



Preface

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Abstract

Introduction **Bohm's theorem: applications to Computer Science Theory - BOTH 2001**

This part of the volume contains the Proceedings of the ICALP 2001 Satellite Workshop on Bohm's theorem: applications to Computer Science Theory (BOTH 2001), held in the Aldemar Knossos Royal Village Hotel, Hersonissos, Crete, Greece on 13 July 2001.

Bohm's theorem is central to the study of the untyped lambda calculus. It shows that distinct normal forms, up to eta conversion, cannot be identified in any consistent model of the lambda calculus. This first separability result has been generalised to non normal forms and is the underlying concept for the introduction of finite or infinite trees of head normal forms, also known as Bohm trees.

In the semantics of programming languages, Bohm's theorem corresponds to the notion of full abstraction in models, and gave the initial hints towards the construction of models for sequential languages; in the theory of concurrency, it is the notion of observability and is used for building bisimulations; in the semantics of security, it gives a strong meaning to the notion of safe computations.

Thirty years later, on the occasion of Corrado Bohm's EATCS Distinguished Service Award, this workshop attempted to provide a synthetic view as well as the most recent results on Bohm trees, sequentiality and game semantics, logic, security, fully abstract translations, action calculi, abstract rewriting systems, based on the seminal work of Bohm.

BOTH 2001 was one of the four satellite workshops of the 28th International Colloquium on Automata, Languages and Programming (ICALP 2001), held in Crete, Greece, July 8-12, 2001.

The proceedings appear as Volume 50 No. 2 in the series Electronic Notes in Theoretical Computer Science (ENTCS). The volumes in the ENTCS series can be accessed at the URL <http://www.elsevier.nl/locate/entcs>.

The Program Committee selected five contributions by researchers from several different countries: France, Italy, Japan, Yugoslavia. Selected contributions are connected to Bohm's theorem or Bohm's research. The program included also two invited talks by Henk Barendregt (Univ. of Nijmegen) and Mariangiola Dezani (Univ. di Torino). Pierre-Louis Curien also offered to give a talk on Separation in Girard's Ludical framework.

The program committee of BOTH 2001 consisted of the following people:

Pierre-Louis Curien (CNRS, Univ. of Paris 7)

G rard Huet (INRIA, France)

Jan-Willem Klop (Free University, Amsterdam)

Jean-Jacques L vy (INRIA, France)

Harry Mairson (Boston University)

Gordon Plotkin (Univ. of Edinburgh)

Simona Ronchi (Univ. of Torino)

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