Doherty Institute

THE UNIVERSITY OF MELBOURNE

The Royal Melbourne Hospital

A joint venture between The University of Melbourne and The Royal Melbourne Hospital

Department of Microbiology and Immunology

Research Seminar

On the use of mathematical models for biological systems

Dr David Price

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Melbourne School of Population and Global Health, University of Melbourne

Doherty Institute for Infection and Immunity,
University of Melbourne and Royal Melbourne Hospital

Abstract:

Mathematical modelling has the potential to provide novel insight into biological systems that we cannot otherwise obtain. In this talk, I will give a conceptual overview of some of the tools that we can use, and what extra insight we can gain, by using mathematical modelling tools for experimental data – focussing in particular on the within-host modelling of Salmonella *enterica* in mice. Subsequently, I will discuss how we can use these mathematical models to best plan future experiments, and answer the question: "how should I allocate my available resources, in order to learn the most about my system?".

Bio:

David received PhD in Statistics from the University of Adelaide in mid-2015. He is a statistician and mathematical modeller, with a research focus on the optimal design of experiments, in particular, those concerning infectious diseases. He joined the University of Melbourne in November 2017 as a Research Fellow, at the Centre for Epidemiology and Biostatistics, and The Doherty Institute for Infection and Immunity. Prior to this, David was a research associate in the Disease Dynamics Unit at the University of Cambridge, where he aided in the development of a computational package to facilitate the optimal design and statistical analysis of laboratory experiments in microbiology and infectious disease research.

Host: Dr Deb Williamson

Thursday, 3rd of May 2018, 12pm Auditorium

The Peter Doherty Institute for Infection and Immunity
792 Elizabeth St, Melbourne

Everyone welcome. For seminar attendees wishing to have further discussions with the speaker after the seminar, light refreshments will be provided in the Doherty Institute Tearoom on Level 5.