# Abstract

Oberwolfach Workshop:

**Recent Developments in SPDEs and BSDEs meet Harmonic and Functional Analysis**

Dates:

**16 - 21 November 2025** (Code: 2547)

Organizers:

**Benjamin Gess, Bielefeld/Leipzig**
**Stefan Geiss, Jyväskylä**
**Stefanie Petermichl, Würzburg**
**Mark Veraar, Delft**

The workshop focuses on the interaction between the fields of Stochastic Partial Differential Equations (SPDEs), Backward Stochastic Differential Equations (BSDEs), and Harmonic and Functional Analysis. The interplay between the fields is manifold.

In particular, the usage of techniques from harmonic and functional analysis became essential to understand and solve problems on the stochastic process side, in particular in critical settings. Techniques and tools, that are exploited, include function spaces, interpolation, reverse Hölder inequalities, $A_p$-weights, weighted inequalities, and functional calculus. Special topics of the workshop are SPDEs in critical spaces, regularization of SPDEs by noise, singular SPDEs, the interplay between BSDEs and SPDEs, quadratic BSDEs, and non-local BSDEs.