

# Department of Microbiology and Immunology PhD Completion Seminar

## “Understanding influenza B humoral immunity to improve vaccine design”



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### Abstract:

Influenza causes significant global morbidity and mortality, of which 25% is associated with influenza B (IBV). There is increasing awareness that combatting IBV is a critical component of universal influenza vaccine development efforts. This project aims to improve our understanding of IBV humoral immunity and investigate potential vaccine designs and components that can induce broad and durable protection. By probing human B cell specificities after influenza vaccination, this study characterized both strain-specific and cross-reactive B cell populations, examined the specificities and functions of recombinant antibodies and mapped neutralizing epitopes on hemagglutinin (HA). Regarding the vaccine design, HA loaded ferritin nanoparticles were proven to boost immunogenicity of soluble IBV HA proteins that are currently included in vaccines. The ability of IBV HA stem proteins to elicit cross-lineage B cell responses was also confirmed, illustrating a potential pathway to broad IBV protection for novel influenza vaccines in the future. The information gathered by this project can guide development of universal IBV vaccines.

**Friday, 13<sup>th</sup> of September 2019, 3.30pm Auditorium**

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

*Everyone welcome. Followed by celebratory drinks in the Tea Room, Level 5*



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