# Lucas Piessevaux

lucas@math.uni-bonn.de • +32470262352 • homepage
Born: 26 Dec. 2001, Leuven, Belgium
Currently: Bonn, Germany

## Research interests

Chromatic (equivariant) homotopy theory, global groups and equivariant formal groups, synthetic spectra

K-theory, trace methods and motivic homotopy theory, the even filtration.

## Publications

Preprint — *Synthetic equivariant spectra for finite abelian groups and motivic homotopy theory*
with Keita Allen; arXiv:2510.20197, URL

## Academic references

website, email — Prof. Markus Hausmann: PhD supervisor at Stockholm University, Universität Bonn

website, email — Prof. Jeremy Hahn

website, email — Prof. Jeremiah Heller

## Education

2023 – Present — **Universität Bonn** – Bonn, Germany
PhD in Mathematics, exp. defence date September 4, 2026
Supervisor: Prof. Markus Hausmann
Topic: Synthetic Equivariant Spectra and Complex Bordism

2022 – 2023 — **Stockholm University** – Stockholm, Sweden[1]
PhD in Mathematics
Supervisors: Prof. Markus Hausmann, Prof. Gregory Arone

[1] Following Prof. Hausmann's transfer to Bonn, the PhD at Stockholm University was terminated and a new one was started in Bonn.

2020 – 2022 **Freie Universität Berlin** – Berlin, Germany
MSc in Mathematics, 1.1 *sehr gut*
Mentors: Dr. Gabriel Angelini-Knoll, Prof. Holger Reich
Final Project: *Deformations of Stable Homotopy Theory*

2017 – 2020 **Katholieke Universiteit Leuven** – Leuven, Belgium
BSc in Mathematics, minor in Physics, *cum laude*
Final Project: *Cohomology and Deformation Theory of Lie Algebras*, with R. Buckinx.

2017– 2020 **Katholieke Universiteit Leuven** – Leuven, Belgium
BSc in Physics, minor in Mathematics, *cum laude*
Final Project: *Primordial gravitational waves in a de Sitter universe: Cosmological inflation and the inflaton field*, with A. Windey.

## Teaching experience

*Bonn*

Spring 2026 Seminar: The Cobordism hypothesis

Autumn 2025 Seminar: Six-functor formalisms

Spring 2025 Seminar: Tensor-triangular Geometry

Autumn 2024 Seminar: The Adams spectral sequence

Spring 2024 Seminar: Homological Stability

Spring 2024 Teaching Assistant: Algebraic Topology II

Autumn 2023 Tutor: Algebraic Topology I

*Leuven*

Spring 2020 Peer Assisted Learning: Quantum Mechanics

## Organisational experience

Fall 2023 **Reading groups and seminars**
Ran several reading groups and informal seminars on selected topics such as: Synthetic spectra, Bordism and resolution of singularities, Motivic homotopy theory, Prismatic F-Gauges.

May 2023 **PhD Math Fest 2023**
One-day conference for PhD students in pure and applied mathematics from Stockolm and the surrounding area with talks and activities (website).

## Talks & Posters

May 2026 Invited talk: *Isotropy separation in the Adams–Novikov spectral sequence*
Research Seminar Homotopy Theory (Bonn, Germany)

May 2026 Invited talk: *Synthetic equivariant spectra and complex bordism*
MPIM Topology Seminar (Bonn, Germany)

Apr. 2026 Invited talk: *Synthetic equivariant spectra and motivic homotopy theory*
UChicago Algebraic Topology Seminar (Chicago, USA)

Oct. 2025 Invited talk: *Equivariant synthetic spectra via motivic homotopy theory*
GAUS Workshop: Motives and Higher Categories (Mainz, Germany)

Jun. 2025 Research talk: *Equivariant synthetic spectra via motivic homotopy theory*
Young Topologists Meeting (Stockholm, Sweden)

Aug. 2024 Research poster: *Bordism with involutions and an Adams spectral sequence*
Young Topologists Meeting, (Münster, Germany)

Jun. 2024 Workshop talk: *The telecope conjecture*
Talbot Workshop 2024 (Nacogdoches, USA)

Jun. 2023 Workshop talk: *Application to classical stable stems*
Talbot Workshop 2023 (McGrath, USA)

## Technical skills

**Languages**
English, French (native), Dutch (fluent), German (intermediate)