

# Preface

The 15th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS 2017) was held during September 5–7, 2017, in Berlin, Germany. FORMATS 2017 was part of QONFEST and was co-located with CONCUR 2017, QEST 2017, and EPEW 2017.

Control and analysis of the timing of computations are crucial to many domains of system engineering, be it, e.g., for ensuring timely response to stimuli originating in an uncooperative environment, or for synchronizing components in VLSI. Reflecting this broad scope, timing aspects of systems from a variety of domains have been treated independently by different communities in computer science and control. Researchers interested in semantics, verification, and performance analysis study models such as timed automata and timed Petri nets, the digital design community focuses on propagation and switching delays, while designers of embedded controllers have to take account of the time taken by controllers to compute their responses after sampling the environment, as well as of the dynamics of the controlled process during this span.

Timing-related questions in these separate disciplines have their particularities. However, there is a growing awareness that there are basic problems (of both scientific and engineering level) that are common to all of them. In particular, all these sub-disciplines treat systems whose behavior depends upon combinations of logical and temporal constraints; namely, constraints on the temporal distances between occurrences of successive events. Often, these constraints cannot be separated, as the intrinsic dynamics of processes couples them, necessitating models, methods, and tools facilitating their combined analysis. Reflecting this, FORMATS 2017 promoted submissions on hybrid discrete-continuous systems, and held a special session on this topic.

FORMATS 2017 was a three-day event, featuring three invited talks (two of which co-located with QEST 2017 and CONCUR 2017), and single-track regular podium sessions.

In all, 28 Program Committee members helped to provide at least three reviews of the 31 submitted contributions, 18 of which were accepted and presented during the single-track sessions and appear as full papers in these proceedings. We furthermore put in place a process of shepherding for a few of the 18 accepted submissions.

A highlight of FORMATS 2017 was the presence of the invited speaker Laurent Fribourg (CNRS and ENS, Université Paris-Saclay), who gave a talk titled “Euler’s Method Applied to the Control of Switched Systems.”

Furthermore, FORMATS 2017 sponsored two additional speakers: Morten Bisgaard, (GomSpace), co-sponsored with QEST 2017, and Hongseok Yang (Department of Computer Science, Oxford University) co-sponsored with CONCUR 2017 and QEST 2017.

Further details on FORMATS 2017 are featured at: <http://formats17.ulb.be>.

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