

Table of Contents

Invited Talks

A Structure for Dependability Arguments	1
<i>Daniel Jackson and Eunsuk Kang</i>	
Formal Probabilistic Analysis: A Higher-Order Logic Based Approach	2
<i>Osman Hasan and Sofiène Tahar</i>	

ASM Papers

Synchronous Message Passing and Semaphores: An Equivalence Proof	20
<i>Iain Craig and Egon Börger</i>	
AsmL-Based Concurrency Semantic Variations for Timed Use Case Maps	34
<i>Jameleddine Hassine</i>	
Bârun: A Scripting Language for CoreASM	47
<i>Michael Altenhofen and Roozbeh Farahbod</i>	
AsmetaSMV: A Way to Link High-Level ASM Models to Low-Level NuSMV Specifications	61
<i>Paolo Arcaini, Angelo Gargantini, and Elvinia Riccobene</i>	
An Executable Semantics of the SystemC UML Profile	75
<i>Elvinia Riccobene and Patrizia Scandurra</i>	

Alloy Papers

Specifying Self-configurable Component-Based Systems with FracToy . . .	91
<i>Alban Tiberghien, Philippe Merle, and Lionel Seinturier</i>	
Trace Specifications in Alloy	105
<i>Jeremy L. Jacob</i>	
An Imperative Extension to Alloy	118
<i>Joseph P. Near and Daniel Jackson</i>	
Towards Formalizing Network Architectural Descriptions	132
<i>Joud Khoury, Chaouki T. Abdallah, and Gregory L. Heileman</i>	

Lightweight Modeling of Java Virtual Machine Security Constraints	146
<i>Mark C. Reynolds</i>	
Alloy+HotCore: A Fast Approximation to Unsat Core	160
<i>Nicolás D’Ippolito, Marcelo F. Frias, Juan P. Galeotti, Esteban Lanzarotti, and Sergio Mera</i>	
B Papers	
Supporting Reuse in Event B Development: Modularisation Approach	174
<i>Alexei Iliasov, Elena Troubitsyna, Linas Laibinis, Alexander Romanovsky, Kimmo Varpaaniemi, Dubravka Ilic, and Timo Latvala</i>	
Reasoned Modelling Critics: Turning Failed Proofs into Modelling Guidance	189
<i>Andrew Ireland, Gudmund Grov, and Michael Butler</i>	
Applying the B Method for the Rigorous Development of Smart Card Applications	203
<i>Bruno Gomes, David Déharbe, Anamaria Moreira, and Katia Moraes</i>	
Automatic Verification for a Class of Proof Obligations with SMT-Solvers	217
<i>David Déharbe</i>	
A Refinement-Based Correctness Proof of Symmetry Reduced Model Checking	231
<i>Edd Turner, Michael Butler, and Michael Leuschel</i>	
Development of a Synchronous Subset of AADL	245
<i>Mamoun Filali-Amine and Julia Lawall</i>	
Matelas: A Predicate Calculus Common Formal Definition for Social Networking	259
<i>Nestor Catano and Camilo Rueda</i>	
Structured Event-B Models and Proofs	273
<i>Stefan Hallerstede</i>	
Refinement-Animation for Event-B — Towards a Method of Validation	287
<i>Stefan Hallerstede, Michael Leuschel, and Daniel Plagge</i>	
Reactivising Classical B	302
<i>Steve Dunne and Frank Zeyda</i>	

Event-B Decomposition for Parallel Programs	319
<i>Thai Son Hoang and Jean-Raymond Abrial</i>	

Z Papers

Communication Systems in ClawZ	334
<i>Michael Vernon, Frank Zeyda, and Ana Cavalcanti</i>	
Formalising and Validating RBAC-to-XACML Translation Using Lightweight Formal Methods	349
<i>Mark Slaymaker, David Power, and Andrew Simpson</i>	
Towards Formally Templated Relational Database Representations in Z	363
<i>Nicolas Wu and Andrew Simpson</i>	
Translating Z to Alloy	377
<i>Petra Malik, Lindsay Groves, and Clare Lenihan</i>	

ABZ Short Papers

B-ASM: Specification of ASM à la B	391
<i>David Michel, Frédéric Gervais, and Pierre Valarcher</i>	
A Case for Using Data-Flow Analysis to Optimize Incremental Scope-Bounded Checking	392
<i>Danhua Shao, Divya Gopinath, Sarfraz Khurshid, and Dewayne E. Perry</i>	
On the Modelling and Analysis of Amazon Web Services Access Policies	394
<i>David Power, Mark Slaymaker, and Andrew Simpson</i>	
Architecture as an Independent Variable for Aspect-Oriented Application Descriptions	395
<i>Hamid Bagheri and Kevin Sullivan</i>	
ParAlloy: Towards a Framework for Efficient Parallel Analysis of Alloy Models	396
<i>Nicolás Rosner, Juan P. Galeotti, Carlos G. Lopez Pombo, and Marcelo F. Frias</i>	
Introducing Specification-Based Data Structure Repair Using Alloy	398
<i>Razieh Nokhbeh Zaeem and Sarfraz Khurshid</i>	
Secrecy UML Method for Model Transformations	400
<i>Waël Hassan, Nadera Slimani, Kamel Adi, and Luigi Logrippo</i>	

VIII Table of Contents

Improving Traceability between KAOS Requirements Models and B Specifications	401
<i>Abderrahman Matoussi and Dorian Petit</i>	
Code Synthesis for Timed Automata: A Comparison Using Case Study	403
<i>Anaheed Ayoub, Ayman Wahba, Ashraf Salem, and Mohamed Sheirah</i>	
Towards Validation of Requirements Models	404
<i>Atif Mashkooor and Abderrahman Matoussi</i>	
A Proof Based Approach for Formal Verification of Transactional BPEL Web Services	405
<i>Idir Ait Sadoune and Yamine Ait Ameur</i>	
On an Extensible Rule-Based Prover for Event-B	407
<i>Issam Maamria, Michael Butler, Andrew Edmunds, and Abdolbaghi Rezazadeh</i>	
B Model Abstraction Combining Syntactic and Semantic Methods	408
<i>Jacques Julliard, Nicolas Stouls, Pierre-Christophe Bué, and Pierre-Alain Masson</i>	
A Basis for Feature-Oriented Modelling in Event-B	409
<i>Jennifer Sorge, Michael Poppleton, and Michael Butler</i>	
Using Event-B to Verify the Kmelia Components and Their Assemblies	410
<i>Pascal André, Gilles Ardourel, Christian Attiogbé, and Arnaud Lanoix</i>	
Starting B Specifications from Use Cases	411
<i>Thiago C. de Sousa and Aryldo G. Russo Jr</i>	
Integrating SMT-Solvers in Z and B Tools	412
<i>Alessandro Cavalcante Gurgel, Valério Gutemberg de Medeiros Jr., Marcel Vinicius Medeiros Oliveira, and David Boris Paul Déharbe</i>	
Formal Analysis in Model Management: Exploiting the Power of CZT	414
<i>James R. Williams, Fiona A.C. Polack, and Richard F. Paige</i>	
Author Index	415