



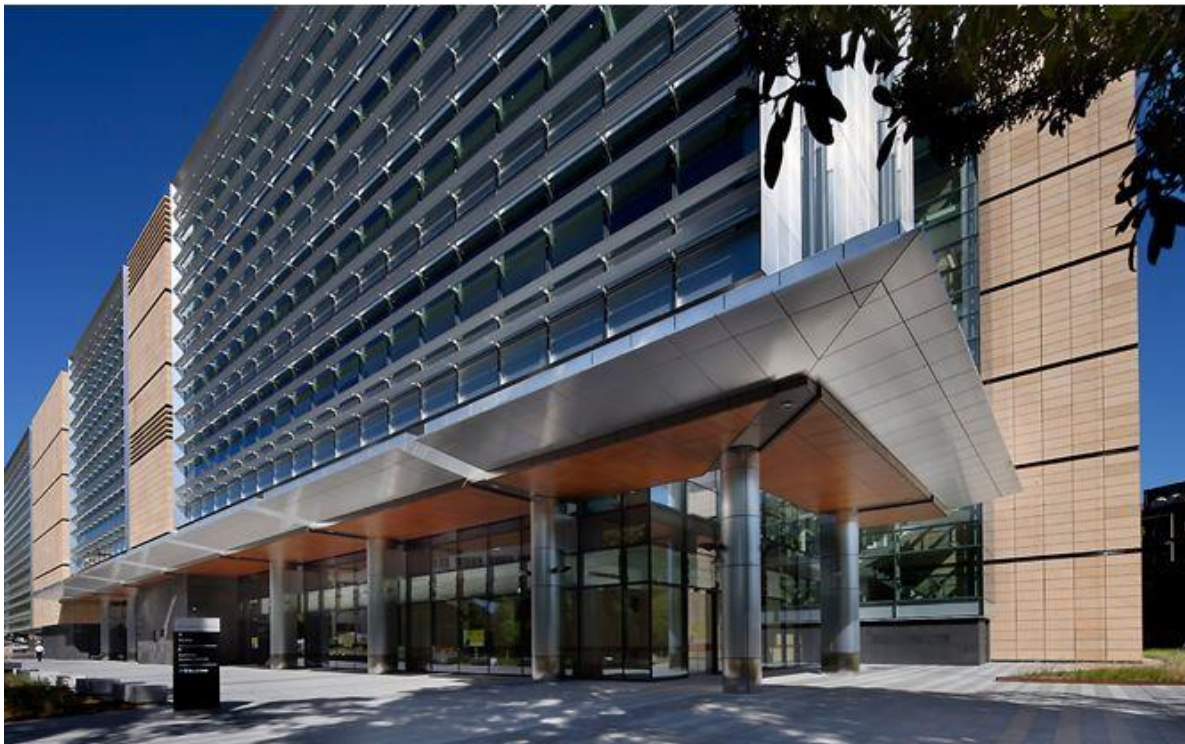
THE UNIVERSITY OF
SYDNEY

Infection and Immunity Seminar Series

“Tissue-Resident Memory T cells: Local Specialists in Immune Defence”

Dr Laura Mackay

Peter Doherty Institute of Infection and Immunity, The University of Melbourne



When

Wednesday 1 November 2017
1.00pm – 2.00pm

Where

Level 6, Seminar Room
The Hub, Charles Perkins Centre

Details

A sandwich lunch will be provided from 12.40pm

Contact and Mailing List

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To find out more, visit

sydney.edu.au/medicine/infectious-diseases-immunology/

Abstract

Tissue-resident memory T cells (Trm) are critical mediators of viral and tumor immunity and are increasingly being recognized as key players in autoimmune and allergic pathologies. However, the fate of Trm cells following local antigen reencounter is unknown. Here, we examine the recall response of skin CD8⁺ Trm cells to viral challenge in situ. Using intravital imaging we observed that Trm cells rounded up and engaged infected cells within the skin epidermis where they exclusively reside. Strikingly, Trm cells proliferated in situ in response to local antigen encounter and did not migrate out of the epidermis. As a consequence, secondary Trm cells formed from pre-existing Trm cells, as well as from precursors recruited from the circulation. Importantly, newly recruited antigen-specific or bystander Trm cells were generated in the skin without displacement of the pre-existing Trm cell pool. Thus, pre-existing skin Trm populations are not displaced by subsequent infections, enabling multiple Trm cell specificities to be stably maintained within the tissue.

About the Speaker

Dr Laura Mackay is a NHMRC Career Development Fellow, Howard Hughes Medical Institute (HHMI) - Gates International Scholar, recipient of the Victorian Young Tall Poppy Science Award, serves on ASI council as the representative for The Federation of Immunological Societies of Asia-Oceania (FIMSA) and holds an Adjunct Prof. appointment at the Singapore Immunology Network (SIgN), A*STAR. Her laboratory studies cellular immune responses, with a focus on the genes and signals that control resident memory T cell differentiation, with a view to harness these cells to develop new treatments against infection, cancer, and autoimmune disease. Her work has been published in a range of leading journals including *Immunity*, *Science*, *Journal of Experimental Medicine*, *Nature Immunology*, *PNAS*, *PLoS pathogens* etc.