Myrthe Spronck

Personal

Date of birth: March 12, 2000

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Profile

I am a PhD candidate and teaching assistant with the Formal System Analysis group at Eindhoven University of Technology, The Netherlands. I started my project, *Verifying concurrent protocols under weak consistency models*, in October 2023 under supervision of Bas Luttik. My research focuses on analysing the impact of weak or unreliable memory on mutual exclusion algorithms through formal verification. As part of my research, I have gained much experience with modelling and verification with the mCRL2 toolset and the modal μ-calculus. As a teaching assistant, I am involved with several courses in the Computer Science and Engineering Bachelor and co-supervise Bachelor and Master's students.

Education

Master Computer Science and Engineering, Eindhoven University of Technology, Eindhoven, 2021–2023 (cum laude)

Master thesis: *Fairness Assumptions in the Modal μ-Calculus*, supervised by Tim Willemse

Bachelor Computer Science and Engineering, Eindhoven University of Technology, Eindhoven, 2018–2021 (cum laude)

VWO-TTO (N+T & N+G), Porta Mosana College, Maastricht, 2012–2018 (cum laude)

Employment

PhD-TA at Eindhoven University of Technology, 2023–ongoing

Via Euflex for the Eindhoven University of Technology, student assistant for the courses Process Theory, Logic and Set Theory, Discrete Structures and Data Structures, 2019–2023

Certificates & Trainings

UTQ trainings: Foundations, Assessment, Teaching skills, Evaluation, Supervising, 2023–2025

PhD training: Scientific Integrity for PhD Candidates, 2024

IB diploma for English A: Language and Literature HL at level 6, 2018

Cambridge English Level 3 Certificate in ESOL International (Advanced) at Grade A/C2 level, 2016

Publications

Some publications have authors listed according to contribution, others in alphabetical order. For clarity: I have contributed significantly to the entire contents of publications marked with ⋆; I have contributed significantly to only part of the publications marked with •.

- ⋆ Rob van Glabbeek, Bas Luttik, and Myrthe S. C. Spronck. *Just Verification of Mutual Exclusion Algorithms*. In 36th International Conference on Concurrency Theory (CONCUR 2025). Leibniz International Proceedings in Informatics (LIPIcs), Volume 348, pp. 17:1-17:25.
- ⋆ Myrthe S. C. Spronck, Bas Luttik, and Tim A. C. Willemse. Progress, Justness and Fairness in Modal μ-Calculus Formulae. In 35th International Conference on Concurrency Theory (CONCUR 2024). Leibniz International Proceedings in Informatics (LIPIcs), Volume 311, pp. 38:1-38:22.
- ⋆ Myrthe S. C. Spronck and Bas Luttik. Process-Algebraic Models of Multi-Writer Multi-Reader Non-Atomic Registers. In 34th International Conference on Concurrency Theory (CONCUR 2023). Leibniz International Proceedings in Informatics (LIPIcs), Volume 279, pp. 5:1-5:17.

Teaching

Logic and Set Theory (Bachelor course): Grading, co-ordinating student assistants, 2023–ongoing

Process Theory (Bachelor course): Grading, designing exercises, teaching one lecture, 2023–ongoing

Automata and Formal Languages (Bachelor course): Grading, giving instruction classes, 2024–ongoing

Software Specification (Bachelor course): Grading, giving instruction classes, 2023–2024

Training Scientific Integrity for Master Students: Giving the training, 2024 & 2025

Supervision

Co-supervising five Bachelor Final Projects, 2026–ongoing

Co-supervised the Master thesis of Lise Arendsen, 2024–2025

Other

Contact person and organizer for the FSA Colloquium, 2024–ongoing

At the time of my Bachelor's, Eindhoven University did not do Bachelor theses for computer science students. Instead, I did a Bachelor Research Project supervised by Bas Luttik, as an elective, 2021

During my Bachelor's, I did the Honors track Competitive Programming and Problem Solving, 2019–2021