

PhD Scholarship – Emerging Contaminants in Wastewater

An opportunity is available to undertake a PhD in Civil and Natural Resources Engineering (CNRE), on a 3 year College of Engineering scholarship (\$15,000/yr + fees). The research will be in the field of wastewater treatment/management, and supervised by Dr Simone Larcher and Associate Professor Sally Gaw at the University of Canterbury (New Zealand). This will also be a collaboration with the Institute of Environmental Science and Research (ESR), New Zealand's Crown Research Institute that specialises in science relating to people and communities.

Topic area

Emerging contaminants (ECs) are chemicals that are not commonly monitored or regulated but have the potential to cause adverse ecological and/or human health effects at trace concentrations. Wastewater treatment plant effluent discharged into the environment is one of the main sources of ECs since they have not been designed or optimised to remove these types of compounds.

This research will focus on the presence of a variety of ECs (i.e. antibiotics, synthetic oestrogens etc.) throughout the different stages/processes of a wastewater treatment plant. The goal will be to evaluate the impacts and changes in the microbial community resulting from exposure to the ECs being monitored and to determine which microorganisms are capable of successfully degrading specific emerging contaminants. This will hopefully lead to the design of wastewater treatment process units that can harness the unique abilities of the identified microorganisms to degrade specific ECs being targeted for removal and ultimately protect the receiving environment.

Candidate attributes

Candidates should have:

- A relevant research-based Masters degree (or equivalent) in civil/chemical/environmental engineering, environmental studies, or related discipline; excellent coursework and thesis grades
- Excellent spoken and written English
- Experience with applied microbiological techniques would be beneficial but is not essential
- A willingness to commit to full-time PhD research, and to commence study in Christchurch in 2020.

Resourcing and remuneration

The successful candidate will receive a fees scholarship and full 3-year stipend. Workspace and standard resources will be provided in the Department of Civil and Natural Resources Engineering and the Department of Physical and Chemical Sciences, University of Canterbury.

To Apply:

Please send a letter of motivation, your CV and academic transcript, and a sample of your academic writing to simone.larcher@canterbury.ac.nz by **30 August 2019**. Non-native English speakers please include evidence of English competence as per the University of Canterbury entrance requirements: <https://www.canterbury.ac.nz/enrol/international/english/#d.en.101610>.

For more information about this position, please contact Dr Simone Larcher: simone.larcher@canterbury.ac.nz.