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Abstract State Machines, Alloy, B and Z

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Preface

ABZ 2010 was held in the beautiful natural setting of Orford in the Eastern Townships of Québec, during February 22—25, 2010, midway through the Canadian winter and the 21st Winter Olympics, bringing participants from all over the world to brave this rigorous climate.

ABZ covers recent advances in four equally rigorous methods for software and hardware development: Abstract State Machines (ASM), Alloy, B and Z. They share a common conceptual framework, centered around the notions of state and operation, and promote mathematical precision in the modeling, verification, and construction of highly dependable systems.

These methods have continuously matured over the past decade, reaching a stage where they have been successfully integrated into industrial practice in various areas like trains, automobiles, aerospace, smart cards, virtual machines, and business processes. Their development is influenced by both research and practice, which mutually nurture each other.

ABZ has both a long and a short history. With the aim of stimulating cross-fertilization between these four methods, it has merged their individual conference and workshop series which started in 1986 for Z, 1994 for ASM, 1996 for B, and 2006 for Alloy. The first ABZ conference was held in London in 2008; ABZ 2010 is the second edition. The conference remains organized as four separate Program Committees.

The first day of the conference was devoted to tutorials on Alloy and BART (B automatic refinement tool) and to a workshop on tool building in formal methods (WTBFM 2010). The main program of the conference started with a one-day plenary session, with two invited speakers and four special presentations, one for each method. The invited speakers were Daniel Jackson from MIT and Sofiène Tahar from Concordia University. The special presentations were selected among the contributions submitted to the conference for their cross-fertilization potential and their research quality. The next two days of the main program were divided into two parallel tracks, merging presentations of long and short papers to stimulate interactions between all participants. Long papers cover a broad spectrum of research, from foundational to applied work. A total of 60 long papers from 15 countries were submitted, of which 26 were accepted. Short papers, included here as one-page abstracts, address work in progress, industrial experience reports, and tool descriptions. An extended version of these abstracts is available on the conference website at `http://abzconference.org`.

Holding such an event requires a lot of effort from several people. We wish to express them our deepest gratitude for making ABZ 2010 a success to: members of the Program Committees and reviewers, for their rigorous evaluations and discussions, Springer, for their support in publishing these proceedings, Université de Sherbrooke and Université Paris-Est Créteil, for their financial and

organizational support, Orford Arts Centre, for their logistical support. Special thanks to Jérémy Milhau for designing and managing the conference website, Lynn Lebrun, for managing conference registrations, and Chantal Proulx, for on-site support. The conference was managed with Easychair, which rightfully bears its name.

More information on ABZ can be found at `http://abzconference.org`.

February 2010

Marc Frappier
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Edward Turner
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Kuat Yessenov
Frank Zeyda

Table of Contents

Invited Talks

ASM Papers

Alloy Papers

B Papers

Z Papers

ABZ Short Papers (Abstracts)