# Table of Contents

Theories, Implementations, and Transformations ........................................ 1  
*Eric Hehner (Invited Speaker) and Ioannis T. Kassios*

Incremental Proof of the Producer/Consumer Property for the PCI Protocol .... 22  
*Dominique Cansell, Ganesh Gopalakrishnan, Mike Jones, Dominique Méry, and Airy Weinzoepflen (B)*

Controlling Control Systems: An Application of Evolving Retrenchment ........ 42  
*Michael Poppleton and Richard Banach (B)*

Checking Z Data Refinements Using an Animation Tool ............................. 62  
*Neil J. Robinson (Z)*

Encoding Object-Z in Isabelle/HOL ....................................................... 82  
*Graeme Smith, Florian Kammüller, and Thomas Santen (Z)*

Characters + Mark-up = Z Lexis .............................................................. 100  
*Ian Toyn and Susan Stepney (Z)*

Extraction of Abstraction Invariants for Data Refinement .......................... 120  
*Marielle Doche and Andrew Gravell (B)*

An Approach to Combining B and Alloy ................................................... 140  
*Leonid Mikhailov and Michael Butler (B)*

Software Construction by Stepwise Feature Introduction .......................... 162  
*Ralph-Johan Back (Invited Speaker)*

The Semantics of *Circus* ................................................................. 184  
*Jim Woodcock and Ana Cavalcanti (Z)*

Handling Inconsistencies in Z Using Quasi-Classical Logic ....................... 204  
*Ralph Miarka, John Derrick, and Eerke Boiten (Z)*

Loose Specification and Refinement in Z ................................................. 226  
*Eerke Boiten (Z)*

On Using Conditional Definitions in Formal Theories ................................ 242  
*Jean-Raymond Abrial and Louis Mussat (B)*

A Theory of Generalised Substitutions ................................................... 270  
*Steve Dunne (B)*

Reinforced Condition/Decision Coverage (RC/DC): A New Criterion for  
Software Testing ................................................................. 291  
*Sergiy A. Vilkomir and Jonathan P. Bowen (Z)*
## Table of Contents

A Comparison of the BTT and TTF Test-Generation Methods .......................... 309  
*Bruno Legeard, Fabien Peureux, and Mark Utting (Z, B)*

A Formal Analysis of the CORBA Security Service ............................... 330  
*David Basin, Frank Rittinger, and Luca Viganò (Z)*

Type Synthesis in B and the Translation of B to PVS ............................... 350  
*Jean-Paul Bodeveix and Mamoun Filali (B)*

“Higher-Order” Mathematics in B .................................................... 370  
*Jean-Raymond Abrial, Dominique Cansell, and Guy Laffitte (B)*

ABS Project: Merging the Best Practices in Software Design from Railway and  
Aircraft Industries ................................................................. 394  
*Pierre Chartier (Invited Speaker)*

Generalised Substitution Language and Differentials .......................... 396  
*James Blow and Andy Galloway (B)*

Communicating B Machines .......................................................... 416  
*Steve Schneider and Helen Treharne (B)*

Synchronized Parallel Composition of Event Systems in B .................... 436  
*Françoise Bellegarde, Jacques Julliand, and Olga Kouchnarenko (B)*

Global and Communicating State Machine Models in Event Driven B: A Simple  
Railway Case Study .............................................................. 458  
*Antonis Papatsaras and Bill Stoddart (B)*

Verification of Dynamic Constraints for B Event Systems under  
Fairness Assumptions .............................................................. 477  
*Françoise Bellegarde, Samir Chouali, and Jacques Julliand (B)*

A Formal Model of the UML Metamodel: The UML State Machine and  
Its Integrity Constraints .......................................................... 497  
*Soon-Kyeong Kim and David Carrington (Z)*

Coming and Going from UML to B: A Proposal to Support Traceability in  
Rigorous IS Development .......................................................... 517  
*Régine Laleau and Fiona Polack (B)*

**Author Index** ................................................................. 535
ZB 2002: Formal Specification and Development in Z and B
2nd International Conference of B and Z Users
Bert, D.; Bowen, J.P.; Henson, M.C.; Robinson, K. (Eds.)
2002, XI, 541 p., Softcover
ISBN: 978-3-540-43166-4