

Foreword

These Proceedings contain the papers presented at the 15th IEEE Symposium on Computer Arithmetic, which was held at the Sonnenalp Resort, Vail, Colorado, June 11-13, 2001. The Proceedings also contain the abstract of the invited keynote talk, given by Prof. Ruby Lee of Princeton University, and a reprint of one paper that was misprinted in the Proceedings of the 14th Symposium.

Since 1969, the ARITH Symposium has been the primary forum for reporting new work in the design of arithmetic chips and systems, and in the theory of arithmetic as performed in computers. The Symposia are biennial and in recent years have been held in Australia, the USA, France, and the UK, reflecting the truly international scope of this topic. The ARITH-15 call for papers attracted 50 papers from 14 countries and the 30 papers finally selected represent 11 countries.

Computer arithmetic is one of the most mature fields in the general area of computing, so it is perhaps surprising that there is still scope for innovation. However, as this volume demonstrates, the interaction of VLSI technology, number representation, and processor design continues to afford opportunities for creative thinking in arithmetic algorithms and their implementation as well as the possibility for revitalising well-known (and even long since discarded) techniques. This was clearly borne out by the wide variety of subjects covered in the manuscripts submitted.

Each full manuscript was subject to at least three written reviews provided by members of the Program Committee and some other specialist reviewers. In February 2001, 15 members of the Committee met at the Southern Methodist University, Dallas, to select those papers that had best satisfied the criteria of novelty, relevance, and accuracy. The resulting selection constitutes some of the best contemporary work in computer arithmetic.

Our thanks are due to the authors, to the participants in the Symposium, and above all to the Program Committee members for their efforts in ensuring that the quality of the Symposium has been maintained. Andrea Sanna of the Politecnico di Torino deserves special mention for maintaining the web-site vital for managing so many aspects of this Symposium. Finally, we would like to highlight Glenn Colon-Bonet's hard work in ensuring that the Symposium took place in a relaxed environment conducive to serious consideration of the topics under discussion.

Neil Burgess and Luigi Ciminiera

Technical Program Chairs