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Reiko Heckel · Gabriele Taentzer (Eds.)

Graph Transformation, Specifications, and Nets

In Memory of Hartmut Ehrig

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Foreword

This volume is dedicated to the memory of Hartmut Ehrig, who passed away on March 17, 2016, at the age of 71. Hartmut was my special friend and collaborator, and so I felt honored when I was asked to write the foreword to this volume.

Hartmut was a great scientist who substantially influenced developments of several research areas. His mathematical tools, the methods he used, and the models that he created were mostly rooted in category theory and algebra.

He is in fact the father of the algebraic approach to graph transformation (graph grammars, graph rewriting). He was a co-founder of the double-pushout approach, which laid the foundations for this research area and, moreover, most of the crucial developments of the algebraic approach were either directly or indirectly influenced by him. He was also responsible for some of the most significant developments in the area of algebraic specifications. His books on algebraic specifications became the main references for both researchers and students.

A characteristic feature of Hartmut's research was the fact that, although he used and pursued very abstract (for computer science) tools and techniques, such as category theory, he was genuinely interested in and motivated by applications, especially those related to software development.

His contributions to science were not restricted to his huge scientific output. He was also very involved in developing the organizational framework for the computer science community. Here are some examples:

- He was a co-founder of the International Conference on Graph Transformations (which originated as the International Workshop on Graph Grammars and Their Applications to Computer Science).
- Because of his strong interest in connecting theoretical research with applications, he organized the first TAPSOFT conference, and was behind transforming TAPSOFT into the very prestigious European Joint Conference on Theory and Practice of Software (ETAPS).
- He also played an important role in the development of the European Association of Theoretical Computer Science (EATCS) — he was its vice president from 1997 until 2002.

Hartmut was a passionate scientist always involved in either solving technical problems or in inventing new, often pioneering, research directions. His passion and enthusiasm were contagious — working with Hartmut was always an intense experience.

I was fortunate to have Hartmut as my friend and collaborator for over 40 years. I surely miss him — I have many fond memories of the times we spent together. I am really pleased to see how his scientific ideas are still pursued today.

Preface

In October 2016 we held a symposium at TU Berlin commemorating the life and work of Hartmut Ehrig. This book pays tribute to Hartmut's scientific achievements. It contains contributions based on the presentations at the symposium as well as other invited papers in the areas that Hartmut was active in.

These areas include:

- Graph transformation
- Model transformation
- Concurrency theory, in particular Petri nets
- Algebraic specification
- Category theory in computer science

The editors would like to thank all authors and reviewers for their thorough and timely work, Grzegorz Rozenberg for his advice throughout the process, and Alfred Hofmann at Springer for his encouragement and support for this project.

November 2017

Gabriele Taentzer
Reiko Heckel

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