

Table of Contents

Invited Paper 1

From Z to B and then Event-B: Assigning Proofs to Meaningful Programs	1
<i>Jean-Raymond Abrial</i>	

Refinement, Integration, Translation

Systems Design Guided by Progress Concerns	16
<i>Simon Hudon and Thai Son Hoang</i>	
Assume-Guarantee Specifications of State Transition Diagrams for Behavioral Refinement	31
<i>Christian Prehofer</i>	
Translating VDM to Alloy	46
<i>Kenneth Lausdahl</i>	
Verification of EB ³ Specifications Using CADP	61
<i>Dimitris Vekris, Frédéric Lang, Catalin Dima, and Radu Mateescu</i>	

Invited Paper 2

Knowledge for the Distributed Implementation of Constrained Systems (Extended Abstract)	77
<i>Susanne Graf and Sophie Quinton</i>	

Verification

Automated Anonymity Verification of the ThreeBallot Voting System	94
<i>Murat Moran, James Heather, and Steve Schneider</i>	
Compositional Verification of Software Product Lines	109
<i>Jean-Vivien Millo, S. Ramesh, Krishna Shankara Narayanan, and Ganesh Khandu Narwane</i>	
Deductive Verification of State-Space Algorithms	124
<i>Frédéric Gava, Jean Fortin, and Michael Guedj</i>	

Inductive Verification of Hybrid Automata with Strongest Postcondition Calculus	139
<i>Daisuke Ishii, Guillaume Melquiond, and Shin Nakajima</i>	

Invited Paper 3

Priced Timed Automata and Statistical Model Checking	154
<i>Kim Guldstrand Larsen</i>	

Reachability and Model Checking

Improved Reachability Analysis in DTMC via Divide and Conquer	162
<i>Songzheng Song, Lin Gui, Jun Sun, Yang Liu, and Jin Song Dong</i>	
Solving Games Using Incremental Induction	177
<i>Andreas Morgenstern, Manuel Gesell, and Klaus Schneider</i>	
Model-Checking Software Library API Usage Rules	192
<i>Fu Song and Tayssir Touili</i>	
Formal Modelling and Verification of Population Protocols	208
<i>Dominique Méry and Michael Poppleton</i>	

Usability and Testing

Detecting Vulnerabilities in Java-Card Bytecode Verifiers Using Model-Based Testing	223
<i>Aymerick Savary, Marc Frappier, and Jean-Louis Lanet</i>	
Integrating Formal Predictions of Interactive System Behaviour with User Evaluation	238
<i>Rimvydas Rukšėnas, Paul Curzon, and Michael D. Harrison</i>	
Automatic Inference of Erlang Module Behaviour	253
<i>Ramsay Taylor, Kirill Bogdanov, and John Derrick</i>	

Distributed Systems

Integrating Proved State-Based Models for Constructing Correct Distributed Algorithms	268
<i>Manamiary Bruno Andriamiarina, Dominique Méry, and Neeraj Kumar Singh</i>	
Quantified Abstractions of Distributed Systems	285
<i>Elvira Albert, Jesús Correias, Germán Puebla, and Guillermo Román-Díez</i>	

Invited Paper 4

An Algebraic Theory for Web Service Contracts	301
<i>Cosimo Laneve and Luca Padovani</i>	

Semantics

A Compositional Automata-Based Semantics for Property Patterns	316
<i>Kalou Cabrera Castillos, Frédéric Dadeau, Jacques Julliand, Bilal Kanso, and Safouan Taha</i>	
A Formal Semantics for Complete UML State Machines with Communications	331
<i>Shuang Liu, Yang Liu, Étienne André, Christine Choppy, Jun Sun, Bimlesh Wadhwa, and Jin Song Dong</i>	
From Small-Step Semantics to Big-Step Semantics, Automatically	347
<i>Ștefan Ciobăcă</i>	
Program Equivalence by Circular Reasoning	362
<i>Dorel Lucanu and Vlad Rusu</i>	

System-Level Analysis

Structural Transformations for Data-Enriched Real-Time Systems	378
<i>Ernst-Rüdiger Olderog and Mani Swaminathan</i>	
Deadlock Analysis of Concurrent Objects: Theory and Practice	394
<i>Elena Giachino, Carlo A. Grazia, Cosimo Laneve, Michael Lienhardt, and Peter Y.H. Wong</i>	
Broadcast, Denial-of-Service, and Secure Communication	412
<i>Roberto Vigo, Flemming Nielson, and Hanne Riis Nielson</i>	
Characterizing Fault-Tolerant Systems by Means of Simulation Relations	428
<i>Ramiro Demasi, Pablo F. Castro, Thomas S.E. Maibaum, and Nazareno Aguirre</i>	
Author Index	443