

Institute for Applied Mathematics, Bonn University

## Oberseminar Stochastik

Thursday, 04 November 2021, 16:30

Lipschitz-Saal (LWK 1.016)

**Paolo Rinaldi**

Bonn University

# A Microlocal Approach to Renormalisation in Stochastic PDEs

In this seminar I will discuss the microlocal approach to renormalisation in stochastic PDEs (joint work with C. Dappiaggi, N. Drago and L. Zambotti — Comm. Contemp. Math. 2021). First I will introduce the analytical techniques at the base of the microlocal approach to renormalisation, techniques which are proper of algebraic approach to quantum field theory. I will then discuss the application of such techniques to the analysis of non-linear SPDEs, either elliptic or parabolic, driven by a white noise. As an application, this machinery allows the perturbative computation of the expectation values of the solution of a large class of SPDEs and of its  $n$ -point correlation functions.