V&V 2018

Verification and Validation of Computer Simulation Models

July 9-12, 2018
Bordeaux, France

Track Chair: *Miroslav N. Velev, Aries Design Automation, U.S.A.,* mvelev@gmail.com
Co-Chair: *Umut Durak, German Aerospace Center (DLR), Germany,* umut.durak@dlr.de

Aims and Scope

Simulation has been and still remains the predominant means for verification of computer systems. However, simulation cannot guarantee exhaustiveness of the verification. Many semiconductor and intellectual property (IP) design companies have been resistant to adopting formal verification because of the complexity when coming from a simulation-based environment.

In the last 15 years, significant progress was made in both the speed and capacity of Boolean Satisfiability (SAT) solvers that are now at least 5 orders of magnitude faster and can solve formulas that are at least 5 orders of magnitude bigger than before. These advances resulted in corresponding increases in the speed and capacity of formal verification tools. Thus the open research question of how best to integrate these advances in what has traditionally been simulation-only based verification environments

Topics

- Languages for describing systems and properties
- Efficient use of abstraction
- Compositional verification approaches
- Counterexample analysis
- Efficient use of SAT solvers and Satisfiability Modulo Theories (SMT) solvers
- Selection of properties to verify given a simulation model to be verified
- Adopting Artificial Intelligence (AI) approaches to verification of complex systems
- Novel tool flows that integrate formal verification in simulation-based environments

- Case studies

Technical Program Committee

- Flavio M. de Paula (IBM, U.S.A.)
- Clayton McDonald (Synopsys, U.S.A.)
- Hari Mony (IBM, U.S.A.)
- Jon Nafziger (Texas Instruments, U.S.A.)
- Andreas Veneris (University of Toronto, Canada)
- Li-C. Wang (University of California, Santa Barbara, U.S.A.)
- Robert Wille (Johannes Kepler University Linz, Austria)
- Bin Xue (Apple, U.S.A.)

Submission Guidelines

Original, high-quality technical papers are solicited for review, possible presentation and subsequent publication in the conference proceedings. For further instructions, please refer to the Submission Instructions in the SCS Conference Proceedings Management System web site. Contributed papers are 12 pages long with single column format. For author guidelines on how to submit a paper go to: http://scs.org/authorskit/. They will be peer reviewed and – if accepted and presented at the conference - possibly submitted to the ACM and IEEE Digital Libraries. Papers must not have appeared before (or be pending) in a journal or conference with published proceedings, nor may they be under review or submitted to another forum during SummerSim'18 review process. At least one author of an accepted paper must register for the symposium and must present the paper at the symposium.

Important Dates

Full Paper submission: March 30, 2018
Author Notification: May 4, 2018
Submission of WIP papers: May 11, 2018
Notification of WIP papers: May 18, 2018
Camera-ready Paper: May 25, 2018

Contact

For questions, please contact the track chair, Miroslav N. Velev, mvelev@gmail.com or scs@scs.org | (858) 277-3888