Preface

This volume contains the contributions to the second edition of the Workshop on Graph Transformation for Concurrency and Verification (GT-VC 2006), held as a satellite of CONCUR 2006, on 31 August 2006, in Bonn, Germany.

Graph transformation is a formalism which can be used to specify — in a natural and intuitive way — systems with dynamically evolving topologies. In recent years this led to close and fruitful interactions with other areas which traditionally use text-based specification languages. These include concurrency theory as well as system verification and analysis. In both areas a current tendency of increasing the level of dynamicity and mobility in the systems which are being studied is quite apparent. For instance in concurrency theory there is an abundance of process calculi for studying mobility, reaching from the $\pi$-calculus to more recent proposals such as the ambient calculus. Static analysis, on the other hand, struggles with the verification of highly dynamic systems such as pointer structures, witnessed for instance by the work on shape analysis.

The aim of the workshop was to address the application of concurrency theory to traditional questions of semantics and verification in graph transformation, and, vice versa, the application of graph transformation to process calculi and other models of concurrency. Areas of interest were:

1. Visual specification languages and models
2. Behavioural semantics for visual languages
3. Verification and analysis techniques for graph transformation systems
4. Operational semantics and behavioural congruence in process calculi and graph transformation
5. Behaviour-preserving transformation

The workshop had 9 submissions (6 full papers and 3 work-in-progress), of which 8 were accepted. Andrea Corradini gave an invited talk about "Verification of Graph Transformation Systems (using Concurrency)". The accepted papers were separated into sections “Theoretical aspects,” which included [3,8,1,5,2], covering mostly areas (3) and (4) above, and “Quantitative aspects”, which included [6,4,7], covering areas (1) and (3). Thus, we see that areas (2) and (5) received no submissions. The reason for this, as well as for the relatively low number of submissions, must
be sought in the fact that a number of related workshops such as GraMoT and GraBaTs, as well as the ICGT conference, took place shortly after GT-VC (within six weeks).

The workshop was closed by a discussion session, in which the participants were asked to formulate ambitions for graph transformation-based verification: where should we be in five years from now, and what is necessary to make an impact in an area where so much work has already been done? For this purpose, the participants were split in three smaller groups, which discussed these issues separately and then reconvened to report and evaluate their respective findings.

We are glad of the opportunity of disseminating the results of the workshop through ENTCS. At this opportunity we would also like to thank the organisers of the main event, Holger Hermanns and Christel Baier, for their support, and the PC members (and the secondary reviewers) for their careful work:

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References


[7] V. Kozioura. Verification of random graph transformation systems. This volume.