

SSIRI 2011 Preliminary Program

Monday, June 27, 2011	
8:30 am - 9:00 am	Registration
9:00 am - 10:30 am Seminar Room 1	<p>Opening Session SSIRI Steering Committee Chairs: W. Eric Wong and Sam Keene SSIRI 2011 General Chair: Yongrae Kwon SSIRI 2011 Program Chairs: Jongmoon Baik, Fabio Massacci and Mohammad Zulkernine</p> <p>Keynote I: <i>Verifying Complex Software Systems: The Challenge</i> Dr. Gerard J. Holzmann Jet Propulsion Laboratory NASA, USA</p>
10:30 am – 11:00 am	Coffee Break
11:00 am – 12:30 pm Seminar Room 1	<p>Session 1A: Secure Software Development</p> <p><i>Building a Secure System Model: Integrating Attack Trees with Statecharts</i> Omar El Ariss, Jianfei Wu and Dianxiang Xu</p> <p><i>Probabilistic Risk Assessment for Security Requirements: A Preliminary Study</i> Seok-Won Lee</p> <p><i>Component-Based Malicious Software Engineer Intrusion Detection</i> Michael Shin, Sneha Deep Sethia and Nipul Patel</p>
11:00 am – 12:30 pm Seminar Room 2 Chair: Taisook Han	<p>Session 1B: Verification & Validation</p> <p><i>Execution Constraint Verification of Exception Handling on UML Sequence Diagrams</i> Selim Ciraci, Hasan Sozer, Mehmet Aksit and Wilke Havinga</p> <p><i>Runtime Verification of Domain-Specific Models of Physical Characteristics in Control Software</i> Arjan de Roo, Hasan Sozer and Mehmet Aksit</p> <p><i>Validation of SDL-based Architectural Design Models: New Coverage Criteria</i> Andrew Restrepo and W. Eric Wong</p>

<p>11:00 am – 12:30 pm Seminar Room 3</p>	<p>Session 1C: Monitoring</p> <p><i>Using Partial Ordered Numbers to Control Information Flows</i> Shih-Chien Chou</p> <p><i>Security Goals Assurance Based on Software Active Monitoring</i> Changzhi Zhao and Wei Dong</p> <p><i>Model-Driven Monitoring of Time-Critical Systems based on Aspect-Oriented Programming</i> Ki-seong Lee and Chan-Gun Lee</p>
<p>12:30 pm – 1:30 pm</p>	<p>Lunch Break</p>
<p>1:30 pm – 3:00 pm Seminar Room 1 Chair: Masimo Flici</p>	<p>Session 2A: Security Modeling</p> <p><i>A Feature-Based Modeling Approach for Building Hybrid Access Control Systems</i> Sangsig Kim, Dae-Kyoo Kim, Lunjin Lu, Sooyong park and Suntae Kim</p> <p><i>A Practical Covert Channel Identification Approach in Source Code based on Directed Information Flow Graph</i> Jingzheng Wu, Yongji Wang, Liping Ding and Wei Han</p> <p><i>Comprehensive Two-level Analysis of Static and Dynamic RBAC Constraints with UML and OCL</i> Mirco Kuhlmann, Karsten Sohr and Martin Gogolla</p>
<p>1:30 pm – 3:00 pm Seminar Room 2</p>	<p>Session 2B: Software Quality Analysis</p> <p><i>Deriving Data Dependence from/for UML State Machine Diagrams</i> Hyeon-Jeong Kim, Doo-Hwan Bae, Vidroha Debroy and W. Eric Wong</p> <p><i>Automatic Synthesis of Static Fault Trees from System Models</i> Jianwen Xiang and Kazuo Yanoo</p> <p><i>Evaluation of Experiences from Applying the PREDIQT Method in an Industrial Case Study</i> Aida Omerovic, Bjørnar Solhaug and Ketil Stølen</p>

<p>1:30 pm – 3:00 pm Seminar Room 3</p>	<p>Session 2C: Software Testing</p> <p><i>On Testing Effectiveness of Metamorphic Relations: A Case Study</i> Mahmuda Asrafi, Huai Liu and Fei-Ching Kuo</p> <p><i>Mutation-Based Evaluation of Weighted Test Case Selection for Firewall Testing</i> Tugkan Tuglular and Gurcan Gercek</p> <p><i>RELEASE: Generating Exploits Using Loop-Aware Concolic Execution</i> Bing-Han Li and Shiuhyng Shieh</p>
<p>3:00 pm – 3:30 pm</p>	<p>Coffee Break</p>
<p>3:30 pm – 5:30 pm Seminar Room 1 Chair: Dianxiang Xu</p>	<p>Session 3A: Reliability Improvement</p> <p><i>Towards a Reliable Spam-Proof Tagging System</i> Ennan Zhai, Liping Ding and Sihan Qing</p> <p><i>Dynamic Service Replacement to Improve Composite Service Reliability</i> Jong-Phil Kim and Jang-Eui Hong</p> <p><i>ReLACK: A Reliable VoIP Steganography Approach</i> Mohammad Hamdaqa and Ladan Tahvildari</p>
<p>3:30 pm – 5:30 pm Seminar Room 2</p>	<p>Session 3B: Safety & Validation</p> <p><i>Safe Software: Does it Cost More to Develop?</i> W. Eric Wong, Andrea Demel, Vidroha Debroy and Michael Siok</p> <p><i>An Organization-Driven Approach for Enterprise Security Development and Management</i> Lirong Dai and Yan Bai</p> <p><i>Trust Observations in Validation Exercises</i> Federica Amato, Massimo Felici, Paola Lanzi, Giulia Lotti and Luca Save</p>
<p>3:30 pm – 5:30 pm Seminar Room 3</p>	<p>Session 3C: Fast Abstract</p> <p><i>Towards Denotational Semantics for Verilog in PVS</i> Han Zhu, Huibiao Zhu, Si Liu and Jian Guo</p>

	<p><i>Analysis and Verification of Safety-Critical Software</i> Dan Yu and Shilong Ma</p> <p><i>Synthesizing SRN Models from System Operations with SysML Diagrams for Availability Analysis</i> Kumiko Tadano, Jianwen Xiang, Masahiro Kawato and Yoshiharu Maeno</p> <p><i>A Learning Environment for Software Security Education</i> Atsuo Hazeyama</p> <p><i>Feedback-directed test case generation based on UML activity diagrams</i> Xin Chen, Nan Ye, Peng Jiang, Lei Bu and Xuandong Li</p>
6:00 pm – 8:00 pm	Conference Reception

Tuesday, June 28, 2011

9:00 am - 10:00 am Seminar Room 1 Chair: W. Eric Wong	<i>Keynote II: Software Engineering Approaches to the Challenges in Technology Education and System Development in the Software Ecosystem Environment</i> Professor C. V. Ramamoorthy Department of Electrical Engineering and Computer Sciences University of California at Berkeley, USA
10:00 am – 10:30 am	Coffee Break
10:30 am – 12:00 pm Seminar Room 1	Session 4A: DSDSD Workshop - I <i>Formal Approaches to Wireless Sensor Networks</i> Si Liu, Xiaofeng Wu, Qin Li, Huibiao Zhu and Qian Wang <i>Case Study on Installing a Porting Process for Embedded Operating System in a Small Team</i> DongSeok Cho and Doo-Hwan Bae
10:30 am – 12:00 pm Seminar Room 2	Session 4B: Student Doctoral Program <i>Secure machine Learning, A Brief Overview</i> Xiaofeng Liao, Youngji Wang and Liping Ding <i>Verifying the Safety of Xen Security Modules</i> Wei Han, Yeping He and Liping Ding <i>Study on Formal Specification of Automatic Train Protection and Block System for Local Line</i> Xie guo, Asano Akira, Takahashi Sei and Nakamura Hideo <i>Specification and Verification of UML2.0 Sequence Diagrams Based on Event Deterministic Finite Automata</i> Zhang Chen and Duan Zhenhua
10:30 am – 12:00 pm Seminar Room 3	Session 4C: SSCPS Workshop - I <i>Static Data Race Detection for Interrupt-driven Embedded Software</i> Rui Chen, Xiangying Guo, Yonghao Duan, Bin Gu and Mengfei Yang <i>Approximate Simulation for Metric Hybrid Input/Output Automata</i> Pan Haiyu and Zhang Min

	<p><i>An Instrumentation Tool for Program Dynamic Analysis</i> Chen Huajie, Zhang Tian and Li Xuandong</p>
12:00 pm – 1:30 pm	Lunch Break
1:30 pm – 3:00 pm Seminar Room 1	<p>Session 5A: DSDSD Workshop - II</p> <p><i>A Domain Specific Safety Analysis Technique for Digital Nuclear Plant Protection Systems</i> Sanghyun Yoon, Jaeyeon Jo and Junbeom Yoo</p> <p><i>Multi-Layered Adaptive Monitoring in Service Robots</i> Hwangwook Kim, Hyunji Yoon, Youngdo Cho, Sooyong Park and Vijayan Sugumaran</p>
1:30 pm – 3:00 pm Seminar Room 2	<p>Session 5B: Invited Session</p> <p><i>Challenges in Automatic Testing</i> Sung Kim</p> <p><i>A Reliability Model for Complex Systems</i> Norm Schneidewind and Mike Hinchey</p> <p><i>A Scalability Framework for Reliable Services</i> Jae Youu Lee and Soo Dong Kim</p>
1:30 pm – 3:00 pm Seminar Room 3	<p>Session 5C SSCPS Workshop - II</p> <p><i>A Methodology of Model-Based Testing for AADL Flow Latency in CPS</i> Yufeng Zhu, Yunwei Dong, Chunyan Ma and Fan Zhang</p> <p><i>Security Requirements Analysis, Specification, Prioritization and Policy Development in Cyber-Physical Systems</i> Kenneth Fletcher and Xiaoqing Frank Liu</p> <p><i>Approximating quantified SMT-Solving with SAT</i> Xianjin Fu, Ji Wang, Wanwei Liu and Jing Li</p>
3:00 pm – 3:30 pm	Coffee Break

<p>3:30 pm – 5:30 pm Seminar Room 1</p>	<p>Session 6A: MVV Workshop - I</p> <p><i>Using a DSL and Fine-grained Model Transformations to Explore the Boundaries of Model Verification</i> Marcel van Amstel, Mark van den Brand and Luc Engelen</p> <p><i>Coping with Complexity of Testing Models for Real-Time Embedded Systems</i> Ralf Mitsching, Carsten Weise, Dominik Franke and Thomas Gerlitz</p> <p><i>Integrating DSL-CBI and NuSMV for Modeling and Verifying Interlocking Systems</i> Yan Cao, Qiuzi Lu, Tianhua Xu, Tao Tang, Haifeng Wang and Yongcheng Xu</p>
<p>3:30 pm – 5:30 pm Seminar Room 2</p>	<p>Session 6B: MBDA Workshop - I</p> <p><i>Enhancing Use Cases with Risk by Subjective Risk Assessment Method</i> Oluwasefunmi Arogundade, Zhi Jin and Xiaoguang Yang</p> <p><i>A UML Model based White Box Reliability Prediction to Identify Unreliable Components</i> Daeui Hong, Taewan Gu and Jongmoon Baik</p> <p><i>A SysML-based Requirement Supporting Tool for Embedded Software</i> Chih-Hung Chang, Chih Wei Lu, William C. Chu, Chao-Tung Yang, Nien-Lin Hsueh, Pao-Ann Hsiung, Chorng-Shiuh Koong</p>
<p>3:30 pm – 5:30 pm Seminar Room 3</p>	<p>Session 6C: SSCPS Workshop - III</p> <p><i>An Embedded Operating System Design for the Lunar Exploration Rover CPS</i> Lei Qiao, Mengfei Yang, Bin Gu, Hua Yang and Bo Liu</p> <p><i>MDRTGen: Automatic Regression Test Selection based on Activity Diagrams</i> Nan Ye, Xin Chen, Peng Jiang, Wenxu Ding and Xuandong Li</p>
<p>6:00 pm – 10:00 pm</p>	<p>Conference Banquet</p>

Wednesday, June 29, 2011

9:00 am - 10:00 am Seminar Room 1	Keynote III: <i>Evolving Critical Systems</i> Professor Mike Hinchey University of Limerick, Ireland
10:00 am – 10:30 am	Coffee Break
10:30 am – 12:00 pm Seminar Room 1	Session 7A: MVV Workshop - II <i>A Model for Usage-based Testing of Event-driven Software</i> Steffen Herbold, Jens Grabowski and Stephan Waack <i>Handling periodic properties in software integration: deductive verification approach</i> Alexander Bolotov
10:30 am – 12:00 pm Seminar Room 2	Session 7B: MBDA Workshop -II <i>A Modeling Framework to Support Internal Control</i> Takafumi Komoto, Kenji Taguchi, Haralambos Mouratidis, Nobukazu Yoshioka and Kokichi Futatsugi <i>DRiVeR: Diagnosing Runtime Property Violations based on Dependency Rules</i> Yanbin Liu, Ye Yang and Qiusong Yang
10:30 am – 12:00 pm Seminar Room 3	Session 7C: Software Safety in Practice Keynote: <i>Engineering Self-healing and Self-improving Systems</i> David Garlan School of Computer Science Carnegie Mellon University, USA
12:00 pm – 12:30 pm	Closing Session & End of SSIRI 2011