today's complex SoC design projects is no longer only about getting the RTL or even the first silicon right. The ever-increasing amount of embedded software, firmware, drivers, middleware and applications requires a more holistic approach to SoC verification and system realization. Adding in the complexities of low-power requirements and mixed-signal content makes it clear that the biggest challenge lies at the intersection of domains and techniques, including hardware/software, RTL/TLM, analog/digital, and formal/simulation.

This interactive tutorial, tailored for verification engineers, SoC integrators, system architects and embedded software developers, will describe and demonstrate how these challenges can not only be mastered, but how they can be turned into a competitive advantage.

Robert Frost's "Good Fences" may have made sense in colonial New England, but there is so much co-dependency in IP, SoC and system development that communication and continuous validation is critical to success. In this tutorial, you will learn novel techniques to keep the whole development flow from early modeling through IP verification and full system validation. . Since each abstraction layer has its own challenges in terms of complexity and capacity, you will learn to deploy novel methodologies and automation at each step. Specifically, the tutorial will provide a deep insight into the following subjects:

- Pre-RTL software development and hardware/software debug
- Early system integration and verification
- Continuous application of mixed formal and simulation automation for RTL
- Always-on mixed-signal and low-power regression
- Pre-silicon software development and system integration

The tutorial will trace a real design all the way from the system specification through verification and early software development to system integration.

Attending this tutorial will give you a unique understanding about the solutions that are available today to master the complexities of SoC and system design and verification combined with embedded software development up to the analog and digital silicon realization stage. Energized with this knowledge, you will be able to tear down the walls, enabling you to complete your projects with high

quality on time and on budget!

This tutorial is limited to 50 participants.

Due to the proprietary nature of the discussions and the demonstrated tools, the presenting company reserves the right to refuse access to employees, affiliates and contractors of competitors.