

DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY RESEARCH SEMINAR



Dr Annette Fox Marsh

Department of Microbiology & Immunology
University of Melbourne

Host: Dr Adam Uldrich

Seasonal Influenza - vaccinating against antigenic drift

ABSTRACT: Recent meta analyses estimate that seasonal influenza vaccines are only 33% effective against the A/H3N2 subtype. The reasons for this are unclear but appear to be linked to virus antigenic evolution and frequent vaccine strain update. To better define the duration of human immunity and the need for vaccine update we have tracked influenza infections in people from 270 households in Viet Nam, who have never been vaccinated. Tracking over more than nine years provides rare information about the interval between infections, the serologic and cellular immune responses induced, and how these responses correlate with protection. Measurement of antibodies to each main H3N2 antigenic variant that has circulated in humans indicated broad back-boosting of memory responses, and the potential for interference with titres to the infecting strain. Thus, in November 2016, 100 participants were vaccinated to determine how documented prior infection with disparate series of H3N2 strains affects the serologic response to vaccine. Vaccine responses were strong in this previously vaccine naïve population supporting that notion that natural infection provides robust immune priming. Contrary to the experience with repeated vaccination, the closer the relationship between prior infection and vaccine strains, the greater the post-vaccine antibody response. Potential mechanisms underlying this disparity between vaccine and infection are discussed.

BIO: Annette studied for her PhD on mucosal gamma delta T cells at The University of Melbourne, and later undertook studies in Public Health at Monash. She initiated novel research on innate immunity and transplantation during her post-doc at The Walter and Eliza Hall Institute. From 2001-2005, she led studies on tuberculosis immunity in The Gambia for the UK Medical Research Council. In 2006, Annette joined the Oxford University Clinical Research Unit in Hanoi, Vietnam, where she developed a programme of research on influenza and dengue immunity, pathogenesis and transmission. Annette joined Microbiology and Immunology at Melbourne University in November 2013 and is a member of Katherine Kedzierska's lab.

Thursday, 3 August 2017, 12pm Auditorium

The Peter Doherty Institute for Infection and Immunity | 792 Elizabeth Street, Melbourne VIC, Australia

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.

doherty.edu.au



[/DohertyInstitute](https://www.facebook.com/DohertyInstitute)



[@TheDohertyInts](https://twitter.com/TheDohertyInts) [#DohertyInstitute](https://twitter.com/DohertyInstitute)

