School of Statistics and Actuarial Science

SEMINAR

Title: Mind your Ps and Queues: Aspects of Queueing Theory & Queueing Networks

Speaker: David Rose (School of Statistics and Actuarial Science)

Abstract:

The origin of queueing theory is attributed to A.K. Erlang who worked on the theory of telephone traffic at the Copenhagen Telephone Company in the early decades of the twentieth century. The field was formalised some time later, though, in the 1950s and 1960s, with contributions *inter alia* from D.G. Kendall and D.V. Lindley.

Queueing theory has grown to include applications from human waiting lines in supermarkets, banks, ticket offices, medical, postal and government services, and at airports. Here too airline traffic problems can be modelled by queueing theory, as can vehicular traffic on the roads, at traffic lights, highway on-ramps and off-ramps and toll booths, and when ships enter a port for off/loading of cargo or passengers. Manufacturing is another area of application that entails the queueing of mostly inanimate "customers". A technological field where the theory of queues and their incorporation into networks has been applied, especially in recent years — although still tied to its origins in telephone traffic congestion — is telecommunication and computing networks.

The presenter's PhD and MSc theses fall largely under the last-mentioned field, albeit with idealised models. Some results and ideas from this work will be discussed, but a fair part of the talk will be devoted to certain fundamental concepts from queueing theory.

Date: 2 March 2017

Time: 12h30 – 13h15

Venue: The Liberty Actuarial Auditorium
Room 112, 1st floor
Mathematical Sciences Laboratory Building
West Campus

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The new Mathematical Sciences Laboratory Building is on West Campus and occupies the site of the former athletics' stadium. It is directly across the internal ring road from the Zesti Lemonz restaurant, and very close to the Wits Tower (Tower of Light).