

Preface

System engineers spend a significant part of their time *debugging* the systems they develop, i.e., finding and fixing the cause of failures initially observed using verification and validation techniques such as testing, model checking, and simulation. While verification and validation techniques are finding their way into model-driven engineering processes and tools, locating the source of a failure (a defect) in a modelled system is still mostly a manual task. Although program debugging techniques are well-established, only a few debugging techniques and tools for models have been proposed, which are most often implemented in an ad-hoc way. Implementing such tools is complicated due to the wide variety of models and modelling languages used throughout system development.

In this context, the *International Workshop on Debugging in Model-Driven Engineering* (MDEbug) aims to bring together researchers and members of the industry to discuss the wide range of exciting problems and challenges related to the debugging of models. The second edition of this workshop was a full-day event at the ACM/IEEE 21st International Conference on Model Driven Engineering Languages and Systems (MODELS) on October 16th, 2018 in Copenhagen, Denmark. This year, we specifically encouraged submissions that focused on the notion of “stepping”, as this concept has proven a crucial element for implementing debugging techniques: the goal was to investigate the relation of stepping to formalism semantics and debugging operations. After a thorough review process, four contributions were accepted to be presented at the workshop. Three contributions focus on providing debugging support for different formalisms: model transformations (and their contracts), software agents, and metamodels, while the fourth contribution proposes a vocabulary for classifying stepping operations across formalisms. The workshop’s program was divided into a morning session, consisting of a keynote by Peter Gorm Larssen on the *Vienna Development Method* (VDM) and the presentations of the accepted papers, and an afternoon session, which consisted of a plenary discussion.

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