



# Correlated Noise in Stochastic Systems

Ein Vortrag von Prof. Dr. Xue-Mei Li,  
EPFL Lausanne und Imperial College London,  
im Mathematischem Kolloquium & in der „KWIM“ Vortragsreihe

Donnerstag, 9. November 2023, 17:00 Uhr in G201

**Abstract:** It is a standard assumption that Gaussian noises in stochastic systems are white in time and white in space. This means that the noise at different point in space or in time is assumed to be uncorrelated. This leads to the Ito theory of integration. However, some time series data and other data indicates otherwise, some even exhibits long range dependence. In SDEs these imply that neither the Markov theory nor its martingale characterisation can be relied on. In SPDE, the difficulty of irregularity coming from the white noise can be mitigated if they are replaced by smooth correlated noise. But other problems arrive. In this talk we shall explore these models and some phenomenons. New, as well as old techniques in Stochastic Analysis will be explored.

**Hinweis:** Vor dem Vortrag um 16:15 Uhr findet die Tee- und Kaffeerrunde im Common Center (F441) statt. Es wird genügend Zeit für Fragen und Austausch geben. Alle sind herzlich eingeladen, ganz besonders die KWIM Kolleginnen.

Fachbereich  
Mathematik und  
Statistik

Konstanz Women  
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