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Dynamic Logic

New Trends and Applications

Second International Workshop, DaLí 2019
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Proceedings

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Preface

Building on the pioneer intuitions of Floyd-Hoare Logic, Dynamic Logic was introduced in the 70s to reason about, and verify, classic imperative programs. Since then, the original intuitions gave rise to an entire family of logics, which became increasingly popular for 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 the emergence of a number of dynamic logics tailored to specific programming paradigms and extended to new computing domains, including probabilistic, continuous, and quantum computation.

Both its theoretical relevance and applied potential have made Dynamic Logic a topic of interest for a number of scientific venues, from wide-scope software engineering conferences to events focused more specifically on modal logics. DaLí, however, is the first international workshop series entirely devoted to this area. Its first edition, published as LNCS volume 10669, held in Brasília, Brazil, during September 23–24, 2017, colocated with TABLEAUX, FroCoS, and ITP, was praised for filling a gap, fostering synergies, and providing a forum for the dissemination of new trends and applications. With this second workshop, the series seems to have reached a stage of maturity, able to attract submissions from different groups and trends in the community.

The workshop was held in Porto, Portugal, on October 9, 2019, as part of the Formal Methods Week which hosted the Third World Congress on Formal Methods. Dexter Kozen, from Cornell University, gave the invited lecture, entitled "On Free ω -Continuous and Regular Ordered Algebras."

This volume contains the revised versions of 12 submissions, out of 26, accepted for publication as full papers, plus 2 short papers reporting on-going work from doctoral students. All submissions were blind-reviewed by three referees and subject to a careful and participated discussion within the Program Committee, afterwards. As in 2017, a special issue on the workshop theme, to appear in the Journal of Logical and Algebraic Methods in Programming, is currently under preparation.

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The editors would like to express their gratitude to the authors who submitted their work to DaLí 2019, as well as to all members of the Program Committee. The end result in your hands would not have been possible without their effort and commitment.

November 2019

Alexandru Baltag
Luís S. Barbosa

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