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J. W. de Bakker and J. van Leeuwen

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PREFACE

ICALP is the acronym of the annual International Colloquium on Automata, Languages and Programming sponsored by the European Association for Theoretical Computer Science (EATCS). It is a broad-based conference covering all aspects of the foundations of computer science, including such topics as automata theory, formal language theory, analysis of algorithms, computational complexity, computability theory, mathematical aspects of programming language definition, semantics of programming languages, program verification, theory of data structures and theory of data bases. Previously ICALP conferences were held in Paris (1972), Saarbrücken (1974), Edinburgh (1976), Turku (1977), Udine (1978) and in Graz (1979).

ICALP 80 is the 7th conference of EATCS, covering once again a broad spectrum of theoretical computer science. ICALP 80 was organized by the University of Utrecht and the Mathematical Centre at Amsterdam and was held July 14-18, 1980, in Noordwijkerhout, the Netherlands. The program committee consisted of J.W. de Bakker (Amsterdam, chairman), A. Blikle (Warsaw), C. Böhm (Rome), H.D. Ehrich (Dortmund), S. Even (Haifa), P. van Emde Boas (Amsterdam), I.M. Havel (Prague), J. van Leeuwen (Utrecht), H. Maurer (Graz), L.G.L.T. Meertens (Amsterdam), K. Mehlhorn (Saarbrücken), A.R. Meyer (MIT), R. Milner (Edinburgh), U. Montanari (Pisa), M. Nivat (Paris), M. Paterson (Coventry), G. Rozenberg (Leiden), A. Salomaa (Turku), J.W. Thatcher (Yorktown Heights), J. Vuillemin (Paris). We wish to thank the members of the program committee for their arduous job of evaluating the record number of 169 papers that were submitted to the conference. On their behalf we extend our gratitude to the referees which assisted this process (see next page).

ICALP 80 has been made possible by the support from a number of sources. We thank the Dutch Ministry for Education and Sciences (The Hague), the Mathematical Centre (Amsterdam), the University of Utrecht, the University of Leiden, CDC-the Netherlands and IBM-the Netherlands for sponsoring the conference. A special tribute goes to Mrs. S.J. Kuipers of the Mathematical Centre (Amsterdam) for her expert assistance in all organizational matters related to the conference.

We feel that ICALP 80 has succeeded in bringing together a variety of important developments in modern theoretical computer science. The need for a thorough investigation of the foundations of computer science evidently is increasing rapidly, as computer science moves on to ever more complex and diverse systems and applications. We hope that the ICALP conferences will continue to be an exponent of this trend in the years to come.

J.W. de Bakker and J. van Leeuwen

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