

BERNOULLIS TAFELRUNDE

MATH STUDENTS AND PHDS SEMINAR

Thursday, 04.06.2026, 12:15-13:00
Seminarraum 00.003, Spiegelgasse 1

FILIPPO PAIANO

Università di Pisa

When the Domain is the Unknown: An Introduction to Free Boundary Problems

ABSTRACT

A free boundary problem is a PDE problem with overdetermined boundary conditions; at the boundary, both the value of u and ∇u are prescribed — or, informally, the domain itself is part of the unknown. In this talk, I will explain how one can rigorously formulate them, and discuss their challenges and strengths through two paradigmatic examples: the Bernoulli one-phase problem, an elliptic case, and the Stefan problem, a parabolic one. No prior knowledge of the topic is required.



*Scan before 03.06.2026 at
16:00 to register for lunch*