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Theorem Proving in Higher Order Logics

12th International Conference, TPHOLs '99
Nice, France, September 14-17, 1999
Proceedings

Springer

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Preface

This book contains the proceedings of *the 12th International Conference on Theorem Proving in Higher Order Logics* (TPHOLs'99), which was held in Nice at the University of Nice-Sophia Antipolis, September 14–17, 1999. Thirty-five papers were submitted as completed research, and each of them was refereed by at least three reviewers appointed by the program committee. Twenty papers were selected for publication in this volume.

Following a well-established tradition in this series of conferences, a number of researchers also came to discuss work in progress, using short talks and displays at a poster session. These papers are included in a supplementary proceedings volume. These supplementary proceedings take the form of a book published by INRIA in its series of research reports, under the following title : *Theorem Proving in Higher Order Logics: Emerging Trends 1999*.

The organizers were pleased that Dominique Bolignano, Arjeh Cohen, and Thomas Kropf accepted invitations to be guest speakers for TPHOLs'99. For several years, D. Bolignano has been the leader of the VIP team in the Dyade consortium between INRIA and Bull and is now at the head of a company *Trusted Logic*. His team has been concentrating on the use of formal methods for the effective verification of security properties for protocols used in electronic commerce. A. Cohen has had a key influence on the development of computer algebra in The Netherlands and his contribution has been of particular importance to researchers interested in combining the several known methods of using computers to perform mathematical investigations. T. Kropf is an important actor in the Europe-wide project PROSPER, which aims to deliver the benefits of mechanized formal analysis to system builders in industry. Altogether, these invited speakers gave us a panorama of applications for theorem proving and discussed its impact on the progress of scientific investigation as well as technological advances.

This year has confirmed the evolution of the conference from HOL-users' meeting to conference with a larger scope, spanning over uses of a variety of theorem proving systems, such as Coq, Isabelle, LAMBDA, LEGO, NuPrl, or PVS, as can be seen from the fact that the organizers do not belong to the HOL-user community.

Since 1993, the proceedings have been published by Springer-Verlag as Volumes 780, 859, 971, 1125, 1275, 1479, and 1690 of *Lecture Notes in Computer Science*. The conference was sponsored by the laboratory of mathematics of the University of Nice-Sophia Antipolis, Intel, France Télécom, and INRIA.

September 1999

Yves Bertot, Gilles Dowek,
André Hirschowitz, Christine Paulin,
Laurent Théry

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Invited Speakers

Dominique Bolignano (Trusted Logic)
Arjeh M. Cohen (T.U. Eindhoven)
Thomas Kropf (Tübingen)

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