

PhD Scholarships to study environmental hydrology and water quality at Massey University, Palmerston North, New Zealand

We invite applications for two (2) PhD scholarships to study; nutrient sources, flow pathways and their attenuation in catchments dominated by pastoral landuse in the lower North Island.

The first PhD project (PhD1) will aim to develop methods and models to assess and map the influences of different catchment characteristics (e.g. topography, soil types, underlying geology, groundwater chemistry) on the spatial variability of nitrogen attenuation capacity in the subsurface environment across the study catchment. The successful candidate is likely to have a Masters degree or equivalent, preferably with some research experience related to nutrient losses from agricultural soils, biogeochemical processes in soil-water systems, geological strata and groundwater quality.

The second PhD project (PhD2) will aim to develop an integrated, catchment-scale modelling framework to evaluate different management and mitigation practices to reduce loads of key water contaminants to streams and rivers in the study catchment. The successful candidate is likely to have an Honours or Masters degree or equivalent, with some research experience related to land use, catchment hydrology, water quality, hydrological and water quality modelling, and GIS analysis. Knowledge and experience with relevant modelling software and programming (e.g. Matlab, R) are preferable.

The successful candidates must demonstrate good communication and writing skills, show an ability to take initiative, and be a good team member. The positions are open to both New Zealand and international candidates.

The PhD studies are part of a collaborative research programme between Massey University's Fertilizer and Lime Research Centre (FLRC) and Horizons Regional Council. Horizons Regional Council manages the natural resources of the Manawatu-Wanganui Region of New Zealand. The Council has extensive datasets of; regional geographical information, the quantity and quality of surface waters and groundwaters, and hydrogeological surveys of the region (<https://www.lawa.org.nz/explore-data/manawatu-wanganui-region/>). Massey University FLRC has a strong team of scientists in the area of environmental hydrology, hydrogeology, and soil and earth sciences (<http://www.massey.ac.nz/~flrc/>). The successful PhD candidates will enjoy full support, guidance and supervision from both University staff and Horizons Regional Council scientists. The PhD candidates will be enrolled within the Environmental Sciences Group at the Turitea Campus of Massey University in Palmerston North, New Zealand.

The Scholarship will pay NZ \$27,000 per annum plus fees for a maximum of 3 years.

Interested candidates are invited to send Dr Ranvir Singh (r.singh@massey.ac.nz) their application including a short description of their research interests, skills and experiences along with a detailed CV. They should also include a sample of their scientific writing (e.g. a published article or conference paper) and name and contact details of three academic referees by 30th September 2018.

Please specify in your application which of the PhD positions described above that you are applying for. The shortlisted candidates will be invited for an online interview in the final selection process.

For further information, please contact Dr Ranvir Singh (r.singh@massey.ac.nz) at Massey University.

Dr Ranvir Singh

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