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Recent Trends in Data Type Specification

11th Workshop on Specification
of Abstract Data Types
Joint with the 8th COMPASS Workshop
Oslo, Norway, September 19-23, 1995
Selected Papers



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Preface

For more than twenty years, 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. From 1990 to 1995 they have been held jointly with the general workshops of the ESPRIT Basic Research Working Group COMPASS.

The 11th Workshop on Abstract Data Types was held jointly with the 8th COMPASS Workshop at Soria Moria, Oslo, 19 – 23 September 1995. The Program and Organizing Committee consisted of Olaf Owe (Chairman), Ole-Johan Dahl, both from University of Oslo, and Magne Haveraaen from University of Bergen. There were 95 participants, representing three continents and 16 countries: Algeria, Belgium, Denmark, Finland, France, Germany, Holland, Italy, Lithuania, Poland, Portugal, Romania, Spain, United Kingdom, USA, and Norway.

The main topics of the workshop were:

- algebraic specifications,
- other approaches to formal specification,
- specification languages and methods,
- term rewriting and proof systems, and
- specification development systems (concepts, tools, etc.).

The programme consisted of 57 presentations plus 6 invited talks (for more information see <http://www.ifi.uio.no/~adt95/>). As this was the final COMPASS workshop, we invited speakers who might put the area of algebraic methods in a wider perspective, assess its practical value, and indicate possible future directions and links to related areas. The invited speakers were

- E. Astesiano (Università di Genova, Italy) and
- B. Krieg-Brückner (Universität Bremen, Germany),
- R. Burstall (University of Edinburgh, United Kingdom),
- H. Ehrig (Technische Universität Berlin, Germany),
- C.A.R. Hoare (Oxford University, United Kingdom),
- J.J. Horning (DEC Systems Research Center, Palo Alto, CA, USA), and
- P. Lescanne (CRIN, Nancy, France).

In addition to many short and informal discussions, some longer discussions were part of the official program: *The role of Category Theory*, chaired by P. Lescanne, H. Ehrig and R. Burstall, *How many algebraic frameworks do we need? And which are the applications that require special frameworks?*, chaired by P.D. Mosses, and *The future of COMPASS*, chaired by E. Astesiano and B. Krieg-Brückner.

A major result of the meetings was the initiation of the *Common Framework Initiative* (CoFI). The goal of the initiative, proposed by P.D. Mosses, is the design of a common framework for algebraic specification. The initiative got broad

support at the Oslo meeting and has since turned into an active collaboration project (see <http://www.daimi.aau.dk/~pdm/Common/>).

A Selection Committee has been assisting the organizers in the selection of papers for this volume. The selection committee consisted of

Egidio Astesiano (Università di Genova), James J. Horning (DEC Systems Research Center, Palo Alto, CA), Hans-Jörg Kreowski (Universität Bremen), Fernando Orejas (Universitat Politècnica de Catalunya, Barcelona), Horst Reichel (Universität Dresden), and Giuseppe Scollo (Universiteit Twente, Enschede).

All the selected papers underwent a careful refereeing process. This resulted in 25 papers appearing in this volume together with the invited talks. We are extremely grateful to the refereeing work done by the Selection Committee and the referees:

Vincenzo Ambriola, Roland Backhouse, Michel Bidoit, Luca Cardelli, Maura Cerioli, Christine Choppy, Patrick Cousot, Răzvan Diaconescu, Frank Drewes, Hans-Dieter Ehrich, Hartmut Ehrig, Martin Erwig, José Luiz Fiadeiro, Maarten Fokkinga, Marie-Claude Gaudel, Martin Gogolla, Jan Heering, Stephen J. Garland, Herman Ruge Jervell, Michael Johnson, Neil Jones, Edmund Kazmierczak, Hélène Kirchner, Valentinas Kriauciukas, Bjørn Kristoffersen, Cosimo Laneve, Daniel Le Métayer, Pierre Lescanne, Franz Lichtenberger, Olav Lysne, Tom Maibaum, Karl Meinke, Dominique Mery, Torben Mogensen, Eugenio Moggi, Franco Morando, Till Mossakowski, Peter D. Mosses, Ellen Munthe-Kaas, Bernhard Möller, Dag Normann, Sam Owre, Detlef Plump, Francesco Parisi Presicce, Charles Rattray, Gianna Reggio, Albert Rubio, Antonino Salibra, Tim Sheard, John Staples, Carolyn Talcott, Andrzej Tarlecki, Peter Thiemann, Jan Tretmans, Philip Wadler, Eric G. Wagner, Elena Zucca, and Job Zwiers.

The workshop was sponsored by the Department of Informatics, University of Oslo, and received financial support from the ESPRIT Basic Research Working Group COMPASS, the Norwegian Research Council and University of Bergen. We thank Dag Langmyhr for help in designing a Latex-database system for the workshop and for web-services. Tarik Čičić deserves thanks for registration work.

Finally we thank all workshop participants for their contributions and for creating a friendly and warm atmosphere!

Oslo and Bergen, May 1996

Olaf Owe
Ole-Johan Dahl
Magne Haveraaen

Table of Contents

Invited presentations

Bernd Krieg-Brückner Seven Years of COMPASS	1
Rod Burstall Inductively Defined Relations	14
Hartmut Ehrig, Martin Große-Rhode, and Uwe Wolter On the Role of Category Theory in the Area of Algebraic Specifications	17
Tony Hoare Unification of Theories: A Challenge for Computing Science	49
James J. Horning The Larch Shared Language: Some Open Problems	58
Pierre Lescanne The Lambda Calculus as an Abstract Data Type	74

Contributions

Mário Arrais, José Luiz Fiadeiro Unifying Theories in Different Institutions	81
Michel Bidoit, Christine Choppy and Frédéric Voisin Interchange Format for Inter-operability of Tools and Translation	102
Reinhard Bündgen, Werner Lauterbach Experiments with Partial Evaluation Domains for Rewrite Specifications ..	125
Silvia Clérici, Rosa Maria Jiménez, Fernando Orejas Class-Sort Polymorphism in Glider	143
Eva Coscia, Gianna Reggio Deontic Concepts in the Algebraic Specification of Dynamic Systems: The Permission Case	161
Grit Denker Reification – Changing Viewpoint but Preserving Truth	182
Răzvan Diaconescu A Category-Based Equational Logic Semantics to Constraint Programming	200
Martin Große-Rhode Concurrent State Transformations on Abstract Data Types	222
Ulrich Hensel, David Spooner A View on Implementing Processes: Categories of Circuits	237
Claus Hintermeier, Hélène Kirchner, Peter D. Mosses Combining Algebraic and Set-Theoretic Specifications	255

Jasper Kamperman and Pum Walters Minimal Term Rewriting Systems	274
Marcus Klar, Robert Geisler, Felix Cornelius InterACT: An Interactive Theorem and Completeness Prover for Algebraic Specifications with Conditional Equations	291
Valentinas Kriaučiukas, Michał Walicki Rewriting and Reasoning with Set-Relations II: The Non-ground Case Completeness	306
Bjørn Kristoffersen Termination of Curryfied Rewrite Systems	322
Pascale Le Gall and Agnès Arnould Formal Specifications and Test: Correctness and Oracle	342
Grant Malcolm Behavioural Equivalence, Bisimulation, and Minimal Realisation	359
Till Mossakowski Using Limits of Parchments to Systematically Construct Institutions of Partial Algebras	379
Nikos Mylonakis Behavioural Specifications in Type Theory	394
Peter Padawitz Swinging Data Types: Syntax, Semantics, and Theory	409
Wiesław Pawłowski Context Institutions	436
Zhenyu Qian, Bernd Krieg-Brückner Object-Oriented Functional Programming and Type Reconstruction	458
Andrzej Tarlecki Moving Between Logical Systems	478
Frédéric Voisin and Michel Bidoit Modular Algebraic Specifications and the Orientation of Equations into Rewrite Rules	503
Pum Walters and Jasper Kamperman A Model for I/O in Equational Languages with Don't Care Non-determinism	522
Dietmar Wolz Tool Design for Structuring Mechanisms for Algebraic Specification Languages with Initial Semantics	536
Author Index	551