THE UNIVERSITY OF AUCKLAND
NEW ZEALAND
Te Whare Wānanga o Tāmaki Makaurau

PhD scholarship available in Structural and Molecular Biology at the School of Biological Sciences, University of Auckland, New Zealand

A PhD scholarship is available to join a Ministry of Business, Innovation and Employment Smart Ideas-funded research project into megasynthase enzymes from archaeal methanogens, the organisms responsible for methane production in the rumens of livestock.

Megasynthase enzymes are large protein assembly lines that synthesise diverse bioactive molecules. Products of megasynthase enzymes include many antibiotics and other pharmacologically important molecules. A set of megasynthase genes was recently identified in archaeal methanogens living in the rumens of livestock. While common in eukaryotes and eubacteria, this is the first time that megasynthases have been found in archaea.

Using a combination of structural biology, molecular biology, biochemistry and microbiology we aim to characterise the methanogen megasynthase enzymes and the bioactive molecules that they synthesise. A major component of the research involves expressing and purifying the megasynthase proteins and using them to synthesis their products *in vitro*. Our research is expected to lead to novel targets for mitigating enteric methane emissions from livestock, which make up 30-35% of New Zealand's total greenhouse gas emissions and a significant and increasing proportion of global emissions.

The scholar will primarily be based at the School of Biological Sciences, the University of Auckland with the possibility of some time spent at the Rumen Ecology facility at AgResearch, Palmerston North.

Candidates should have a First or Upper Second Class Honours degree or Masters or equivalent with a background in molecular biology and biochemistry. Experience with protein expression and purification and X-ray crystallography will be an advantage. International students are encouraged to apply. Fluency in English is essential. The scholarship includes a tax-free stipend of NZ$25,000 plus fees for 3 years.

To apply please send your curriculum vitae, academic transcript and a cover letter outlining your interest and suitability for the position to t.lee@auckland.ac.nz. Applications close 31 Jan 2014.

For more information please contact co-supervisors Dr Verne Lee (t.lee@auckland.ac.nz) or Dr Shaun Lott (s.lott@auckland.ac.nz).

More information about the School of Biological Sciences at The University of Auckland can be found here:
http://www.sbs.auckland.ac.nz/uoa/science/about/departments/sbs/about-us.cfm

More information about AgResearch can be found here:
http://www.agresearch.co.nz/our-science/

Auckland was recently ranked 3rd in the world in the Mercer Quality of Living Survey:
http://www.mercer.com/qualityofliving

More information about living & studying in Auckland can be found here:
http://www.aucklandnz.com/

More information about Dr Verne Lee's research can be found here:
http://www.bioscienceresearch.co.nz/staff/verne-lee/

More information about Dr Shaun Lott's Research Group can be found here:
http://persephone.sbs.auckland.ac.nz/shaun/