

SPEAKER: Dr. Stephen Wills, University College Cork.

TITLE: Quantum stochastic processes – a gentle introduction.

ABSTRACT:

I will begin by explaining what it means to quantise probability theory, and why anyone would want to do such a thing. I'll then describe evolutions of first closed and then open quantum systems, explaining the important distinctions between these two cases. Certain classes of quantum stochastic processes model the latter class of evolution. I'll explain how these processes can be viewed as perturbations of more well-known one-parameter semigroups, and how such semigroups can be used to both understand these processes, as well as provide a means to prove existence results for them.