




International Academy, Research, and Industry Association

The Second International Conference on Advances in System Testing and Validation Lifecycle (VALID 2010)
 August 22-27, 2010
 Nice, France

Complex distributed systems with heterogeneous interconnections operating at different speeds and based on various nano- and micro-technologies raise serious problems of testing, diagnosing, and debugging. Despite current solutions, virtualization and abstraction for large scale systems provide less visibility for vulnerability discovery and resolution, and make testing tedious, sometimes unsuccessful, if not properly thought from the design phase.

The conference on advances in system testing and validation considers the concepts, methodologies, and solutions dealing with designing robust and available systems. Its target covers aspects related to debugging and defects, vulnerability discovery, diagnosis, and testing.

VALID 2010 continues a series of events focusing on designing robust components and systems with testability for various features of behavior and interconnection. The conference will provide a forum where researchers shall be able to present recent research results and new research problems and directions related to them. The conference seeks contributions presenting novel results and future research in all aspects of robust design methodologies, vulnerability discovery and resolution, diagnosis, debugging, and testing.

The topics suggested by the conference can be discussed in terms of concepts, state of the art, research, standards, implementations, running experiments, applications, and industrial case studies. Authors are invited to submit complete unpublished papers, which are not under review in any other conference or journal in the following, but not limited to, topic areas. All tracks are open to both research and industry contributions.

Submission (full paper)	March 20, 2010	Registration	May 15, 2010
Notification	April 25, 2010	Camera ready	May 22, 2010

- All Submission must be made electronically at <http://www.aria.org/conferences2010/VALID10.html>
- VALID 2010 is co-located with other events as part of SoftNet 2010; You can find more information at <http://www.aria.org/conferences2010/SoftNet10.html>
- A Poster Forum will be organized during the conference; More info at <http://www.aria.org/posterforum.html>
- A Work in Progress track is available for preliminary work; More info at <http://www.aria.org/workinprogress.html>
- Authors of selected papers will be invited to submit extended versions to a IARIA Journal

VALID Advisory Chairs

Amirhossein Alimohammad, Ukalta Engineering, Canada
 Andrea Baruzzo, Università degli Studi di Udine, Italy
 Lydie du Bousquet, LIG, France
 Petre Dini, Concordia University, Canada / IARIA
 Henry Muccini, University of L'Aquila, Italy

VALID 2010 Industry/Research Liaison Chairs

Davide Pandini, STMicroelectronics - Agrate Brianza, Italy
 Juho Perälä, VTT Technical Research Centre, Finland
 Avik Sinha, IBM TJ Watson Research Center, USA
 Alin Stefanescu, SAP Research, Germany
 Bart Vermeulen, NXP Semiconductors, Netherlands

VALID 2010 Research Institute Liaison Chairs

Juho Perälä, VTT Technical Research Centre, Finland
 Alexander Klaus, Fraunhofer IESE, Germany

VALID 2010 Special Area Chairs

Testing of wireless communications systems

Amirhossein Alimohammad, Ukalta Engineering, Canada

Testing and validation of run-time evolving systems

Hans-Gerhard Gross, Delft University of Technology, Netherlands
 Stefan van Baelen, KU Leuven Belgium

SUBMISSION CATEGORIES FOR RESEARCH/INDUSTRY PAPERS

Authors of research papers are required to specify a category from the following list

Robust design methodologies

Designing methodologies for robust systems; Secure software techniques; Industrial real-time software; Defect avoidance; Cost models for robust systems; Design for testability; Design for reliability and variability; Design for adaptation and resilience; Design for fault-tolerance and fast recovery; Design for manufacturability, yield and reliability; Design for testability in the context of model-driven engineering

Diagnosis

Diagnosis techniques; Advances in silicon debug and diagnosis; Error diagnosis; History-based diagnosis; Multiple-defect diagnosis; Optical diagnostics; Testability and diagnosability; Diagnosis and testing in mobile environments

Testing of wireless communications systems

Testing of mobile wireless communication systems; Testing of wireless sensor networks; Testing of radio-frequency identification systems; Testing of ad-hoc networks; Testing methods for emerging standards; Hardware-based prototyping of wireless communication systems; Physical layer performance verification; On-chip testing of wireless communication systems; Modeling and simulation of wireless channels; Noise characterization and validation; Case studies and industrial applications of test instruments

Software verification and validation

High-speed interface verification and fault-analysis; Software testing theory and practice; Model-based testing; Verification metrics; Service/application specific testing; Model checking; OO software testing; Testing embedded software; Quality assurance; Empirical studies for verification and validation; Software inspection techniques; Software testing tools; New approaches for software reliability verification and validation

Vulnerability discovery and resolution

Vulnerability assessment; On-line error detection; Vulnerabilities in hardware security; Self-calibration; Alternative inspections; Non-intrusive vulnerability discovery methods; Embedded malware detection

System and feature testing

Test strategy for systems-in-package; Testing embedded systems; Testing high-speed systems; Testing delay and performance; Testing communication traffic and QoS/SLA metrics; Testing robustness; Software testing; Hardware testing; Supply-chain testing; Memory testing; Microprocessor testing; Mixed-signal production test; Testing multi-voltage domains; Interconnection and compatibility testing

Feature-oriented testing

Testing user interfaces and user-driven features; Privacy testing; Ontology accuracy testing; Testing semantic matching; Testing certification processes; Testing authentication mechanisms; Testing biometrics methodologies and mechanisms; Testing cross-nation systems; Testing system interoperability; Testing system safety; Testing system robustness; Testing temporal constraints; Testing transaction-based properties; Directed energy test capabilities /microwave, laser, etc.; Testing delay and latency metrics

Defects and Debugging

Debugging techniques; Component debug; System debug; Software debug; Hardware debug; System debug; Power-ground defects; Full-open defects in interconnecting lines; Physical defects in memories and microprocessors; Zero-defect principles

Testing techniques and mechanisms

Fundamentals for digital and analog testing; Emerging testing methodologies; Engineering test coverage; Designing testing suites; Statistical testing; Functional testing; Parametric testing; Defect- and data-driven testing; Automated testing; Embedded testing; Autonomous self-testing; Low cost testing; Optimized testing; Testing systems and devices; Test standards

Testing and validation of run-time evolving systems

Automated testing for run-time evolving systems; Testing and validation of evolving systems; Testing and validation of self-controlled systems; Testing compile-time versus run-time dependency for evolving systems; On-line validation and testing of evolving at run-time systems; Modeling for testability of evolving at run-time systems; Near real-time and real-time monitoring of run-time evolving systems; Verification and validation of reflective models for testing; Verification and validation of fault tolerance in run-time evolving systems

Domain-oriented testing

Testing autonomic and autonomous systems; Testing intrusion prevention systems; Firewall testing; Information assurance testing; Testing social network systems; Testing recommender systems; Testing biometric systems; Testing diagnostic systems; Testing on-line systems; Testing financial systems; Testing life threatening systems; Testing emergency systems; Testing testing systems