

23rd International Conference on Types for Proofs and Programs

TYPES 2017, May 24 – June 1, 2017, Budapest, Hungary

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■ Preface

This volume is the post-proceedings of the 23rd International Conference on Types for Proofs and Programs, TYPES 2017, which was held at Eötvös Loránd University in Budapest, Hungary, between the 24th of May and 1st of June in 2017.

The TYPES meetings are a forum to present new and on-going work in all aspects of type theory and its applications, especially in formalized and computer assisted reasoning and computer programming. The meetings from 1990 to 2008 were annual workshops of a sequence of five EU funded networking projects. Since 2009, TYPES has been run as an independent conference series. Prior to the 2017 meeting in Budapest, TYPES meetings took place in Antibes (1990), Edinburgh (1991), Båstad (1992), Nijmegen (1993), Båstad (1994), Torino (1995), Aussois (1996), Kloster Irsee (1998), Lökeberg (1999), Durham (2000), Berg en Dal near Nijmegen (2002), Torino (2003), Jouy-en-Josas near Paris (2004), Nottingham (2006), Cividale del Friuli (2007), Torino (2008), Aussois (2009), Warsaw (2010), Bergen (2011), Toulouse (2013), Paris (2014), Tallinn (2015), and Novi Sad (2016), with post-proceedings published in various outlets, with the last five in LIPIcs.

The TYPES areas of interest include, but are not limited to: foundations of type theory and constructive mathematics; applications of type theory; dependently typed programming; industrial uses of type theory technology; meta-theoretic studies of type systems; proof assistants and proof technology; automation in computer-assisted reasoning; links between type theory and functional programming; formalizing mathematics using type theory.

The TYPES conferences are traditionally of an open and informal character. Selection of talks for presentation at the conference is based on short abstracts — reporting on work in progress or work presented or published elsewhere is welcome. A formal, fully reviewed post-proceedings volume of unpublished work is prepared after the conference. The programme of TYPES 2017 included invited talks by Edwin Brady (University of St Andrews) on *An architecture for dependently typed applications in Idris* and Jakob Rehof (Technical University of Dortmund) on *Bounding principles for decision problems with intersection types*. The contributed part of the programme consisted of 50 talks, and the conference was attended by more than 82 researchers.

TYPES 2017 was sponsored by the COST Action EUTypes, supported by COST (European Cooperation in Science and Technology) and by Eötvös Loránd University.

The call for contributions to the post-proceedings of TYPES 2017 was open and not restricted to the authors and presentations of the conference. Out of 13 submitted papers, 7 were selected after a reviewing process where each paper was reviewed by between two and four referees; the final decisions were made by the editors. The papers span a wide range of interesting topics: linear logic, decidability of Hilbert-style axiomatisations, natural deduction, formalized proof systems, program verification for an ML-like language, a new axiomatisation of homotopy type theory, and category theory in type theory. We thank both the authors and the reviewers for their hard work.

Andreas Abel, Fredrik Nordvall Forsberg, and Ambrus Kaposi
Nottingham, October 2018



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