Manipulation of Graphs, Algebras and Pictures

Essays Dedicated to Hans-Jörg Kreowski on the Occasion of His 60th Birthday

Preface

2 pages

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This volume of the Electronic Communications of the EASST is dedicated to Hans-Jörg Kreowski on the occasion of his 60th birthday on August 10, 2009. Its contributions reflect Hans-Jörg's main research interests: graph transformation, algebraic specification, and syntactic picture generation. In fact, as Hans-Jörg's professional and private engagement spans a considerably wider range of interests and activities, thus exceeding the scope of EASST, the present volume was preceded by a collection of essays, personal greetings, and artwork that was presented to Hans-Jörg on September 5, 2009 at a one-day colloquium in Bremen.[1] After the colloquium, the authors of contributions within the scope of EASST were invited to submit revised versions of their papers for publication in this Festschrift. These submissions underwent a second peer reviewing process, and the accepted contributions are presented in this volume.

Let us mention only a few of the many facets of Hans-Jörg's academic career. After graduating in mathematics, he became a research associate at Technische Universität Berlin in 1974. His first papers addressed the application of category theory to automata, but soon his interests moved towards the emerging fields of *graph grammars* and *algebraic specification*.

Graph grammars, in particular, have fascinated Hans-Jörg ever since, and he has made numerous important contributions to the field which nowadays is called *graph transformation*. In Berlin, he and Hartmut Ehrig developed the basic theory of the double-pushout approach, the most successful theoretical foundation for graph transformation. Lines of research associated with Hans-Jörg's name include canonical derivation sequences, the relation between Petri nets and graph grammars, and context-free graph languages generated by edge- and hyperedge replacement grammars.

Most of the work in the latter area was done at Universität Bremen, where Hans-Jörg has been a professor since 1982. More recently, Hans-Jörg and Sabine Kuske developed graph transformation units as a structuring concept for graph transformation systems and general rule-based systems. Another research area started by Hans-Jörg in Bremen are collage grammars for generating pretty pictures—unsurprisingly, given his inclination for the arts.

Beyond research and teaching in theoretical computer science, Hans-Jörg has been committing himself to critically analyse how computer applications affect society and to warn of their potential harm—especially in a military context. He has been an active member of the German Forum of Computer Professionals for Peace and Social Responsibility (FIfF) since its foundation in 1984, and was its chairman from 2003 to 2009. More information on this branch of Hans-Jörg's activities can be found in the collection of essays mentioned above.

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[1] See http://www.informatik.uni-bremen.de/theorie/hjk60/HJK60/index.html.

We are very happy that we can honour Hans-Jörg with this issue of the Communications of the EASST and thank all the authors for following our invitation to contribute to it. Their articles reflect nicely the diversity and importance of Hans-Jörg's achievements in theoretical computer science. Special thanks go to the referees who did a great job in helping us to evaluate the submissions.

Collectively we conclude once more by: Congratulations, Hans-Jörg!

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Frank Drewes
Annegret Habel
Berthold Hoffmann
Detlef Plump