

# 19th International Conference on Types for Proofs and Programs

TYPES 2013, April 22–26, 2013, Toulouse, France

Edited by

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## ■ Preface

The 19th International Conference on Types for Proofs and Programs (TYPES 2013) was held in Toulouse, France from April 22 to 26, 2013, consisting of the main conference and several satellite events.

The following institutions helped with funding and/or in providing lecture halls and services that TYPES 2013 could take place (in alphabetic order):

- Institut de Recherche en Informatique de Toulouse (IRIT), <http://www.irit.fr/>
- Région Midi-Pyrénées, <http://www.midipyrenees.fr/>
- So Toulouse (an activity of Mairie de Toulouse), <http://www.sotoulouse.com/>
- Structure Fédérative de Recherche en Mathématiques et en Informatique de Toulouse (FREMIT), <http://www.irit.fr/FREMIT/>
- Université Paul Sabatier, Toulouse III, <http://www.univ-tlse3.fr/>
- Université Toulouse 1 Capitole, <http://www.ut-capitole.fr/>

The conference was attended by close to hundred scientists. The responsible person for local organisation was Ralph Matthes, and the program committee for the selection of the conference presentations consisted of

José Espírito Santo, University of Minho, Braga, Portugal,  
Herman Geuvers, Radboud University Nijmegen, Netherlands,  
Silvia Ghilezan, University of Novi Sad, Serbia,  
Hugo Herbelin, PPS, INRIA Rocquencourt-Paris, France,  
Martin Hofmann, Ludwig-Maximilians-Universität München, Germany,  
Zhaohui Luo, Royal Holloway, University of London, UK,  
Ralph Matthes, IRIT, CNRS and Université de Toulouse, France (co-chair),  
Marino Miculan, University of Udine, Italy,  
Bengt Nordström, Chalmers University of Technology, Göteborg, Sweden,  
Erik Palmgren, Stockholm University, Sweden,  
Andy Pitts, University of Cambridge, UK,  
Sergei Soloviev, IRIT, Université de Toulouse, France (co-chair),  
Pawel Urzyczyn, University of Warsaw, Poland,  
Tarmo Uustalu, Institute of Cybernetics, Tallinn Technical University, Estonia.

The TYPES meetings were first organised in the late 1980's and were supported by a series of EU programmes from 1989 to 2008. Previous meetings were held in Antibes (1990), Edinburgh (1991), Båstad (1992), Nijmegen (1993), Båstad (1994), Aussois (1996), Kloster Irsee (1998), Lökeberg (1999), Durham (2000), Berg en Dal (2002), Turin (2003), Paris (2004), Nottingham (2006), Cividale del Friuli (2007), Turin (2008), Aussois (2009), Warsaw (2010) and Bergen (2011).

Three invited talks and 34 contributed talks were given at the meeting, and we got 22 submissions to these open post-proceedings, out of which 13 papers were accepted. In this volume one can find papers on the following topics: analysis of the classical principles in intuitionistic calculi, type isomorphisms for intersection types, monads and their semantics in functional programming languages, realizability, extensions of type theory, extensions of linear logic, models of type theory, control operators in type systems, formal verification of programs, program extraction, compiler formalization and modelling of natural language features. All papers obtained at least two reviews, and up to six reviews, counting a second round of review.



As editors of this post-proceedings volume, we would like to thank the authors of the paper submissions, whether accepted or not. And we gratefully acknowledge all 43 anonymous external referees for their valuable work. The overall very high quality of the resulting papers is in part due to their careful reading and commenting on the obtained material.

Concerning the handling, we owe thanks to Andrej Voronkov and the support team of EasyChair for this tool that is still quite helpful for preparing post-proceedings, and also to Marc Herbstritt whose competent and friendly guidance made it a very agreeable experience to work with Schloss Dagstuhl as editors of these post-proceedings.

June 2014, Ralph Matthes, Aleksy Schubert



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