Draft: CALL FOR PAPERS

Second International Conference on

Formal Structures for Computation and Deduction (FSCD'17)

3 – 6 September 2017, Oxford, United Kingdom

`http://www.cs.ox.ac.uk/conferences/fscd2017/`

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FSCD (`http://fscdconference.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 closely related areas in logics, proof theory and new emerging models of computation such as quantum computing or homotopy type theory. Suggested, but not exclusive, list of topics for submission are:

1. Calculi • Lambda calculus • Logics (first-order, higher-order, equational, modal, linear, classical, constructive, etc.) • Rewriting systems (string, term, higher-order, graph, conditional, modulo, infinitary, etc.) • Proof theory (natural deduction, sequent calculus, proof nets, etc.) • Type theory and logical frameworks • Homotopy type theory
2. Methods in Computation and Deduction • Type systems (polymorphism, dependent, recursive, intersection, session, etc.) • Induction, coinduction • Matching, unification, completion, orderings • Strategies (normalization, completeness, etc.) • Tree automata • Model building and model checking • Proof search (resolution, paramodulation, narrowing, tableaux, focusing, etc.) • Constraint solving and decision procedures
3. Semantics • Operational semantics and abstract machines • Game Semantics and applications • Domain theory and categorical models • Quantitative models (timing, probabilities, resources, etc.) • Quantum computation and emerging models in computation
4. Algorithmic Analysis and Transformations of Formal Systems • Type Inference and type checking • Abstract Interpretation • Complexity analysis and implicit computational complexity • Checking termination, confluence, derivational complexity and related properties • Symbolic computation
5. Tools and Applications • Programming and proof environments (proof assistants, automated theorem prover, proof checkers, specialized provers, dependently typed languages, etc.) • Verification tools (abstract interpretation, termination, confluence, specialized provers, etc.) • Libraries for proof assistants and interactive theorem provers (support for variable bindings, nominal, polynomial, equality, etc.) • Case studies in proof assistants and interactive theorem provers (formalizations, mechanizations, etc.) • Certifications (theorems, rewriting techniques, etc.) • Applications of formal systems inside and outside of CS (biology, linguistics, physics, education, etc.)

IMPORTANT DATES (tentative) All deadlines are midnight anywhere-on-earth (AoE).

Abstract Deadline:	7 April 2017	**Rebuttal:**	29–31 May 2017
Submission Deadline:	14 April 2017	**Notification:**	14 June 2017

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SUBMISSION GUIDELINES Information about how to submit a paper will appear on the conference web site.

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