

Preface

The fifth edition of the international conference ABZ took place in Linz, Austria, during May 23–27, 2016. This conference records the latest research developments in state-based formal methods, abstract state machines, Alloy, B, Circus, Event-B, TLS⁺, VDM and Z. It followed the success of the previous ABZ conferences in London, UK (2008), Orford, Canada (2010), Pisa, Italy (2012), and Toulouse, France (2014).

This ABZ conference celebrated two anniversaries: Egon Börger, one of the inventors of the ASM method (with Yuri Gurevich) and co-founder of the ABZ conference (with Jean-Raymond Abrial) turned 70, and was invited as keynote speaker; a mini symposium on “Abstract State Machines” was held in his honor as part of the conference. The second anniversary concerns Atelier-B, one of the toolsets supporting the Event-B method, which turned 20 this year. Thierry Lecomte, one of the masterminds of the Atelier-B toolset, was invited as keynote speaker, and a mini symposium on the use of B and Event-B in industry was held as part of the conference.

At ABZ 2016 four keynotes were presented. Egon Börger from the University of Pisa presented his research on modelling distributed algorithms using the ASM method in comparison with Petri nets. Richard Banach from the University of Manchester shed light on rigorous specification and refinement of hybrid and cyber-physical systems. Thierry Lecomte from Clearsy presented recent developments in Atelier-B. Klaus Reichl from Thales Austria addressed the rigorous modelling of safety-critical railway applications. In addition to these keynotes, the conference offered two tutorials on hybrid systems development and business process modelling with rigorous methods, which were given by Richard Banach and Bernhard Thalheim together with Felix Kossak, respectively. We are grateful to the four invited speakers and the tutorial presenters for contributing to the success of ABZ 2016.

After the successful installment of a case study track at ABZ 2014 addressing a “landing gear system” to be modelled with state-based rigorous methods, ABZ 2016 offered another challenging case study addressing a hemodialysis machine.

ABZ 2016 received 61 submissions covering the whole spectrum of rigorous methods within the scope of the conference. These papers ranged from fundamental contributions, applications in industrial contexts, tool developments and improvements, and contributions to the case study. Each paper was reviewed by at least four reviewers and the Program Committee accepted 12 regular research papers, 15 short papers presenting work in progress, and five papers on the case study.

ABZ 2016 would not have succeeded without the deep investment and involvement of the Program Committee members and the external reviewers who carefully reviewed all submissions and selected the best contributions. This event would not exist if authors and contributors did not submit their proposals. We extend our thanks to every

person, reviewer, author, Program Committee members, and the local Organizing Committee members involved in the success of ABZ 2016. Many thanks for their support.

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