Rebecca Steiner

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Education

Johannes Gutenberg University	**Mainz**
B.Sc. Computer Science (Informatik), 1.3	*2016–2020*

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

Johannes Gutenberg University	**Mainz**
M.Sc. Computer Science, Minor in Mathematics (Naturwissenschaftliche Informatik), 1.0	*2020-2022*

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

Johannes Gutenberg University	**Mainz**
Ph.D. Computer Science / Mathematics	*2022–*

Supported by the internal Stufe-I Funding 09/2022-08/2023
Joint supervision by Prof. Dr. Lisa Hartung, Prof. Dr. Ernst Althaus

Additional Research Experience

Prof. Dr. André Brinkmann, Johannes Gutenberg University	**Mainz**
Student Research Assistant	*2017–2019*

- Development of filesystem architectures for highly scalable systems
- Stochastic modelling of the garbage collection process on SSDs

Dr. Cécile Mailler, University of Bath	**Bath**
Three-months Research Stay	*2024*

- Multi-drawing Pólya Urns as higher-order Markov processes on the directed acyclic graph

Talks and Posters

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

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   *2018-2025*
- 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] 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.