

3rd International Conference on Formal Structures for Computation and Deduction

FSCD 2018, July 9–12, 2018, Oxford, United Kingdom

Edited by

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■ Preface

The 3rd International Conference on Formal Structures for Computation and Deduction (FSCD 2018) was held 9 – 12 July 2018 in Oxford, UK as part of FLoC 2018, 6 – 19 July 2018.

FSCD (<http://fscd-conference.org/>) covers all aspects of formal structures for computation and deduction from theoretical foundations to applications. Initially building on two communities, RTA (Rewriting Techniques and Applications) and TLCA (Typed Lambda Calculi and Applications), FSCD embraces their core topics and broadens their scope to closely related areas in logics and proof theory, new emerging models of computation (e.g. homotopy type theory or quantum computing), semantics and verification in new challenging areas (e.g. blockchain protocols or deep learning algorithms). A special effort was made in 2018 to address some of these new topics through invited speakers. The FSCD program featured four invited talks given by Stéphanie Delaune (CNRS/IRISA, France), Grigore Rosu (U. of Illinois at Urbana-Champaign, US), Peter Selinger (Dalhousie U., Canada), and Valeria Vignudelli (ENS, Lyon, France).

FSCD 2018 received 65 submissions with contributing authors from 21 countries. The program committee consisted of 29 members from 20 countries. Most of the submitted papers were reviewed by at least three PC members (two had only two reviewers) with the help of 112 external reviewers. The reviewing process, which included a rebuttal phase, took place over a period of nine weeks. A total of 27 papers, 26 regular research papers and one system description, were accepted for publication and are included in these proceedings. As an example of tools comparison, the Confluence Competition (CoCo) was presented and took place during the conference.

The Programme Committee awarded the FSCD 2018 Best Paper Award for Junior Researcher to Ambrus Kaposi and András Kovács for their paper “A Syntax for Higher Inductive-Inductive Types”. The first author got his PhD less than three years ago and the second is a PhD student, at the time of the Conference.

FSCD 2018 was part of the Federated Logic Conference (FLoC) that brings together several international conferences related to mathematical logic and computer science. FSCD was co-located with SAT, LICS, ITP and CSF, back-to-back with CAV, IJCAR, ICLP and FM.

FSCD 2018 was preceded by the Corrado Bohm Memorial, organised by Mariangiola Dezani, with two invited talks by Henk Barendregt (Radboud University, Nijmegen, The Netherlands) and Silvio Micali (MIT Computer Science & Artificial Intelligence Lab, US).

In addition to the main program, 15 FSCD-associated workshops were planned on three days mostly before the conference:

- 7th International Workshop on Classical Logic and Computation CL&C 2018
- 10th International Workshop on Computing with Terms and Graphs TERMGRAPH 2018
- 7th International Workshop on Confluence IWC 2018
- Higher-Dimensional Rewriting and Algebra HDRA 2018 - 4th edition
- 9th Workshop on Higher Order Rewriting HOR 2018
- Workshop on Homotopy Type Theory and Univalent Foundations HoTT/UF 2018 - 4th edition
- IFIP Working Group 1.6: Rewriting IFIP Meeting 2018 - 20th edition
- 9th Workshop on Intersection Types and Related Systems ITRS 2018

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- 2018 Joint Workshop on Linearity & TLLA (5th International Workshop on Linearity and 2nd Workshop on Trends in Linear Logic and Applications)
- International Workshop on Logical Frameworks and Meta-Languages: Theory and Practice LFMTP 2018 - 12th edition
- 7th Workshop on Mathematically Structured Functional Programming MSFP 2018
- Workshop on Modular Knowledge (Tetrapod) - 1st edition
- Programming And Reasoning on Infinite Structures PARIS 2018 - 1st edition
- 5th International Workshop on Rewriting Techniques for Program Transformations and Evaluation WPTE 2018
- 32nd International Workshop on Unification UNIF 2018

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Many people helped to make FSCD 2018 a successful meeting. On behalf of the Program Committee, I thank the many authors of submitted papers for considering FSCD as a venue for their work and the invited speakers who have agreed to speak at this meeting. The Program Committee and the external reviewers deserve big thanks for their careful review and evaluation of the submitted papers (the members of the Program Committee and the list of external reviewers can be found in the following pages). The many associated workshops made a big contribution to the lively scientific atmosphere of this meeting and I thank the workshop organizers for their efforts to bring their meetings to Oxford. The EasyChair conference management system was a useful tool in all phases of the work of the Programme Committee. Paula Severi, the Conference Chair for FSCD 2018, deserves warm thanks for producing the Web site, for the smooth functioning of this year's meeting and for coordination with the FLoC organizers. Sandra Alves, as Publicity Chair, made a great contribution in advertising the Conference. The steering committee, lead by Luke Ong, provided valuable guidance in setting up this meeting and is ensuring that FSCD will have a bright and enduring future. Finally, I thank all participants of the conference for creating a lively and interesting event.

FSCD 2018 benefited from being held in-cooperation with the ACM SIGLOG and ACM SIGPLAN.

Hélène Kirchner
Program Chair of FSCD 2018

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