

Preface

Building on the pioneer intuitions of Floyd–Hoare logic, dynamic logic was introduced in the 1970s by Vaughan Pratt as a suitable logic to reason about, and verify, classic imperative programs. Since then, the original intuitions grew to an entire family of logics, which became increasingly popular for assertional reasoning about a wide range of computational systems. Simultaneously, their object (i.e., the very notion of a program) evolved in unexpected ways. This leads to dynamic logics tailored to specific programming paradigms and extended to new computing domains, including probabilistic, continuous, and quantum computation. Both its theoretical relevance and practical potential make dynamic logic a topic of interest in a number of scientific venues, from wide-scope software engineering conferences to modal logic-specific events. However, as far as we know, to date, no specific event was exclusively dedicated to it. This workshop emerged from this discussion, during the kick-off meeting of the project DaLi - Dynamic Logics for Cyber-Physical Systems, whose editors are participating as consultant and IR, respectively.

This volume contains the proceedings of the event that was held in the beautiful city of Brasilia during September 23–24, 2017, co-located with Tableaux, ITP, and FroCoS 2017.

We received 24 submissions, of which, after a careful revision process, with at least three revisions per work, 12 papers were accepted as regular papers and are published in this volume. Beyond these contributions, the workshop also included the following short papers:

- Fabricio Chalub, Alexandre Rademaker, Edward Hermann Haeusler and Christiano Braga: “Fixing the Proof of completeness of ALC Sequent Calculus”
- Diana Costa and Édi Duarte: “Checkers Game in Deontic Logic”
- Daniel Figueiredo and Manuel A. Martins: “Bisimulations for Reactive Frames”
- Konstantinos Gkikas and Alexandru Baltag: “Stable Beliefs and Conditional Probability Spaces”
- Leandro Gomes: “Contract-Based Design for Software Verification”
- Luiz Carlos Pereira: “Constructive Fragments of Classical Modal Logic and the Ecumenical Perspective”
- Carlos Tavares: “Toward a Quantum-Probabilistic Dynamic Logic”

From this list, four papers were originally submitted as short contribution and the other three were regular submissions invited to be converted into a short format. An informal volume with the extended abstracts (3–5 pages) of these contributions was provided in the conference.

We also had the invited talks of Alexandru Baltag, “Logic Goes Viral: Dynamic Modalities for Social Networks,” and of Edward Hermann Haeusler, “Propositional Dynamic Logic with Petri Net Programs: A Discussion and a Logical System”; the latter is a joint work with Bruno Lopes and Mario Benevides. Finally, we had the

pleasure of hosting a special talk entitled “Dynamic Logic, a Personal Perspective,” by the Dynamic Logics pioneer Vaughan Pratt.

The organization sincerely acknowledges the authors that submitted their works to our workshop, to the Program Committee for their careful and attentive revisions, to the Invited Speakers for their very interesting talks and to the local organizers for their valuable and very prompt support.

September 2017

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Dynamic Logic. New Trends and Applications
First International Workshop, DALI 2017, Brasilia, Brazil,
September 23-24, 2017, Proceedings
Madeira, A.; Benevides, M. (Eds.)
2018, IX, 201 p. 25 illus., Softcover
ISBN: 978-3-319-73578-8