

Egidio Astesiano Gianna Reggio
Andrzej Tarlecki (Eds.)

Recent Trends in Data Type Specification

10th Workshop on Specification of Abstract Data Types
Joint with the 5th COMPASS Workshop
S. Margherita, Italy, May 30 - June 3, 1994
Selected Papers



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Edited by G. Goos, J. Hartmanis and J. van Leeuwen

Advisory Board: W. Brauer D. Gries J. Stoer

Series Editors

Gerhard Goos

Universität Karlsruhe

Vincenz-Priessnitz-Straße 3, D-76128 Karlsruhe, Germany

Juris Hartmanis

Department of Computer Science, Cornell University

4130 Upson Hall, Ithaca, NY 14853, USA

Jan van Leeuwen

Department of Computer Science, Utrecht University

Padualaan 14, 3584 CH Utrecht, The Netherlands

Volume Editors

Egidio Astesiano

Gianna Reggio

DISI – Dipartimento di Informatica e Scienze dell'Informazione

Università di Genova

Viale Benedetto XV, 3, I-16132 Genova, Italy

Andrzej Tarlecki

Institute of Informatics, Warsaw University

ul. Banacha 2, 02-097 Warsaw, Poland and

Institute of Computer Science, Polish Academy of Sciences

ul. Ordona 21, 01-237 Warsaw, Poland

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Preface

For more than twenty years by now algebraic specification has been an important area of research, aimed at providing foundations, methods and tools for formal development of provably-correct software. Workshops on Specification of Abstract Data Types, initiated in 1982, have become a prominent forum to present and discuss current research in the area. Since 1991 they have been held jointly with the General Workshops of the ESPRIT Basic Research Working Group COMPASS.

The 10th Workshop on Specification of Abstract Data Types was held jointly with the 5th COMPASS Workshop in Santa Margherita (about 30 km from Genova) on May 30 – June 3, 1994, and was organised by Egidio Astesiano, Gianna Reggio and Maura Cerioli.

The main topics covered by the workshop were:

- specification formalisms, languages and associated tools,
- term rewriting and theorem proving,
- algebraic specifications of concurrent systems,
- algebraic models and specifications of object systems,
- algebraic structures and their logics.

The program consisted of 63 presentations describing ongoing research and of 4 invited lectures by Catriel Beer, Harald Ganzinger, Josè Meseguer and Martin Wirsing, mainly surveying established approaches, recent results, and directions of future work on different topics of primary importance within the area. The talks stimulated lively discussions, both directly after the presentations and during five one-hour discussion slots. The latter, chaired by Peter Mosses, Don Sannella, Manfred Broy, Hans-Dieter Ehrich and Egidio Astesiano, focused on some issues crucial for future developments within the area.

A Selection Committee, consisting of Egidio Astesiano, Marie-Claude Gaudel, Hans-Dieter Ehrich, Hartmut Ehrig, Hélène Kirchner, Gianna Reggio, Horst Reichel, Don Sannella and Andrzej Tarlecki, chose a number of presentations and invited their authors to submit a written version of their talks for possible publication in the workshop proceedings. All the submissions underwent a careful refereeing process and were extensively discussed (by e-mail) by the Selection Committee during a final acceptance/rejection round. This resulted in the selection of 23 papers that appear in this volume together with written versions of the four invited surveys.

We are extremely grateful to all the workshop participants, to the (other) members of the Selection Committee and to the following referees

M. Baldamus, M. Białasik, L. Campora, M. Cerioli, S. Conrad, F. Cornelius, G. Costa, G. Denker, E. Domenjoud, M. Gogolla, M. Grosse-Rhode, M. Hofmann, S. Kahrs, C. Kirchner, B. Konikowska, M. Korff, P. Le Gall, H.C.R. Lock, C. Lynch, E. Moggi, F. Morando, A. Pierantonio, B. Reus, L. Ribeiro, C. Ringeissen, G. Snelting, M. Srebrny, G. Taentzer, T.H. Tse, A. Wagner, U. Wolter, E. Zucca,

for their contribution to the scientific quality of the workshop and of this volume.

We also wish to thank Maura Cerioli, Ombretta Arvigo and Laura Montanari for their invaluable and friendly help with the workshop organisation.

Finally, we would like to thank Martin Gogolla, who has prepared, with some help from Maura Cerioli, a comprehensive bibliography of the talks and papers given at the ten Workshops on Specification of Abstract Data Types so far; the bibliography appears at the end of this volume.

The workshop was sponsored by DISI (Dipartimento di Informatica e Scienze dell'Informazione)-Università di Genova, and received financial support from the ESPRIT Basic Research Working Group COMPASS and CNR (Consiglio Nazionale delle Ricerche)-GNIM.

Egidio Astesiano, Genova
Gianna Reggio, Genova
Andrzej Tarlecki, Warsaw

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