Kilian Risse
Curriculum Vitae

School of Computer and Communication Sciences   kilian.risse@epfl.ch
École Polytechnique Fédérale de Lausanne (EPFL)   kilianrisse.github.io

Research Interests

Conputational Complexity with a focus on Proof Complexity.

Education

10.2017 – 12.2022	KTH Royal Institute of Technology, Stockholm, Sweden
	PhD in Computer Science
	Advisors: Per Austrin, Johan Håstad and Jakob Nordström
	Thesis: On Long Proofs of Simple Truths
09.2015 – 04.2017	ETH Zürich, Zurich, Switzerland
	Master of Science in Computer Science
	Focus: Theoretical Computer Science
	Thesis: *Phases of Unique Sink Orientations*
09.2012 – 09.2015	ETH Zürich, Zurich, Switzerland
	Bachelor of Science in Computer Science

Positions

02.2023 –	EPFL, Lausanne, Switzerland
	Postdoc
	Host: Ola Svensson

Invited Workshops

- Satisfiability: Theory, Practice, and Beyond – Simons Institute for the Theory of Computing at UC Berkeley, USA, April 17 - 21, 2023.
    - Presentation: On bounded depth proofs for Tseitin formulas on the grid; revisited
- Mathematical Approaches to Lower Bounds: Complexity of Proofs and Computation – ICMS Bayes Center, United Kingdoms, July 4 - 8, 2022.
    - Presentation: The Minimum Circuit Size Problem is Hard for SoS
- Proof Complexity – Banff International Research Station, Canada, January 19 - 24, 2020.
    - Presentation: Exponential Lower Bounds for Weak Pigeonhole Principle and Perfect Matching Formulas over Sparse Graphs
- Proof Complexity – Schloss Dagstuhl, Germany, January 28 - Febrauary 2, 2018.

Publications

1. Susanna de Rezende, Aaron Potechin and Kilian Risse. Clique is Hard on Average for Unary Sherali–Adams. *FOCS'23*.

2. Jonas Conneryd, Susanna de Rezende, Jakob Nordström, Shuo Pang and Kilian Risse. Graph Colouring is Hard on Average for Polynomial Calculus and Nullstellensatz. *FOCS'23*.

3. Per Austrin and Kilian Risse. Sum-of-Squares Lower Bounds for the Minimum Circuit Size Problem. *CCC'23*. (ECCC)

4. Johan Håstad and Kilian Risse. On bounded depth proofs for Tseitin formulas on the grid; revisited. *FOCS'22*. Invited to the special issue. (Arxiv)

5. Per Austrin and Kilian Risse. Perfect Matching in Random Graphs is as Hard as Tseitin, *SODA'22*. TheoretiCS. (Arxiv)

6. Susanna de Rezende, Jakob Nordström, Kilian Risse, and Dmitry Sokolov. Exponential Lower Bounds for Weak Pigeonhole Principle and Perfect Matching Formulas over Sparse Graphs, *CCC'20*. (Arxiv)