



Program of the 6th International Symposium on Software Engineering for Adaptive and Self-Managing Systems

Sponsored by ACM SIGSOFT and IEEE TCSE
Waikiki, Honolulu, Hawaii, USA - May 23-24, 2011



Monday 2011/05/23, Room: South Pacific 1, Mid-Pacific Conf. Center

8:30 – 8:45 **Opening and Welcome**, *General Chair: Holger Giese; Program Chair: Betty H.C. Cheng*

- 8:45 – 10:00 **I. Applications**, *Chair: Yuriy Brun, Univ. of Washington, USA*
- Application of Software Health Management Techniques
Nagabhushan Mahadevan, Abhishek Dubey, and Gabor Karsai, Vanderbilt Univ., USA
 - Dynamic Updating of Online Recommender Systems via Feed-Forward Controllers
Valentina Zanardi and Licia Capra, Univ. College London, UK
 - Runtime Models for Automatic Reorganization of Multi-Robot Systems
Christopher Zhong and Scott A. DeLoach, Kansas State Univ., USA

10:00 – 10:30 Break

- 10:30 – 11:45 **Ila. Modeling and Languages**, *Chair: Jean-Marc Jezequel, IRISA-Univ. Rennes & INRIA, France*
- Adapt Cases: Extending Use Cases for Adaptive Systems
Markus Luckey, Benjamin Nagel, Christian Gerth, and Gregor Engels, Univ. of Paderborn, Germany
 - gocc: A Configuration Compiler for Self-adaptive Systems Using Goal-oriented Requirements Description
Hiroyuki Nakagawa, Akihiko Ohsuga, The Univ. of Electro-Communications, Japan, and Shinichi Honiden, National Institute of Informatics, Japan
 - An Evaluation of the Adaptation Capabilities in Programming Languages
Carlo Ghezzi, Politecnico di Milano, Italy, Matteo Pradella, CNR IEIIT-MI, Italy, and Guido Salvaneschi, Politecnico di Milano, Italy

- 11:45 – 12:00 **Ilb. Research Roadmap on Software Engineering for Self-Adaptive Systems**, *Chair: Rogerio de Lemos, Univ. of Kent, UK*

12:00 – 1:30 Lunch

- 1:30 – 3:10 **III. Monitoring and Evaluation**, *Chair: Shang-Wen Cheng, NASA JPL, USA*
- Awareness Requirements for Adaptive Systems
Vitor E. Silva Souza, Univ. of Trento, Italy, Alexei Lapouchnian, Univ. of Toronto, Canada, William N. Robinson, Georgia State Univ., USA, and John Mylopoulos, Univ. of Trento, Italy
 - Characterizing Problems for Realizing Policies in Self-Adaptive and Self-Managing System
Sowmya Balasubramanian, Ron Desmarais, Hausi A. Müller, Ulrike Stege, and Venkatesh Srinivasan, Univ. of Victoria, Canada
 - A Framework for Evaluating Quality-Driven Self-Adaptive Software Systems
Norha M. Villegas, Hausi A. Müller, Univ. of Victoria, Canada, Gabriel Tamura, Laurence Duchien, INRIA Lille, France, and Rubby Casallas, Univ. of Los Andes, Colombia
 - Model-based Self-Adaptive Resource Allocation in Virtualized Environments
Nikolaus Huber, Fabian Brosig, and Samuel Kounev, Karlsruhe Institute of Technology, Germany

3:10 – 3:30 Break

- 3:30 – 5:10 **IV. Run-time Support**, *Chair: Nelly Bencomo, Lancaster Univ., UK*
- FlashMob: Distributed Adaptive Self-Assembly
Daniel Sykes, Jeff Magee, and Jeff Kramer, Imperial College London, UK
 - Supporting Service Composition and Real-time Execution Through Characterization of QoS Properties
Marisol Garcia-Valls, Pablo Basanta-Val, and Iria Estevez-Ayres, Universidad Carlos III de Madrid, Spain
 - On the Performance of UML State Machine Interpretation at Runtime
Edzard Hoefig, Peter H. Deussen, Fraunhofer FOKUS, Germany, and Ina Schieferdecker, Technical Univ. of Berlin, Germany
 - GRAF: Graph-Based Runtime Adaptation Framework
Mahdi Derakhshanmanesh, Univ. of Koblenz-Landau, Germany, Mehdi Amoui, Greg O'Grady, Univ. of Waterloo, Canada, Jürgen Ebert, Univ. of Koblenz-Landau, Germany, and Ladan Tahvildari, Univ. of Waterloo, Canada

6:30 Symposium Dinner



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Tuesday 2011/05/24, Room: South Pacific 1, Mid-Pacific Conf. Center

- 8:30 – 10:00 **V. Keynote**, Chair: *Holger Giese, Hasso Plattner Institute, Germany*
- The fading boundary between development time and run time
Carlo Ghezzi, Politecnico di Milano, Italy
- 10:00 – 10:20 Break
- 10:20 – 12:00 **VI. Assurance**, Chair: *Gregor Engels, Univ. of Paderborn, Germany*
- Pairwise Testing of Dynamic Composite Services
Ajay Kattapur, INRIA, Rennes, France, Sagar Sen, INRIA, Sophia-Antipolis, France, Benoit Baudry, Albert Benveniste, and Claude Jard, INRIA, Rennes, France
 - Dynamic Plans for Integration Testing of Self-adaptive Software Systems
Carlos Eduardo da Silva and Rogerio de Lemos, Univ. of Kent, UK
 - A CSP-based Framework for the Specification Verification and Implementation of Adaptive Systems
Björn Bartels and Moritz Kleine, Technical Univ. of Berlin, Germany
 - A Model-Driven Approach to Develop Adaptive Firmwares
Franck Fleurey, Brice Morin, and Arnor Solberg, SINTEF, Norway
- 12:00 – 1:30 Lunch
- 1:30 – 2:00 **VIIa. Position Papers (5); 5 min pitch**, Chair: *Hausi Müller, Univ of Victoria, Canada*
- Elastic Executions from Inelastic Programs
Iulian Neamtii, UC Riverside, USA
 - A Model-driven Framework for Runtime Adaptation of Web Service Compositions
Georg Grossmann, Univ. of South Australia, Australia, Michael Schrefl, Univ. of Linz, Austria, and Markus Stumptner, Univ. of South Australia, Australia
 - Benchmarking the Resilience of Self-Adaptive Software Systems: Perspectives and Challenges
Raquel Almeida and Marco Vieira, Univ. of Coimbra, Portugal
 - Approaching Runtime Trust Assurance in Open Adaptive Systems
Daniel Schneider, Martin Becker, and Mario Trapp, Fraunhofer IESE, Germany
 - On Interacting Control Loops in Self-Adaptive Systems
Pieter Vromant, Danny Weyns, Katholieke Universiteit Leuven, Belgium, Sam Malek, George Mason Univ., USA, Jesper Andersson, Linnaeus Univ., Sweden
- 2:00 – 3:00 **VIIb. Panel on Future Directions for Assurance of Self-Adaptive Systems**, Chair: *David Garlan, Carnegie Mellon Univ., USA*
- 3:00 – 3:30 Break
- 3:30 – 4:45 **VIII. Frameworks**, Chair: *Danny Weyns, Katholieke Universiteit Leuven, Belgium*
- A Self-Adaptive Deployment Framework for Service-Oriented Systems
Sander Van Der Burg and Eelco Dolstra, Delft Univ. of Technology, The Netherlands
 - A Multi-model Framework to Implement Self-managing Control Systems for QoS Management
Tharindu Patikirikorala, Alan Colman, Jun Han, Swinburne Univ. of Technology, Australia, and Liuping Wang, RMIT Univ., Australia
 - Inflation and Deflation of Self-Adaptive Applications
Ryan W. Moore and Bruce R. Childers, Univ. of Pittsburgh, USA
- 4:45 – 5:00 Closing and Plans for SEAMS 2012