



January 4-7, 2011, The Grand Hyatt Kauai Resort & Spa, Koloa, Kauai, Hawaii.

## **Track: Software Technology**

### **Minitrack: Practical Formal Methods for Next-Generation Software Engineering**

Formal methods in software engineering have achieved remarkable successes but not widespread adoption. Yet the rigor of formal methods and the quality of results achieved have never been more important, as complex software systems become ever more integrated into modern society. Software engineering itself must become more computational to meet demands for fast and correct development of future systems, just as other engineering disciplines have amplified the capabilities of their practitioners through computational methods. Computational support for software engineering must be based on solid mathematical foundations, and not simply automate ad hoc and empirical methods. Much has been learned about the theoretical foundations of software and the mathematics of rigorous software analysis and verification.

This minitrack focuses on approaches to practical and widespread application of this knowledge, as well as on advances in the foundations and implementation of formal methods themselves. Practical implementation of formal methods can reduce human labor and fallibility and help control costs and risks across the software development lifecycle. The ultimate objective is a strategy for integrating formal methods into mainstream software engineering to meet the needs of 21<sup>st</sup> century systems.

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