

June 9, 2010 (Wednesday)

8:00–8:30

Registration

8:30–10:00

Opening Session and Keynote I

SSIRI Steering Committee Chairs: Sam Keene & W. Eric Wong

SSIRI 2010 General Chair: Jin Song Dong

SSIRI 2010 Program Chairs: Jun Sun, Ravi Madipadaga, Dianxiang Xu

Presentation of Best Paper Award

Keynote: Once more, with meaning: A Grand Challenge in Informatics

Professor Jim Davies, University of Oxford, UK

10:00–10:30

Coffee Break

10:30–12:00

Session 1A: Safety & Anomaly Detection

- *Recent Catastrophic Accidents: Investigating How Software Was Responsible*
W. Eric Wong, Vidroha Debroy, Adithya Surampudi, HyeonJeong Kim, and Michael F. Siok
- *Modeling and Verification of Safety Critical Systems: A Case Study on Pacemaker*
Luu Anh Tuan and Man Chun Zheng
- *Discovering Anomalies in Semantic Web Rules*
Yuzhang Feng

10:30–12:00

Session 1B: Model Checking & Verification

- *Model Checking a Lazy Concurrent List-Based Set Algorithm*
Shaojie Zhang and Yang Liu
- *YAWL2DVE: An Automated Translator for Workflow Verification*
Fazle Rabbi, Hao Wang and Wendy MacCaull
- *Scalable V&V Effort Estimation for Ultra-Large-Scale Systems*
Christof Budnik, Rajesh Subramanyan and Raj Tanikella

10:30–12:00

Session 1C: Security Requirements (Invited Session)

- *Aligning Security Requirements and Security Assurance using the Common Criteria*
Kenji Taguchi, Nobukazu Yoshioka, Takayuki Tobita and Hiroyuki Kaneko
- *An Agent-based System to Support Assurance of Security Requirements*
Moussa Ouedraogo, Haralambos Mouratidis, Djamel Khadraoui and Eric Dubois
- *Model-based Argument Analysis for Evolving Security Requirements*
Thein Than Tun, Yijun Yu, Charles Haley and Bashar Nuseibeh

12:00–13:30

Lunch

13:30–15:00

Keynote II

Defining, Securing, and Standardizing Cloud Computing

Dr. Tim Grance, National Institute of Standards and Technology, USA

15:00–15:30

Coffee Break

- 15:30–17:30 **Session 2A: Software Reliability**
- *Failure Type-Aware Reliability Assessment with Component Failure Dependency*
Atef Mohamed and Mohammad Zulkernine
 - *Software Reliability Modeling with Integrated Test Coverage*
Jinxia An and Jihong Zhu
 - *Sensitivity of Coverage-Based Software Reliability Models to Variations in the Operational Profile*
Odair Silva, Adalberto Crespo, Marcos Chaim and Mario Jino
- 15:30–17:30 **Session 2B: Software Testing I**
- *A Formal Framework for Mutation Testing*
Fevzi Belli and Mutlu Beyazit
 - *An Industrial Case Study on Speeding up User Acceptance Testing by Mining Execution Logs*
Zhen Ming Jiang, Alberto Avritzer, Emad Shihab, Ahmed E. Hassan and Parminder Flora
 - *Testing Effort Dependent Software FDP and FCP Models with Consideration of Imperfect Debugging*
Rui Peng, Qingpei Hu, Suzhui Ng and Min Xie
 - *A Decompositional Approach to Automatic Test Case Generation Based on Formal Specifications*
Shaoying Liu and Shin Nakajima
- 15:30–17:30 **Session 2C: Quality Improvement**
- *Availability Improvement in Virtualized Multiple Servers with Virtualization and Software Rejuvenation*
May Tar Hla Myint
 - *Traceability Enhancement Technique through the Integration of Software Configuration Management and Personal Working Environment*
Dae-Yeob Kim and Cheong Youn
 - *Recoverability of Erasure Codes based and Intensively Written Storage Systems*
Xiangyu Luo and Yun Wang
 - *Towards a New Understanding of Advice Interference*
Kun Tian, Kendra Cooper, Kang Zhang, Yan Tang and Siyuan Liu
- 18:00–20:00 **Conference Reception**

June 10, 2010 (Thursday)

8:00–8:30 **Registration**

8:30–10:00 **Keynote III**

Software Verification via Separation Logic
Professor Wei-Ngan Chin, National University of Singapore

10:00–10:30 **Coffee Break**

10:30–12:00 **Session 3A: Software Testing II**

- *Self-Checked Metamorphic Testing of an Image Processing Program*
Junhua Ding
- *PhishTester: Automatic Testing of Phishing Attacks*
Hossain Shahriar and Mohammad Zulkernine
- *Towards Scalable Robustness Testing*
Fevzi Belli, Axel Hollmann and W. Eric Wong

10:30–12:00 **Session 3B: Modeling & Analysis**

- *Modeling and Analyzing Timed Security Protocols Using Extended Timed CSP*
Xian Zhang, Yang Liu and Mikhail Auguston
- *Modeling Uncertainties in the Estimation of Software Reliability – A Pragmatic Approach*
Senthil Kumar Chandran, Aleksandar Dimov and Sasikumar Punnekkat
- *The ‘Best’ Valid Safe Protocol Converter*
Jing Cao and Albert Nymeyer

12:00–13:30 **Lunch**

13:30–15:00 **Section 4A: Workshop on Model-based Verification and Validation I**

- *Design Patterns for Integrating Variability in Timed Automata*
Ralf Mitsching and Carsten Weise
- *Towards Test Case Generation for Synthesizable VHDL Programs Using Model Checker*
Tolga Ayav, Tugkan Tuglular and Fevzi Belli
- *Modeling Efficient Multi-chained Stream Signature Protocol using Communicating Sequential Processes*
Ahmet Koltuksuz, Murat Ozkan and Burcu Kulahcioglu

13:30–15:00 **Section 4B: Workshop on Model Checking Secure and Reliable Systems I**

- *Classification of Static Analysis-based Buffer Overflow Detectors*
Hossain Shahriar and Mohammad Zulkernine
- *Formal Analysis for Stateflow Diagrams*
Chunqing Chen
- *Job-Shop Scheduling Problems using Timed Planning*
Xian Zhang

13:30–15:00 **Session 4C: Student Doctoral Program I**

- *A Hybrid Approach Combining Petri Nets and Product Lifecycle Management to Simulate, Determine and Validate the Performance of Flexible Manufacturing Systems*
Fernando Solis and Hector Simon Vargas
- *An Automatic Approach to Model Checking UML State Machines*
Shao Jie Zhang and Yang Liu
- *An Automatic Approach To Verify Sensor Network Systems*
Zheng Manchun

15:00–15:30 **Coffee Break**

15:30–17:30 **Section 5A: Workshop on Model-based Verification and Validation II**

- *Event- and Coverage-Based Testing of Web Services*
André T. Endo, Michael Linschulte, Adenilso S. Simão and Simone R. S. Souza
- *Generalized Partial Test Case Generation Method*
Lehilton Lelis Chaves Pedrosa and Arnaldo Vieira Moura
- *Are Longer Test Sequences Always Better? – A Reliability Theoretical Analysis*
Fevzi Belli, Michael Linschulte and Nevin Güler
- *Utilization of Timed Automata as a Verification Tool for Security Protocols*
Ahmet Koltuksuz, Burcu Kulahcioglu and Murat Ozkan

15:30–17:30 **Section 5B: Workshop on Model Checking Secure and Reliable Systems II**

- *Quantitative Evaluation of Related Web-based Vulnerabilities*
Deepak Subramanian, Ha Thanh Le, Peter Kok Keong Loh and Annamalai Benjamin Premkumar
- *Using Tree as Hash-Table in Model Checking*
Truong Khanh Nguyen
- *Verifying Safety Property With PRISM*
Xiaocheng Ge
- *Yet Another Model Checker for PROMELA - the Transformation Approach*
Wendi Zhao

15:30–17:30 **Section 5C: Fast Abstract**

- *An Efficient Method of Probabilistic Model Checking*
Songzheng Song
- *Constraint Checking for XML-based Language Specification by SAT Solver*
Hao Xiao, Zheng Wang and Geguang Pu
- *Implementing High Performance Lexical Analyzer using CELL Broadband Engine Processor*
Umarani Srikanth
- *Model Checking C# Code: A Translation Approach*
Huiquan Zhu
- *Structure Assurance Case Methodology for Assessing Software Trustworthiness*
Elizabeth Fong, Frederick Boland, Michael Kass and Thomas Rhodes
- *The Problem of Usable Binary Authentication*
Yongzheng Wu and Roland Yap
- *Towards Verification of a Service Orchestration Language*
Tian Huat Tan

18:00–20:00 **Conference Banquet**

June 11, 2010 (Friday)

8:30–10:00 **Keynote IV**

Modeling and Implementing Complex Systems with Timebands
Professor Jim Woodcock, University of York, UK

10:00–10:30 **Coffee Break**

10:30–12:00 **Session 6A: Workshop on Model Checking Secure and Reliable Systems III**

- *Modeling and Verification of Transmission Protocols: A Case Study on CSMACD Protocol*
Ling Shi
- *MAFSE: A Model-based Framework for Software Verification*
Tho Quan, Duc Hoang, Binh Nguyen, An Nguyen, Quan Tran, Phung Nguyen and Thang Bui
- *Modeling and Verifying Security Protocols using PAT Approach*
Luu Tuan

10:30–12:00 **Section 6B: Student Doctoral Program II**

- *An Approach to Achieving the Reliability in TV Embedded System*
Dusica Marijan, Nikola Teslic, Vukota Pekovic and Tarkan Tekcan
- *Modeling and Analysis of Advanced Automotive ECU Architectures at Early Design Stages using EMF and Model Transformation*
Christoph Lauer

12:00–12:30 **Closing Session & End of SSIRI 2010**