

## **2 PhD positions in environmental genomics and groundwater microbiology at The University of Auckland**

**Supervisor:** Dr Kim Handley, School of Biological Sciences, The University of Auckland

**Project:** Aquifers are an important source of recharge for rivers, estuaries, lakes and wetlands, and are relied heavily upon for drinking water. Yet, one third of nationwide groundwater is degraded by excess nitrate, and quality is further deteriorating. Nutrient-degraded groundwater is global problem for which current assessment criteria omit potentially important microbial ecosystem services. Although microorganisms are known to play a crucial role in controlling water chemistry, the genomic character and metabolic properties of groundwater communities remains underexplored. Students will use advanced omic methods (coupled community genomics and metatranscriptomics or metaproteomics) to determine the genomic and metabolic character of an alluvial groundwater system as it transverse a nutrient contaminant gradient, and will be involved in establishing the project website. The project involves collaboration with researchers at the Institute of Environmental Science and Research (ESR) in Christchurch and GNS Science in Wellington.

**Training:** The students will receive training in omic methodologies, enabling the recovery of the lifestyles and metabolisms of organisms within complex microbial communities.

**Funding:** The PhD projects will be fully supported by an Endeavour Fund Smart Ideas Grant from the Ministry of Business, Innovation and Employment, which will provide research costs, full tuition fees and a tax-free stipend of \$27.5K (NZD) per year per student over the course of the 3-year programme. Both international and domestic students are eligible.

**Requirements:** Applicants need to have completed a degree with a significant research component (e.g. Masters or BSc Honours), and have an excellent academic record. Applicants should also have studied at least one course in bioinformatics, and have a background in environmental microbiology, computational biology and/or genomics. Programming experience would be an advantage. Minimum academic and English proficiency requirements are outlined here:

<https://www.auckland.ac.nz/en/study/applications-and-admissions/how-to-apply/postgraduate-admission/doctoral-applications.html>.

Applicants should email their CV, academic transcripts, a cover letter, and the contact details for at least two referees to Dr Kim Handley ([kim.handley@auckland.ac.nz](mailto:kim.handley@auckland.ac.nz), website <http://www.sbs.auckland.ac.nz/people/profile/kim-handley>).

**Deadline:** Students should be able to start by January 2018 or sooner.