

9th International Conference on Formal Structures for Computation and Deduction

FSCD 2024, July 10-13, 2024, Tallinn, Estonia

Edited by

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■ Preface

This volume contains the proceedings of the 9th International Conference on Formal Structures for Computation and Deduction (FSCD 2024), which was held July 10-13, 2024 in Tallinn, Estonia. FSCD 2024 was co-located with the 51st EATCS International Colloquium on Automata, Languages, and Programming (ICALP), which was held July 8-12, 2024 in Tallinn, Estonia, and with the 39th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS), which was held July 8-11, 2024 in Tallinn, Estonia.

The conference FSCD (<https://fscd-conference.org/>) covers all aspects of formal structures for computation and deduction, from theoretical foundations to applications. 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 include closely related areas in logic and proof theory, new emerging models of computation, as well as semantics and verification in new and challenging areas.

The FSCD 2024 program featured five invited talks, two of which were joint between ICALP, LICS, and FSCD. The joint invited speakers were Edith Elkind (University of Oxford, UK) and Stephanie Weirich (University of Pennsylvania, USA). The FSCD invited speakers were Delia Kesner (Université Paris Cité, France), Bettina Könighofer (Graz University of Technology, Austria), and Sebastian Ullrich (Lean Focused Research Organisation, USA). The contributions of the FSCD invited speakers are included in these proceedings.

The Program Committee of FSCD 2024 consisted of 28 members from 14 countries. FSCD 2024 received 57 submissions with contributing authors from 19 countries. Every submitted paper was reviewed by at least three PC members with the help of in total 75 external reviewers. The reviewing process, which included a rebuttal phase, took place over a period of nine weeks. A total of 30 papers were accepted for publication and are included in these proceedings. The EasyChair conference management system has been a very useful tool in all phases of the work of the Program Committee.

The Program Committee awarded the FSCD 2024 Best Paper Award by Junior Researchers to Victor Sannier from Univ. Lille, CNRS, Inria, France for his paper ‘A Linear Type System for L^p -Metric Sensitivity Analysis’.

In addition to the main conference, nine workshops were held before the conference:

- AATG 2024: Algorithmic Aspects of Temporal Graphs VII
- GETCO 2024: 13th International Workshop on Geometric and Topological Methods in Computer Science
- ITRS 2024: 11th Workshop on Intersection Types and Related Systems
- IWC 2024: 13th International Workshop on Confluence
- LearnAut 2024: Learning and Automata
- LFMTTP 2024: Logical Frameworks and Meta Languages: Theory and Practice
- LMW 2024: 11th Logic Mentoring Workshop
- MSFP 2024: Mathematically Structured Functional Programming
- PAAW 2024: Parameterized Approximation Algorithms Workshop
- PACS 2024: Parameterized Algorithms and Constraint Satisfaction
- SmP 2024: Structure meets Power
- TAT 2024: Trends in Arithmetic Theories
- TLLA 2024: Eighth International Workshop on Trends in Linear Logic and Applications
- Women in Logic 2024

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A successful conference is the result of joint work of many people. On behalf of the Program Committee, I sincerely thank all authors of submitted papers for considering FSCD as a venue for their work. I thank the Program Committee and the external reviewers for their indispensable contribution, providing careful and constructive review and evaluation of the submitted papers. I thank all invited speakers for enriching ICALP, LICS, and FSCD with their talks. On behalf of the FSCD Program Committee, I thank all workshop organizers for making an essential contribution to the program and atmosphere of the meeting, and I thank the Steering Committee Workshop Chair Cynthia Kop and the Conference Workshop Chair Luigi Liquori for their efforts. Warm thanks to the Conference Chair of FSCD 2024, Niccolò Veltri and his colleagues at Tallinn University of Technology for the excellent organization of the conference. I also wish to thank Pawel Sobocinski (Tallinn University of Technology) for his support in the joint organization of ICALP, LICS, and FSCD in Tallinn.

I am very grateful to all the members of the Steering Committee of FSCD for their valuable and helpful guidance in setting up the meeting, and for ensuring that FSCD will remain a successful conference. Let me thank in particular the Steering Committee chair Herman Geuvers and the Steering Committee Publicity Chair Carsten Fuhs for their support during the preparation of the conference. I am grateful to previous Program Chairs of FSCD for sharing their experience with me at various stages, including Sandra Alves, Amy Felty, Delia Kesner, Naoki Kobayashi, and Femke van Raamsdonk. Finally, I thank all participants of the conference for creating a lively and interesting event.

Jakob Rehof
Program Chair of FSCD 2024

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