Platelet induced signal transduction in immune cells

Platelets are anuclear blood elements with well characterised functions in haemostasis and an emerging role immunity. Platelets execute their function through complex intra- and extra- cellular signalling pathways which allow conformational changes, release of thromboinflammatory mediators, and aggregation in response to stimulation. Evidence is accumulating that there are complex interactions, or "cross talk," between platelets and other haemopoeitic cells (particularly leukocytes) which influence the functional state of these cells. However, little is known of the interaction of platelet-leukocyte signalling transduction and its relationship to haemostatic and immune function. By using an innovative systems biology approach the candidate will address these important questions with the following specific aims.

1. Analyse signal transduction of platelets in response stimulation.
2. Characterise the signal transduction pathways initiated by activated platelets in a variety of cell lines.
3. Characterise the signal transduction pathways and functional changes initiated by activated platelets across the entire haemopoeitic lineage on a cell-by-cell basis.
4. Measure changes in platelet and platelet-mediated signal transduction with age.

Other details: The supervisor for this project is Dr Matthew Linden. All work will be conducted in the School of Pathology and Laboratory Medicine and the Centre for Microscopy, Characterisation and Analysis, QEII Medical Centre.

If you would like additional information regarding this project, please email matthew.linden@uwa.edu.au or call (+61 8) 9346 1050.

If you have questions about how to apply to become a PhD student at UWA, please email pghelp@postgraduate.uwa.edu.au or call (+61 8) 6488 2807.