

*Department of Statistics and Applied Probability*

**Details of Seminar**

Date: 30<sup>th</sup> March 2011, Wednesday  
Time: 3:00 pm – 4:00 pm  
Venue: S16-06-118, DSAP Seminar Room  
Faculty of Science

**Speaker**

Dr Joshua Ross  
School of Mathematical Sciences  
The University of Adelaide

**Title**

Invasion of Infectious Diseases in Finite and Structured Populations.

**Abstract**

For an epidemic to arise, a pathogen must first be transmitted from the initially infected individual to at least one subsequent individual. The probability mass function of secondary infections has been widely studied under the assumption of homogeneous-mixing in an infinite-sized population. Here we present and discuss results for two new cases: (i) homogeneous-mixing in a finite-sized population; and, (ii) a households model, with two levels of homogeneous-mixing -- within finite-sized households and between an infinite number of such households.

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*Light refreshment will be served after the seminar in the Staff Lounge at S16-07-102.*