A fully funded PhD position (including a generous PhD stipend and University fees for 3 years) is available in the Hall laboratory in the department of Molecular Medicine and Pathology, School of Medical Sciences, The University of Auckland, New Zealand. This PhD project is part of a larger government-funded project exploring circadian rhythms in immune cell activity.

The immune response to bacterial infection exhibits circadian rhythmicity, often with enhanced bacterial clearance during the early active phase. This clever adaptation likely evolved to synchronize elevated antibacterial responses with the increased threat of certain infections when active. Circadian rhythms are controlled at the molecular level by a highly conserved set of clock genes that are believed to operate in all cells of the body to regulate oscillations in specific functions throughout the day.

We have previously shown that larval zebrafish demonstrate a conserved circadian-gated host response to infection, with enhanced survival and bacterial clearance when infected during the light/active phase. This PhD project will exploit the optical transparency and genetic tractability of the zebrafish model system to unravel the cell-autonomous contributions of specific clock genes within neutrophils and macrophages during this circadian-gated antibacterial response.

To apply for more information please contact Chris Hall (c.hall@auckland.ac.nz).