

SEMINAR

on

COMPLEX AND HYPERCOMPLEX ANALYSIS

Sala Sousa Pinto, Departamento de Matemática

19/11/2025, 14:00

Pathwise well-posedness of stochastic nonlinear dispersive equations with multiplicative noises

Andreia Chapouto

Laboratoire de mathématiques de Versailles, UVSQ, Université Paris-Saclay,
CNRS, France

Over the last decades, the well-posedness issue of stochastic dispersive PDEs with multiplicative noises has been extensively studied. However, this study was done primarily from the viewpoint of Itô solution theory, and pathwise well-posedness remained completely open. In this talk, I will present the first pathwise well-posedness results for stochastic nonlinear wave equations (SNLW) and stochastic nonlinear Schrödinger equations (SNLS) with multiplicative white-in-time/coloured-in-space noise. Here, we combine the operator-value controlled rough paths adapted to dispersive flows, together with random tensor estimates, and the Fourier restriction norm method adapted to controlled rough paths.

This seminar is supported by CIDMA - Center for Research and Development in Mathematics and Applications, and FCT - Fundação para a Ciência e a Tecnologia with references UID/4106/2025 and UID/PRR/4106/2025.

