

Invited Tutorial:

# Verification of Infinite-State and Parameterized Systems

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**Abstract.** Over the last few years there has been an increasing research effort directed towards the automatic verification of infinite-state systems. There are now verification techniques for many classes of infinite-state systems, including timed and hybrid automata, petri nets, push-down systems, systems with FIFO channels, systems with a simple treatment of data, etc. In this tutorial, we will cover general verification techniques that have been used for infinite-state and parameterized systems, and try to show their power and limitations. Such techniques are e.g., symbolic model-checking techniques, abstraction, induction over the networks structure, widening, and automata-based techniques. We will focus on linear-time safety and liveness properties.