

Frankfurter Seminar

Kolloquium des Instituts für Mathematik

Sommersemester 2026

Frankfurter Seminar, 13. Mai 2026, 16:45 Uhr

Peter Pfaffelhuber (Albert-Ludwigs-Universität Freiburg)

Interactive Theorem proving using Lean (and applications in basic probability)

In recent years, formalizing mathematics using Lean as an interactive theorem prover has gained interest due to several large projects. E.g., currently, researchers work on the formalization of Fermat's Last Theorem, Carleson's Theorem from harmonic analysis, and Sphere Packing in Dimensions 8 and 24.

In this talk, I will give an introduction to Lean and show what interactive theorem proving looks like for discrete probability theory. Interestingly, this sheds some light on the connection between probability spaces and random variables via category theory in action. If time allows, I will also present the formalization of some deeper results, the construction of Brownian motion.

Tee ab 16:15 Uhr

Robert-Mayer-Straße 10 | Raum 711

Ginkgo-Seminar 15:15 - 16:00 Uhr

Marco Seiler, An introduction to Brownian motion and a brief overview of Lean

Teilnahme nur für Studierende, Promovierende und Postdocs

Tee 16:15 - 16:45 Uhr

