

Cynthia Kop

Short Bio

I am an assistant professor in the Software Science group at the Radboud University Nijmegen, the Netherlands. I completed my PhD at the VU Amsterdam in 2012, did an internship at IBM, and have spent five years in postdoctoral positions in Innsbruck and (as a Marie Curie fellow) at the University of Copenhagen.

My PhD thesis, for which I won the Dutch IPA thesis award, considered a methodology for proving termination of higher-order term rewriting – a work that is prominently present in the fully automated higher-order termination tool **Wanda** that I developed. At IBM, I have worked on the application of second-order rewriting with λ -binders in the CRSX compiler generator. In my postdoctoral work, I have (primarily) studied constrained rewriting with an eye on verification, and the use of higher-order term rewriting in implicit complexity. My current research focus is on the application of rewriting towards other domains, whether that is in logic, implicit complexity, fault tree analysis or verification.

Selected Publications

- Cynthia Kop, Jakob Grue Simonsen: Complexity Hierarchies and Higher-order Cons-free Term Rewriting. *Logical Methods in Computer Science* 13(3), 2017. *Special Issue for FSCD '16*.
- Carsten Fuhs, Cynthia Kop, Naoki Nishida: Verifying Procedural Programs via Constrained Rewriting Induction. *ACM Transactions on Computational Logic*, 18(2):14:1–14:50, 2017.
- Cynthia Kop, Aart Middeldorp, Thomas Sternagel: Complexity of Conditional Term Rewriting. *Logical Methods in Computer Science* 13(1), 2017.
- Cynthia Kop, Naoki Nishida: Term Rewriting with Logical Constraints. *Proceedings of FroCoS*, 2013.
- Cynthia Kop, Femke van Raamsdonk: Dynamic Dependency Pairs for Algebraic Functional Systems. *Logical Methods in Computer Science* 8(2):10:1–10:51, 2012. *Special Issue for RTA '11*.
- Carsten Fuhs, Cynthia Kop: Polynomial Interpretations for Higher-Order Rewriting. *Proceedings of RTA*, 2012.

Election Statement

As the central topic of my research has always been term rewriting, I consider RTA – and now its successor, FSCD – as my primary conference. I strongly believe that FSCD should not abandon its roots, and remain the place where the communities of RTA and TLCA find their home. At the same time, it is a good thing that FSCD aims to go beyond them and accommodate different directions.

My goal for FSCD is to ensure that the conference remains a welcoming venue to the communities it originates from, but to also remain open for new ideas, and particularly welcome work on applications. In part, this can be accommodated by affiliated workshops and regular (but not constant) co-locating with other conferences. In addition, we should maintain the connection with automatic tool competitions such as those for termination and confluence, and support new ones as they arise.