## Lecture Notes in Computer Science

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# Theoretical Aspects of Computer Software

Third International Symposium, TACS'97 Sendai, Japan, September 23-26, 1997 Proceedings



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#### Foreword

This volume constitutes the proceedings of the Third International Symposium on Theoretical Aspects of Computer Software (TACS'97) held at Tohoku University, Sendai, Japan in September 1997.

The TACS symposium focuses on theoretical foundations of programming and their applications. As this volume shows, TACS is an international symposium, with participants from many different institutions and countries.

TACS'97 is the third symposium in the TACS series, following TACS'91 and TACS'94. The proceedings of TACS'91 and TACS'94 were published as Volumes 526 and 789, respectively, of Springer-Verlag's Lecture Notes in Computer Science series.

The TACS'97 technical program consists of invited talks, contributed talks, and informal presentations. In conjunction with this program there is a special open lecture by Martín Abadi; this lecture is open to non-registrants.

TACS gratefully acknowledges the generous sponsorship of Tohoku University, and the cooperation of the following organizations:

Information Processing Society of Japan Japan Society for Software Science and Technology Association for Computing Machinery – SIGACT Association for Symbolic Logic

TACS'97 has benefited from the efforts of many people. Among them are Shin-ichi Kawamoto and Masahiko Ohtomo, who lent their assistance in preparing the proceedings and in making local arrangements, the members of the program committee, and the members of the Advisory Board:

Rodney Burstall, University of Edinburgh Robert L. Constable, Cornell University Albert R. Meyer, MIT (chair) John C. Mitchell, Stanford University Gordon Plotkin, University of Edinburgh Masahiko Sato, Kyoto University Akinori Yonezawa, University of Tokyo

June 1997

Takayasu Ito Symposium Chair TACS'97

#### Preface

The program of TACS'97 included the presentations of twenty contributed papers and six invited talks. The program committee, with help from additional referees, selected the twenty contributed papers from forty-six submissions. The selection process was both smooth and careful, although it was not a formal refereeing process of the kind conducted by scientific journals. Professor Takayasu Ito and I chose the six invited speakers.

The papers in this volume constitute the record of the technical program. Generally, these papers are reports on research in progress. It is expected that many of the authors will continue to polish or extend their papers, and will publish them in journals.

I had the pleasure of chairing the program committee with Professor Ito. In addition, he served as symposium chair and as local organizer. In all these roles, Professor Ito made a great contribution to this volume and to the symposium.

We both wish to thank the other members of our program committee and the additional referees, who are listed below.

June 1997

Martín Abadi Program Co-Chair TACS'97

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