



## Statistics and Actuarial Science Seminar

**Title:** Bayesian inference for partially observed diffusion processes

**Speaker:** Dr Andy Golightly (Newcastle University)

**Date:** Thu 8th March 2012 at 3:00PM

**Location:** Statistics Seminar Room- L550 Library building

**Abstract:** We consider Bayesian inference for parameters governing nonlinear multivariate diffusion processes using discretely observed data that may be incomplete and subject to measurement error. The typically unavailable transition density characterising the process is replaced with an Euler-Maruyama approximation and an imputation approach is adopted for inference. We consider the task of constructing an MCMC scheme that is not afflicted by the well known problem of dependence between parameters and augmented data. We apply the method to examples arising from finance and systems biology.