| **Project Title: Platelet control of mycobacterial infection** | **Code: CENT4** |
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| **Host School / Institute**: Centenary Institute | **Address:** Centenary Institute, Building 93, Royal Prince Alfred Hospital, Missenden Road, Camperdown NSW |
| **Certificates & Clearances required:** No | |
| **Primary Supervisor:** Dr Stefan Oehlers | |
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| **Co-Supervisor/team:** Dr Elinor Hortle | |
| **Project Type:** Laboratory based | |
| **Project Category:** Immunology & Infection; Allergy/Inflammation | |
| **Skills / Attributes of a successful student:** Interest in Infection and Immunity research theme, ability to plan multiday experiments, willingness to learn new techniques. Prior animal handling experience is a plus. | |
| **Project Keywords:** Zebrafish; Tuberculosis; Microscopy; Platelets; Inflammation | |

**Project Description:** Tuberculosis (TB) is now the single most deadly pathogen affecting mankind. Mycobacteria have co-evolved with vertebrate hosts resulting in a pathogen that can manipulate the host immune response to its own advantage. For example, Mycobacterium tuberculosis can activate platelets so that they sabotage macrophages – essential host cells in the early response to infection. It is currently unknown if platelets can also sabotage neutrophils, which are also critical for the immune response to TB.

This project will use a zebrafish infection model that closely mimics human TB pathologies to image platelet engagement with neutrophils and mycobacterial infection. The project will determine the functional implications of platelet/neutrophil interactions by using neutrophil deficient fish, and anti-platelet drugs such as aspirin.