

Rebecca Steiner

Philipp-Wasserburg-Straße 60 – 55122 Mainz – Germany
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Education

Diltheyschule <i>General university entrance qualification (Abitur), 1.0</i>	Wiesbaden 2008–2016
Johannes Gutenberg University <i>B.Sc. Computer Science (Informatik), 1.3</i> Thesis: On the Optimality of Greedy for SSD Garbage Collection (Grade: 1.0) Supervised by Prof. Dr. André Brinkmann, Prof. Dr. Ernst Althaus Outstanding Thesis Award	Mainz 2016–2020
Johannes Gutenberg University <i>M.Sc. Computer Science, Minor in Mathematics (Naturwissenschaftliche Informatik), 1.0</i> Supported by the Deutschlandstipendium in 2020 Thesis: Broadcasting on Random Recursive Trees (Grade: 1.0) Supervised by Prof. Dr. Lisa Hartung, Prof. Dr. Ernst Althaus Outstanding Thesis Award	Mainz 2020–2022
Johannes Gutenberg University <i>Ph.D. Computer Science / Mathematics</i> Supported by the internal Stufe-I Funding 09/2022-08/2023 Joint supervision by Prof. Dr. Lisa Hartung, Prof. Dr. Ernst Althaus	Mainz 2022–

Additional Research Experience

Prof. Dr. André Brinkmann, Johannes Gutenberg University <i>Student Research Assistant</i> - Development of filesystem architectures for highly scalable systems - Stochastic modelling of the garbage collection process on SSDs	Mainz 2017–2019
Dr. Cécile Mailler, University of Bath <i>Three-months Research Stay</i> Multi-drawing Pólya Urns as higher-order Markov processes on the directed acyclic graph	Bath 2024

Talks and Posters

GPSD 2023 <i>Contributed Talk</i>	Essen March 2023
LMS Probability Research School <i>Poster</i>	Liverpool June 2023
Discrete Algorithmic Insights Seminar <i>Contributed Talk</i>	Mainz February 2024
YEP Eindhoven <i>Poster</i>	Eindhoven March 2024
GPSD 2025 <i>Contributed Talk</i>	Dresden March 2025
Probability Seminar Essen <i>Invited Talk</i>	Essen April 2025
POP Seminar <i>Invited Talk</i>	Online June 2025

Academic Self-Governance

Academic Committees

Mainz

Student Representative

2019–2022

- Faculty Council (01/2021-01/2022)
- Appointment Committee (Autumn 2021, Spring 2022, Autumn 2022)
- Computer Science Council (11/2019-09/2022)

Student Council

Mainz

Member

2018–2022

- Organization of onboarding programme for new students and the Math department summer party

IRTG of TRR 146

Mainz

Member and Student Speaker

2023–

- Organization of regular talk series and twice-yearly retreats

Teaching

Johannes Gutenberg University

Mainz

Student Teaching Assistant

2018–

- Computer Architecture and Organization (WT 2018)
- Complexity Theory (WT 2020)
- Formal Languages and Computability (ST 2021)
- Data Structures and Efficient Algorithms (WT 2021)
- Ada Lovelace Project (ST 2022)

Teaching Assistant

- Principles of Probability Theory and Statistics (WTs 2022, 2023 and 2024)

Co-Organizer

- Formal Languages and Computability (ST 2023)
- Formal Aspects of Cryptographic Concepts (ST 2024)
- Lab Course Probability and Statistics (WT 2024)
- Statistics for Computer Scientists (ST 2025)

Languages

German: Native

English: Fluent

Further Activities

"Ich mach Mathe!" - Interactive Math Museum

Mainz

Part-time job

2024–

Publications

- [1] E. Althaus, P. Berenbrink, A. Brinkmann, and R. Steiner. "On the Optimality of the Greedy Garbage Collection Strategy for SSDs". In: *2022 IEEE 42nd International Conference on Distributed Computing Systems (ICDCS)*. IEEE. 2022, pp. 78–88.
- [2] E. Althaus, L. Hartung, and R. Steiner. *A Random Walk Approach to Broadcasting on Random Recursive Trees*. 2024. arXiv: 2405.04385 [math.PR].
- [3] C. Mailler and R. Steiner. *Multi-drawing Pólya urns via labelled random DAGs*. 2025. arXiv: 2508.20592 [math.PR].
- [4] M.-A. Vef, R. Steiner, R. Salkhordeh, J. Steinkamp, F. Vennetier, J.-F. Smigielski, and A. Brinkmann. "DelveFS - An Event-Driven Semantic File System for Object Stores". In: *2020 IEEE International Conference on Cluster Computing (CLUSTER)*. 2020, pp. 35–46.