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PhD exit seminar: Characterization of novel virulence factors of *S. flexneri* and developing *C. elegans* as an animal model for *Shigella* infection

Thursday 5 December 2013 1:30 – 2pm

Divya George Verma Lab, BSB

Slatyer seminar room R.N. Robertson Building (Bldg. 46), Linnaeus Way, ANU



The Gram-negative bacterium *Shigella flexneri* is the causative agent of shigellosis, a diarrhoeal disease also known as bacillary dysentery. Diarrhoeal disease is a major public health concern and *Shigella* strains account for 5-15% of the global burden of diarrhoeal disease. Over 50 years of research has led to an increased understanding of *Shigella* pathogenesis, and the identification of numerous *Shigella* vaccine candidate antigens. However, the search for a commercially viable vaccine is ongoing. A thorough understanding of bacterial pathogenesis is paramount for the development of an effective vaccine. To this end, my thesis aims to characterize novel bacterial virulence factors, L-asparaginase (AnsB) and γ -glutamyltranspeptidase (GGT) and identifying bacteriophage-encoded virulence factors that contribute to host virulence. The identification of virulence factors expressed across multiple serotypes of *S. flexneri* is immensely valuable to the development of a vaccine that offers heterologous protection against multiple serotypes. One of the major limitations of *Shigella* vaccine development has been the absence of a relevant animal model to study shigellosis. My thesis also aims at assessing the suitability of using the nematode *C. elegans* as a novel small animal model of shigellosis.

Presented by

ANU College of
Medicine, Biology
& Environment

Contact details

E rowena.martin@anu.edu.au T 02 6197 0051
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