

Abstract

Oberwolfach Workshop:

Directions in Rough Analysis

Dates:

3 Nov - 8 Nov 2024 (Code: 2445)

Organizers:

Thomas Cass, London
Christa Cuchiero, Vienna
Peter Friz, Berlin

Rough path theory emerged in the 1990s and was developed in the 2000s as an improved approach to understanding the interaction of complex random systems. As a broader alternative to Itô calculus, it simultaneously settled significant questions and substantially expanded the scope of classical methods in stochastic analysis. Subsequent related developments have had an impact at the highest level, Hairer's work on regularity structures being among the most prominent.

In 2020, rough analysis gained its own AMS classification code, 60L, and this workshop will focus on the currently most active areas of the subject among two central strands:

- (i) the mathematics of the signature transform, including its applications to data science and finance, and
- (ii) rough path theory applied to novel areas in stochastic analysis, such as homogenization, SLE and rough PDEs.