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Bernhard Möller (Ed.)

Mathematics of Program Construction

Third International Conference, MPC '95
Kloster Irsee, Germany, July 17-21, 1995
Proceedings

Springer

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Preface

The general theme of this series of conferences is the use of crisp, clear mathematics in the discovery and design of algorithms and in the development of corresponding software or hardware. The previous two conferences were held in 1989 at Twente, Netherlands, organised by the Rijksuniversiteit Groningen, and in 1992 at Oxford, United Kingdom. The conference theme reflects the growing interest in formal, mathematically based methods for the construction of software and hardware. The goal of the MPC conferences is to report on and significantly advance the state of the art in this area.

The emphasis is on the combination of *conciseness* and *precision* in *calculational techniques* for program construction. Typical areas are:

- formal specification of sequential and concurrent programs;
- constructing implementations to meet specifications;

in particular,

- program transformation;
- program analysis;
- program verification;
- convincing case studies.

The scientific programme for this third conference in the MPC series consisted of five invited lectures by distinguished international researchers and 19 contributed lectures selected by the programme committee out of 58 submissions. They were arranged into sessions with the following titles: Semantics and Verification, Refinement, Particular Calculi, Algebra of Data Structures, Applications, Programs and their Proofs, Verification and Construction of Parallel Programs and Support Systems. Overall, we witnessed significant progress in raising the level of abstraction, in simplifying the support calculi and in the treatment of the notoriously difficult subject of parallel programs.

The conference took place July 17–21, 1995 at Kloster Irsee, a former Baroque monastery located in the Southwest of Bavaria, Germany, close to the Alps. We gratefully acknowledge sponsorship by the Deutsche Forschungsgemeinschaft, the Society of the Friends of the University of Augsburg, Esprit Working Group 8533 NADA — New Hardware Design Methods, IBM Germany, sd&m (software design & management) Munich and Pandasoft Berlin. Finally, I would like to thank the programme committee members for their responsible and timely collaboration, Martin Russling for his assistance in preparing the final manuscript and Andrea Haupeltshofer for her help as Conference Secretary.

Augsburg, July 1995 Bernhard Möller

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