

Nov. 10 2011 (Thursday)

Breakfast: 7:00 AM – 8:30 AM (Royal Palm Foyer)

Conference Opening : 8:30 AM – 8:45 AM (Parlor II & III)

Keynote Speech I
8:45 AM – 9:45 AM (Parlor II & III)
Marine Renewable Energy: HASE Challenges
Howard P. Hanson, Ph.D.

Coffee Break: 9:45 AM – 10:00 AM (Royal Palm Foyer)

Parallel Morning Sessions: 10:00 AM – 12:00 PM

Location: Parlor II & III

Location: Salon A & B

Session A: Software Testing and Validation

Chair: Ray Paul

Regular: (25 minutes each)

32: A Testing Service for Lifelong Validation of Dynamic SOA. Andrea Ceccarelli, Andrea Bondavalli and Marco Vieira.

50: Supporting Iterative Development of Robust Operation Contracts in UML Requirements Models. Wuliang Sun, Robert B. France and Indrakshi Ray.

102: Improve the Effectiveness of Test Case Generation on EFSM via Automatic Path Feasibility Analysis. Rui Yang, Zhenyu Chen, Baowen Xu, W. Eric Wong and Jie Zhang.

Short: (20 minutes each)

49: Model Driven Validation of System Architectures. Andre Pflüger, Wolfgang Golubski and Stefan Queins

64: Regression Testing of Component-based Software: A Systematic Practise based on State Testing. Chuanqi Tao, Jerry Gao and Bixin Li.

Session B: Modeling Checking and Verification I

Chair: John C. Sloan

Regular: (30 minutes each)

12: A Unifying Approach to Validating Specification-Oriented XML Constraints. Yongxin Zhao, Zheng Wang, Hao Xiao, Jing Ping, Geguang Pu, Jifeng He and Huibiao Zhu.

46: An Event-B Interpretation for SPARDL Model. Jianwen Li, Zheng Wang, Yongxin Zhao, Geguang Pu, Bin Gu and Yanxia Qi.

35: A Behavioral Analysis Approach for Efficient Partial Order Reduction. Yingying Zhang, Emmanuel Rodriguez, Hao Zheng, and Chris Myers.

Short: (20 minutes each)

67: Animating the Approach of Deriving Operational Semantics from Algebraic Semantics for Web Services. Qian Wang and Huibiao Zhu.

Lunch break: 12:15 PM – 13:30PM (Boca Ballroom)

Parallel Afternoon Sessions: 1:30 PM – 3:30 PM

Location: Parlor II & III

Location: Salon A & B

Session C: Applications and Technologies

Chair: Mladen Vouk

Regular: (30 minutes each)

23: Combining Goal Models, Expert Elicitation, and Probabilistic Simulation for Qualification of New Technology. Mehrdad Sabetzadeh, Davide Falessi, Lionel Briand, Stefano Di Alesio, Dag McGeorge, Vidar Åhjem and Jonas Borg.

105: On High-Assurance Scientific Workflows. Mladen A. Vouk and Pierre A. Mouallem

16: Integrating Legacy Applications for High Availability: a Case Study. Ali Kanso, Anik Mishra, Maria Toeroe and Ferhat Khendek.

Short: (20 minutes each)

70: Personal Health Record System and Integration Techniques with Various Electronic Medical Record Systems. Vishesh Ved, Vivek Tyagi, Ankur Agarwal and Dr Abhijit Panday.

Session D: High Assurance Distributed Systems

Chair: Si Liu

Regular: (30 minutes each)

34: The OASIS kernel: a framework for high dependability real-time systems. Stephane Louise, Matthieu Lemerre, Vincent David and Christophe Aussagues.

17: Conflict Detection and Lifecycle Management for Access Control in Publish/Subscribe Systems. Patrick Hein, Debmalya Biswas, Leonardo A. Martucci and Max Mühlhäuser.

58: Discriminatively Fortified Computing with Reconfigurable Digital Fabric. Mingjie Lin, Yu Bai, and John Wawrzynek.

Short: (20 minutes each)

24: Enumerating software failures to build dependable distributed applications. Ingrid Buckley and Eduardo B. Fernandez.

10: Leader-Determined Membership Protocol. Wenbing Zhao, Peter Michael Melliar-Smith and Louise E. Moser.

Coffee Break: 3:30 PM – 4:00 PM (Royal Palm Foyer)

Parallel Afternoon Sessions: 4:00 PM – 5:30 PM

Location: Parlor II & III

Location: Salon A & B

Session E: Model Checking and Verification II

Chair: Victor Winter

Regular: (25 minutes each)

25: Reducing State Explosion with Context Modeling for Model-Checking. Philippe Dhaussy, Frédéric Boniol and Jean-Charles Roger.

19: Guidelines for Formal Domain Modeling in Event-B. Atif Mashkoo and Jean-Pierre Jacquot.

Short: (20 minutes each)

5: Patterns for Representing FMEA in Formal Specification of Control Systems. Ilya Lopatkin, Alexei

Session F: High Assurance Networked Systems and Services

Chair: Michael Melliar-Smith

Short: (20 minutes each)

13: A Calculus for Mobile Ad Hoc Networks from a Group Probabilistic Perspective. Si Liu, Yongxin Zhao, Huibiao Zhu, and Qin Li.

71: A Real Time Window-based Local Call Admission Control Algorithm for IP Networks. Sami Alwakeel and Shaker Alghanmi.

53. Anytime Available Single IP Address Cluster. Hajime Fujita and Yutaka Ishikawa.

Iliasov, Alexander Romanovsky, Yuliya Prokhorova,
and Elena Troubitsyna.

4. Monarch: A High-Assurance Java-to-java (J2j)
Source-code Migrator. Victor Winter, Jonathan
Guerrero, Carl Reinke and James Perry.

Reception and Poster Presentations: 6:00PM – 8:30PM (Boca Ballroom)

Chair: Taghi M. Khoshgoftaar

3: Autonomous Online Expansion Technology for ZigBee Wireless Sensor Networks. Md. Emdadul Haque, Fan Wei, Takehiro Gouda, Xiaodong Lu and Kinji Mori.

28: A Security Modelling Framework for Systems of Embedded Components. Antonio Maña and Jose Francisco Ruiz.

41: On the Relationship between Preprocessor based Software Variability and Software Defects. Kunming Nie and Li Zhang.

45: Towards a Security Domain Model for Embedded Systems. Simin Nadjm-Tehrani and Maria Vasilevskaya.

48: A Task-Based Code Review Process and Tool to Comply with the DO-278/ED-109 Standard for Air Traffic Management Software Development – A Case Study. Mario Bernhart, Stefan Reiterer, Kilian Matt, Andreas Mauczka and Thomas Grechenig.

57: Self-Healing Data Exchange Process Under Evolving Schemas: a New Mapping Adaptation Approach based on Self-Optimization. Hicham Assoudi and Hakim Lounis.

61: Comparison and Analysis of Cryptographic Algorithms Aiming Performance Improvement in Secure Web Services. Douglas Rodrigues, Daniel Pigatto, Julio Cezar Estrella and Kalinka Regina Castelo Branco.

Nov. 11 2011 (Friday)

Breakfast: 7:00 AM – 8:30 AM (Royal Palm Foyer)

Keynote Speech II
8:30 AM – 9:30 AM (Parlor II & III)
Are High-Assurance Computing Clouds Possible?
Mladen Vouk, PhD

Coffee Break: 9:30 AM – 10:00 AM (Royal Palm Foyer)

Parallel Morning Sessions: 10:00 AM – 12:00 PM

Location: Parlor II & III

Location: Salon A & B

Session G: Safety-critical Systems

Chair: I-Ling Yen

Regular: (30 minutes each)

107: Using SysML for Modeling of Safety-Critical Software-Hardware Interface Drivers: Guidelines and Industry Experience. Mehrdad Sabetzadeh, Shiva Nejati, Lionel Briand Anne-Heidi Evensen Mills.

106: An Early Design Stage UML-Based Safety Analysis Approach for High Assurance Software Systems. Chetan Mutha, Carol Smidts.

54: Worst Case Temporal Consistency in Integrated Modular Avionics Systems. Michaël Lauer, Frédéric Boniol, Jérôme Ermont and Claire Pagetti.

22: High-Assurance Reconfigurable Multicore Processor Based Systems. Manasi Peshave, Farokh Bastani and I-Ling Yen.

Session H: High Assurance Ocean Systems

Chair: John C. Sloan

Regular: (30 minutes each)

20: Ensemble Coordination for Discrete Event Control. John Sloan and Taghi Khoshgoftaar.

38: Using Feature Selection to Determine Optimal Depth for Wavelet Packet Decomposition of Vibration Signals for Ocean System Reliability. Randall Wald, Taghi Khoshgoftaar and John Sloan.

30: A Dynamometer for an Ocean Turbine Prototype - Reliability Through Automated Monitoring. Janell Duhaney, Taghi Khoshgoftaar, John Sloan, Bassem Alhalabi and Pierre-Philippe Beaujean.

51: Smart Vibration Monitoring System for an Ocean Turbine. Mustapha Mjit, Pierre-Philippe J. Beaujean and David J. Vendittis.

Lunch Break: 12:15 PM – 13:30 PM (Boca Ballroom)

Parallel Afternoon Sessions: 1:30 PM – 3:30 PM

Location: Parlor II & III

Session I: Performance, Reliability and Availability Analysis

Chair: Mladen Vouk

Regular: (30 minutes each)

62: An Availability Model of a Virtual TMR System with Applications in Cloud/Cluster Computing. Ricardo Paharsingh and Olivia Das.

108: Efficient System Reliability with Correlated Component Failures. Lance Fiondella, Sanguthevar Rajasekaran, and Swapna S. Gokhale

103: Benchmarking Embedded Software Development Project Performance. Michael F. Siok and Jeff Tian

Short: (20 minutes each)

36: Modeling Recovery Strategies in Service-Oriented Architecture Using a Markov Decision Process. Dongeun Lee, Eunjeong Park and Heonshik Shin.

Location: Salon A & B

Session J: Monitoring

Chair: Ankur Agarwal

Regular: (30 minutes each)

14: Multi-layer Monitoring for Cloud Computing. Javier Gonzalez, Antonio Muñoz and Antonio Maña.

40: Using Automated Control Charts for the Runtime Evaluation of QoS Attributes. Ayman Amin, Alan Colman, and Lars Grunske.

Short: (20 minutes each)

39: VMDetector: A VMM-based Platform to Detect Hidden Process by Multi-view Comparison. Ying Wang, Chunming Hu and Bo Li.

63: Validation of Object Recognition Framework on Android Mobile Platform. Vivek Tyagi, A.S. Pandya, Ankur Agarwal, and Bassem Alhalabi.

Coffee Break: 3:30 PM – 4:00 PM (Royal Palm Foyer)

Panel

4:00 PM – 5:30 PM (Parlor II & III)

High Assurance Systems: State of the Art and Practice.

Moderator:

Taghi M. Khoshgoftaar

Panelists:

**Bojan Cukic, Konji Mori, Ray Paul, Carlos Perez, Sahra Sedigh,
John Sloan, Mladen Vouk, Victor Winter, I-Ling Yen**

Banquet 6:30PM – 9:00PM (Boca Ballroom)

Nov. 12, 2011 (Saturday)

Breakfast: 7:00 AM – 8:30 AM (Royal Palm Foyer)

Keynote Speech III
8:30 AM – 9:30 AM (Parlor II & III)
In Pursuit of Software Faults: Status and Challenges
Bojan Cukic, PhD
Robert C. Byrd Professor
Computer Science and Electrical Engineering
West Virginia University

Coffee Break: 9:30 AM – 10:00 AM (Royal Palm Foyer)

Parallel Morning Sessions: 10:00 AM – 12:00 PM

Location: Parlor II & III

Location: Salon A & B

Session K: Bugs and Fault Localization I

Chair: Sahra Sedigh

Regular: (25 minutes each)

31: On the Effectiveness of the Tarantula Fault Localization Technique for Different Fault Classes. Aritra Bandyopadhyay and Sudipto Ghosh.

101: GUI Software Fault Localization Using N-gram Analysis. Zhongxing Yu, Hai Hu, Chenggang Bai, Kai-Yuan Cai1, and W. Eric Wong

104: Software-Based Instrumentation for Localization of Faults Caused by Electrostatic Discharge. Pratik Maheshwari, Byong-Su Seol, Jong-Sung Lee, Jae-Deok Lim, Sahra Sedigh, and David Pommerenke.

55: Bug Signature Minimization and Fusion. David Lo, Hong Cheng and Xiaoyin Wang.

Short: (20 minutes each)

7: So Much to Learn from One Accident Crash of 737 on 25 February 2009. Herbert Hecht.

Session L: Security and Privacy

Chair: Bojan Cukic

Regular: (30 minutes each)

42: Effects of user habituation in keystroke dynamics on password security policy. Zahid Syed, Sean Banerjee, Qi Cheng, and Bojan Cukic.

66: Formal Analysis of the DNS Bandwidth Amplification Attack and its Countermeasures Using Probabilistic Model Checking. Tushar Deshpande, Panagiotis Katsaros, Stylianos Basagiannis and Scott Smolka.

18: Transforming Privacy Policies to Auditing Specifications. Debmalya Biswas and Valteri Niemi.

Short: (20 minutes each)

44: Verification of Interoperability Security Policies By Model Checking. Mazen El Maarabani, Ana Cavalli, Iksoon Hwang and Fatiha Zaidi.

Conference Closing