



Boudewijn Bosch

Mathematician & Physicist

Combining a human-centric approach with analytical precision

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Profile

My doctoral research focused on a branch of computational mathematics, where I extended and validated a model to analyze entangled structures. I enjoy exchanging viewpoints with new people, and I did so extensively at many conferences I attended. I see myself as a bridge-builder who thrives on connecting ideas and people. By communicating clearly and enthusiastically, I bring groups together around a common goal.

Work Experience

2026 | PhD Researcher in Mathematics (Computational Topology)

2021 | University of Groningen

- Build and optimize a computational model in Python (and Mathematica) to characterize entangled structures (see [Code](#)).
- Lead a seminar of six people; assign tasks and responsibilities; develop a shared “language” around a complex topic to make collaboration more productive.
- Network at conferences, exchange perspectives, and present ideas to audiences with a broad range of backgrounds.
- Write papers, structuring thinking in an understandable format.

2025 | Teacher

2021 | University of Amsterdam & University of Groningen

Teach bachelor's- and master's-level mathematics; explain complex concepts clearly and design/grade assignments.

Education

2021 | Double Master Mathematics and Theoretical Physics

2018 | University of Amsterdam

2018 | Double Bachelor Mathematics and Physics (cum laude)

2015 | University of Amsterdam

Trainings

2024 | Leading Projects Successfully

Team Flinck via University of Groningen

Training in structured project management, risk analysis, stakeholder communication, team leadership.

Computer Skills

Programming: [Python](#) (Numpy, pandas, sage), [Mathematica](#), Matlab

Tools: Git, Linux, $\text{\LaTeX}$

Papers

- 2026 | **Perturbed Alexander Invariants via Quantum Cluster Algebras**
arxiv.org/abs/2603.15859
- 2025 | **Tensors, Gaussians and the Alexander Polynomial**
arxiv.org/abs/2512.13329
- 2024 | **The Large-Color Expansion Derived from the Universal Invariant**
arxiv.org/abs/2411.11569

Languages

Dutch: Mother tongue English: Fluent German: Basic knowledge

Interests and Activities

Stochastics and probability theory, applied topology, (geometric) machine learning, open-source software and Linux systems.