



Warwick Centre for Predictive Modelling Seminar Series

**Quasi- and Multilevel Monte Carlo Methods for
Bayesian Inverse Problems in Subsurface Flow**

Aretha Teckentrup
Mathematics Institute
University of Warwick

Thursday, 5th February, 4 p.m.
LIB1, Lower Level, Main Library

Abstract: We consider the Bayesian inverse problem of determining the permeability in a Darcy flow model from noisy observations of functionals of the pressure head. Using Bayes' Theorem, we rewrite the posterior expectation of a quantity of interest as a ratio of prior expectations, and then compute these prior expectations with Quasi- and Multilevel estimators. We give a convergence analysis of the resulting estimators, and demonstrate the performance of the method on a typical model problem in subsurface flow.

More info: <http://www2.warwick.ac.uk/fac/sci/wcpm/seminars>