



Der Wissenschaftsfonds.



SFB Colloquium Series

It is a pleasure to announce a guest lecture with the title

PDEs with random coefficients: FEM, QMC, and other things

SPEAKER: Michael Feischl, University of New South Wales, Australia

TIME: Thursday, December 22, 2016, 10:30-11:30 (Part 1) & 13:30-14:30 (Part 2)

LOCATION: RICAM, SP2 416-2

We look at some simple PDEs with random coefficients and discuss the necessary steps to derive a numerical algorithm. This includes the finite element discretization of the PDE, the numerical treatment of the random field, and the QMC-integration of the quantity of interest. We will consider the implementational aspects as well as the theoretical foundations. Further investigations will show how sufficient smoothness of the integrands can be guaranteed to prove higher order convergence of the QMC method. We will also talk about the component-by-component algorithm together with weighted norms, which allow us to get rid of the dimension dependence.

This talk consists of two parts. The first part is at 10:30am, the second part is at 1:30pm.

The lecture will be followed by a general discussion.

The **SFB Colloquium Series** is supported by the **FWF Special Research Program (SFB) Quasi-Monte Carlo Methods: Theory and Applications**.