

Foreword

This volume constitutes the proceedings of the Fourth International Symposium on Theoretical Aspects of Computer Software (TACS 2001) held at Tohoku University, Sendai, Japan in October 2001.

The TACS symposium focuses on the 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 2001 was the fourth symposium in the TACS series, following TACS'91, TACS'94, and TACS'97, whose proceedings were published as Volumes 526, 789, and 1281, respectively, of Springer-Verlag's Lecture Notes in Computer Science series.

The TACS 2001 technical program consisted of invited talks and contributed talks. In conjunction with this program there was a special open lecture by Benjamin Pierce; this lecture was open to non-registrants.

TACS 2001 benefited from the efforts of many people; in particular, members of the Program Committee and the Organizing Committee. Our special thanks go to the Program Committee Co-chairs:

Naoki Kobayashi (Tokyo Institute of Technology)
Benjamin Pierce (University of Pennsylvania).

TACS 2001 gratefully acknowledges the generous support provided by Tohoku University and Sendai Tourism & Convention Bureau, and the cooperation of the following organizations:

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

Also, we thank Alfred Hofmann of Springer-Verlag for his assistance in the publication of the proceedings. Shinya Miyakawa, Nobuto Izumi, Takuya Ohishi, and Masahiko Ohtomo of Tohoku University lent their assistance in making local arrangements and in preparing the conference web pages. Finally, we would like to express our sincere thanks to all those who helped organize, and those who participated in, the TACS 2001 symposium for their invaluable contributions.

July 2001

Takayasu Ito
Symposium Chair

Preface

The program of TACS 2001 included the presentations of 21 contributed papers and 6 invited talks. The program committee, with help from additional referees, selected these papers from 59 submissions. The invited speakers – Luca Cardelli, Kazunori Ueda, Andrew M. Pitts, Christine Paulin-Mohring, Jon G. Riecke, and Daniel Jackson – were chosen by the program co-chairs in collaboration with the symposium chair.

We would like to thank the members of the program committee and the additional referees, who are listed below. Special thanks to Prof. Takayasu Ito and his staff for their advice and help.

July 2001

Naoki Kobayashi
Benjamin C. Pierce
Program Co-chairs

Program Committee

| | |
|----------------------|--|
| Zena Ariola | University of Oregon |
| Cédric Fournet | Microsoft Research |
| Jacques Garrigue | Kyoto University |
| Masami Hagiya | University of Tokyo |
| Robert Harper | Carnegie Mellon University |
| Masahito Hasegawa | Kyoto University |
| Nevin Heintze | Agere Systems |
| Martin Hofmann | Edinburgh University |
| Zhenjiang Hu | University of Tokyo |
| Naoki Kobayashi | Tokyo Institute of Technology |
| Martin Odersky | Ecole Polytechnique Fédérale de Lausanne |
| Catuscia Palamidessi | Pennsylvania State University |
| Benjamin Pierce | University of Pennsylvania |
| François Pottier | INRIA |
| Andre Scedrov | University of Pennsylvania |
| Natarajan Shankar | SRI International |
| Ian Stark | Edinburgh University |
| Makoto Tatsuta | National Institute of Informatics, Tokyo |

Additional Referees

| | | |
|-----------------------|--------------------|--------------------|
| Luca Aceto | Thomas Hildebrandt | Takafumi Sakurai |
| Nick Benton | Yoshihiko Kakutani | Isao Sasano |
| Stefano Berardi | Dilsun Kırıl | Alan Schmitt |
| Michele Boreale | Michal Konecny | Peter Selinger |
| Julian Bradfield | Manolis Koubarakis | Peter Sestoft |
| Didier Buchs | Antonín Kučera | Paula Severi |
| Cristiano Calcagno | Guy McCusker | Peter Sewell |
| Luca Cardelli | Leonardo de Moura | Maria Sorea |
| Tom Chothia | Robert Muller | Christoph Sprenger |
| Sylvain Conchon | Keisuke Nakano | Rick Statman |
| Tristan Crolard | Kedar Namjoshi | Colin Stirling |
| Dennis Dams | Uwe Nestmann | Thomas Streicher |
| Steven Dawson | Shin-ya Nishizaki | Koichi Takahashi |
| Pierpaolo Degano | Doron Peled | Makoto Tanabe |
| Bruno Dutertre | Frank Pfenning | Francis Tang |
| Jérôme Feret | Lucia Pomello | Ashish Tiwari |
| Marcelo Fiore | John Power | Keith Wansbrough |
| Harald Ganzinger | Rosario Pugliese | Mitsuharu Yamamoto |
| Paola Giannini | Shaz Qadeer | Jianjun Zhao |
| Jean Goubault-Larrecq | Christine Roeckl | |
| Robert Harper | Harald Rueß | |