

Preface

ICGT 2015 was the 8th International Conference on Graph Transformation held during July 21–23, 2015, in L’Aquila (Italy). The conference was affiliated with STAF (Software Technologies: Applications and Foundations) and it took place under the auspices of the European Association of Theoretical Computer Science (EATCS), the European Association of Software Science and Technology (EASST), and the IFIP Working Group 1.3, Foundations of Systems Specification.

ICGT 2015 continued the series of conferences previously held in Barcelona (Spain) in 2002, Rome (Italy) in 2004, Natal (Brazil) in 2006, Leicester (UK) in 2008, Enschede (The Netherlands) in 2010, Bremen (Germany) in 2012, and York (UK) in 2014, following a series of six International Workshops on Graph Grammars and Their Application to Computer Science from 1978 to 1998 in Europe and in the USA.

Dynamic structures are a major cause of complexity when it comes to modeling and reasoning about systems. They occur in software architectures, configurations of artifacts such as code or models, pointer structures, databases, networks, etc. As interrelated elements, which may be added, removed, or may change state, they form a fundamental modeling paradigm as well as a means to formalize and analyze systems. Applications include architectural reconfigurations, model transformations, refactoring, and the evolution of a wide range of artifacts, where change can happen either at design or at run time. Dynamic structures occur also as part of semantic domains or computational models for formal modeling languages.

Based on the observation that all these approaches rely on very similar notions of graphs and graph transformations, the theory and applications of graphs, graph grammars, and graph transformation systems have been studied in our community for more than 40 years. The conference aims at fostering interaction within this community as well as attracting researchers from other areas to join us, either in contributing to the theory of graph transformation or by applying graph transformations to already known or novel areas, such as self-adaptive systems, overlay structures in cloud or P2P computing, advanced computational models for DNA computing, etc.

This year, the conference offered two tracks for research focusing on foundations and on applications. For the proceedings, 18 papers were selected following a thorough reviewing process (11 long papers on foundations, four long papers on applications, and three short papers on tool presentations). The proceedings are structured in three sections corresponding to the different paper categories.

In addition to the presentation of these papers, the conference program included an invited talk, given by Gerti Kappel, as well as one joint session with ICMT 2015, the 8th International Conference on Model Transformation.

We are grateful to the University of L’Aquila and the STAF Conference for hosting ICGT 2015, and would like to thank the invited speaker, the authors of all submitted papers, the members of the Program Committee, as well as the additional reviewers.

Special thanks go to Detlef Plump, the organizer of the 6th International Workshop on Graph Computation Models (GCM 2015), a satellite workshop related to ICGT 2015, affiliated with the STAF Conference.

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Francesco Parisi-Presicce
Bernhard Westfechtel

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