Preface

This volume contains the proceedings of MPC 2000, the fifth international conference on Mathematics of Program Construction. This series of conferences aims to promote the development of mathematical principles and techniques that are demonstrably useful and usable in the process of constructing computer programs (whether implemented in hardware or software). The focus is on techniques that combine precision with concision, enabling programs to be constructed by formal calculation. Within this theme, the scope of the series is very diverse, including programming methodology, program specification and transformation, programming paradigms, programming calculi, and programming language semantics.

The quality of the papers submitted to the conference was in general very high. However, the number of submissions has decreased compared to the previous conferences in the series. Each paper was refereed by at least five and often more committee members. In order to maintain the high standards of the conference the committee took a stringent view on quality; this has meant that, in some cases, a paper was rejected even though there was a basis for a good conference or journal paper but the submitted paper did not meet the committee's required standards. In a few cases a good paper was rejected on the grounds that it did not fit within the scope of the conference.

In addition to the 12 papers selected for presentation by the program committee, this volume contains the extended abstracts of three invited talks: *Integrating Programming, Properties, and Validation*, by Mark Jones (Oregon Graduate Institute, USA); *Regular Expressions Revisited: a Coinductive Approach to Streams, Automata, and Power Series*, by Jan Rutten (CWI, The Netherlands), and *Formal Methods and Dependability*, by Cliff Jones (University of Newcastle, UK).

The conference took place in Ponte de Lima, Portugal and was organized by the Informatics Department of Minho University, Braga, Portugal. The previous four conferences were held in 1989 at Twente, The Netherlands, in 1992 at Oxford, United Kingdom, in 1995 at Kloster Irsee, Germany, and in 1998 at Marstrand near Göteborg in Sweden. The proceedings of these conferences were published as LNCS 375, 669, 947, and 1422, respectively.

Four international events were co-located with the conference: the second workshop on *Constructive Methods for Parallel Programming*, the second workshop on *Generic Programming*, the workshop on *Subtyping and Dependent Types in Programming*, and the third workshop on *Attribute Grammars and their Applications*. We thank the organizers of these events for their interest in sharing the atmosphere of the conference.

April 2000

Roland Backhouse
José Nuno Oliveira

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External Referees

All submitted papers were reviewed by members of the program committee and a number of external referees, who produced extensive review reports and without whose work the conference would lose its quality standards. To the best of our knowledge the list below is accurate. We apologize for any omissions or inaccuracies.

Scott Aaronson	Patrik Jansson	Mark Shields
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