



Proceedings of the Fifth International Conference on
Graph Transformation - Doctoral Symposium
(ICGT-DS 2010)

Preface

3 pages

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Graphs are among the simplest and most universal models for a variety of systems, not just in computer science, but throughout engineering and the life sciences. When systems evolve we are interested in the way they change, to predict, support, or react to their evolution. Graph transformation combines the idea of graphs as a universal modelling paradigm with a rule-based approach to specify their evolution. The area is concerned with both the theory of graph transformation and their application to a variety of domains.

The biannual International Conferences on Graph Transformation (ICGT), which started in 2002 after a series of international workshops held since 1978, aim at bringing together researchers and practitioners interested in the foundations and applications of graph transformation to a variety of areas.

During ICGT 2010, the fifth edition of the series held at the University of Twente, Enschede (NL), in September 2010, a specific event, the *ICGT 2010 Doctoral Symposium*, was explicitly dedicated to Ph.D. students. The Doctoral Symposium consisted of technical sessions dedicated to presentations by doctoral students, held during the main conference, giving them a unique opportunity to present their research project and to interact with established researchers of the graph transformation community and with other students.

Among the several submissions, twelve contributions were selected for presentation at the conference, and the corresponding abstracts were included in the ICGT 2010 proceedings, which were published by Springer as Volume 6372 of the Lecture Notes in Computer Science series.

After the conference, authors of selected contributions were invited to submit a full paper on the topic presented at ICGT. The papers were reviewed by the members of the Program Committee and by their co-reviewers. Paper submission and reviewing were supported by the free conference management system EasyChair.

The following eight contributions were selected for publication, and are included in the present volume:

1. Enrico Biermann, *Confluence analysis of consistent EMF transformations*
2. Christoph Blume, *Efficient Implementation of Automaton Functors for the Verification of Graph Transformation Systems*
3. Adwoa Donyina and Reiko Heckel, *Modelling Flexible Human Resource Allocation by Stochastic Graph Transformation*
4. Mathias Hülsbusch, *Application Conditions for Reactive Systems with Applications to Bisimulation Theory*
5. Eugen Jiresch, *Realizing Impure Functions in Interaction Nets*
6. Fawad Qayum and Reiko Heckel, *Search-Based Refactoring using Unfolding of Graph Transformation Systems*

7. Zoltán Ujhelyi, Ákos Horváth and Dániel Varró, *Static Type Checking of Model Transformation Programs*
8. Eduardo Zambon and Arend Rensink, *Using Graph Transformations and Graph Abstractions for Software Verification*

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