Working Group on Statistical Learning Seminar

Title: Generating Gamma Processes

Speaker: Andrew Smith (University College Dublin)

Date: Mon 2nd March 2020 at 12:00PM

Location: Seminar Room SCN 1.25

Abstract: Stochastic processes with Gamma-distributed increments arise in financial applications ranging from insurance claims, operational risk losses and loan defaults. Questions to answer using Gamma processes are often analytically intractable and so Monte Carlo is the numerical method of choice.

The generation of high-frequency Gamma process scenarios is also numerically tricky, owing to a large number of observations very close to, but not exactly, zero, combined with probability functions in standard software packages which fail for small values of the shape parameter.

Andrew Smith explains how the issues can be overcome with several new numerical algorithms for Gamma process generation.