Project Title: What are mosquitoes biting and how does it help understand the risks of mosquito-borne disease?	**Code: WCS6**

Host School / Institute: Westmead Clinical School	**Address:** Department of Medical Entomology, Level 3, ICPMR, Westmead Hospital, Westmead

Certificates & Clearances required: Yes *Vaccination Certificate

Information on how to obtain certificates, where necessary, will be given to successful applicants.

Primary Supervisor: Dr Cameron Webb

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Co-Supervisor/team: Dr Cheryl Toi (NSW Health Pathology)

Project Type: Laboratory based

Project Category: Molecular biology; Public Health

Skills / Attributes of a successful student: This project would suit an enthusiastic student interested in infectious disease, environmental health, and/or urban ecology. Practical experience in molecular biology or entomology would be welcomed but not essential.

Project Keywords: Mosquitoes; Mosquito-borne disease; Ross River virus; Wildlife; Urban Ecology

Project Description: Mosquito-borne disease is becoming an increasing concern around Australian cities. Ross River virus, spread by mosquitoes, has been routinely detected in mosquitoes in Sydney and surrounding regions. Mosquitoes pick up the virus by biting local animals but there remains some uncertainty about what animals these mosquitoes are biting in the urban environment and how important native animals are in driving outbreaks of mosquito-borne disease. In this project, there will be testing of mosquitoes to identify the animals they have been feeding on. Using a combination of stored samples from previous field work in the region, together with freshly collected specimens over the spring and summer, molecular techniques will be used to extract and identify the DNA from blood trapped in the gut of the mosquitoes.

During this project, you'll have the opportunity to learn about mosquitoes, their biology, and identification as well as being receiving training in laboratory methods including DNA extraction and analysis with respect to existing databases of reference specimens (e.g. Genbank). The outcomes of this project will assist local health authorities refine mosquito-borne disease surveillance programs but increasing our understanding of mosquito-specific feeding preferences on wildlife.