SIgN Immunology Seminar



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Dissecting the dynamics of antiviral immunity in lymphoid and non-lymphoid tissues

Host
Dr Ng Lai Guan
Singapore Immunology Network,

Date
Monday
29 May 2017

Time
11am – 12pm

Venue
SIgN Seminar Room
Immunos Building
Level 4
Biopolis

Priming of immune responses to infection occurs within the organised microarchitecture of the secondary lymphoid organs. Various stromal cell subsets construct 3-dimensional networks within which immune cells migrate, interact and become activated. Upon infection, lymph nodes (LN) undergo substantial enlargement, triggered by recruitment of immune cells, primarily lymphocytes, and supported by expansion and remodelling of stromal cell networks. T cells are activated within LN by dendritic cells (DC), and we have shown that sequential interactions with subsets of DC controls effective priming of CD4 and CD8 T cell responses. To understand the complex dynamics of cellular interactions required for T cell priming and memory, and how stromal cells support these processes, we are combining intravital 2-photon microscopy and novel tissue clearing techniques to image whole LN and quantitate cellular interactions and spatial locations. We are also dissecting how memory T cells function within non-lymphoid tissues, including the skin, and reveal local protection by tissue-resident memory T cells driven by stable populations of cells independently of circulating memory cells.