

Preface

This volume is the proceedings of the *5th International Workshop on Bidirectional Transformations* (Bx 2016). Bidirectional transformations (Bx) are a mechanism for maintaining the consistency of at least two related sources of information. Such sources can be relational databases, software models and code, or any other document following standard or ad-hoc formats. Bx are an emerging topic in a wide range of research areas, with prominent presence at top conferences in several different fields (namely databases, programming languages, software engineering, and graph transformation), but with results in one field often getting limited exposure in the others. Bx 2016 was organized as a dedicated venue for Bx in all relevant fields, as part of a workshop series that was created in order to promote cross-disciplinary research and awareness in the area. As such, since its beginning in 2012, the workshop has rotated between venues in different fields. In 2016, Bx will be co-located with ETAPS in Eindhoven, The Netherlands; it was previously held at the following locations:

1. Bx 2012: Tallinn, Estonia, co-located with ETAPS
2. Bx 2013: Rome, Italy, co-located with ETAPS
3. Bx 2014: Athens, Greece, co-located with EDBT/ICDT
4. Bx 2015: L'Aquila, Italy, co-located with STAF

The call for papers attracted 11 complete submissions plus 1 talk proposal, from which the programme committee, after a careful reviewing and discussion process, selected for presentation at the workshop 9 papers (5 regular and 4 short) and the talk proposal:

- Michael Johnson and Robert Rosebrugh: *Unifying Set-Based, Delta-Based and Edit-Based Lenses*
- James McKinna: *Bidirectional Transformations with Deltas: A Dependently Typed Approach (Talk Proposal)*
- Zinovy Diskin, Romina Eramo, Alfonso Pierantonio and Krzysztof Czarnecki: *Incorporating Uncertainty into Bidirectional Model Transformations and their Delta-Lens Formalization*
- James McKinna and Perdita Stevens: *How to Regain Equilibrium without Losing your Balance? Scenarios for Bx Deployment (Discussion Paper)*
- Erhan Leblebici: *Towards a Graph Grammar-Based Approach to Inter-Model Consistency Checks with Traceability Support*
- Oszkr Semerth, Csaba Debrececi, kos Horvth and Dniel Varr: *Change Propagation of View Models by Logic Synthesis using SAT solvers*
- Susann Gottmann, Nico Nachtigall, Claudia Ermel, Frank Hermann and Thomas Engel: *Towards the Propagation of Model Updates along different Views in Multi-View Models*
- Max E. Kramer and Kirill Rakhman: *Automated Inversion of Attribute Mappings in Bidirectional Model Transformations*
- Tao Zan, Li Liu, Hsiang-Shang Ko and Zhenjiang Hu: *Brul: A Putback-Based Bidirectional Transformation Library for Updatable Views*
- James McKinna: *Complements Witness Consistency*

In addition to these presentations, the programme of Bx 2016 will include a ‘fishbowl’ panel for discussion. We hope that this discussion will lead to interesting submissions to next year’s Bx workshop, which will take place at a venue yet to be arranged.

We would like to thank the Programme Committee and the external reviewers for their detailed reviews and careful consideration, and for the overall efficiency that enabled the tight schedule for reviewing. We would also like to thank all the authors and participants for helping us make Bx 2016 a success.

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PC Chairs
March 2016

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