This research position is part of a wider team. The Masters will be supervised
by Dr Hossein Najaf Zadeh and Dr Nick Emerson (School of Product Design) at
the University of Canterbury.

Project outline:
The deterioration of freshwater quality is a critical global environmental challenge that
is already driving a multi-billion-dollar industry. While there are a plethora of
wastewater treatment technologies available, the materials used by these technologies
have significant shortcomings, such as being non-biodegradable. Recent advances in
3D printing can help overcome these limitations. Our wider research team will develop
novel composite biomaterials for use as biodegradable adsorbents and/or bio-carriers
during wastewater treatment. These novel materials will be designed to minimise
environmental impacts through their entire life cycle, be easy to regenerate, and/or
valorise to support a regenerative (circular) economy. This postgraduate project
focuses on the fabrication of biopolymer filters using 3D-printed hydrogels. It
includes the development of a 3D printing method to facilitate the fabrication of
such filters.
Further information about the project and team can be found here:
Scholarship Conditions:
x The current scholarship emolument is approximately NZ$25,000 (tax-free) for the
Thesis enrolment at the New Zealand domestic rate. The scholarship also covers
tuition fees for the thesis. Part-time study will be compensated on a pro-rata
basis.
x There are opportunities to undertake additional paid tutoring work within the
Dept. that are paid on an hourly rate.
x Candidates will need to start the master’s within New Zealand by August 2022.
x Application for the scholarship must be made to Dr Hossein Najaf Zadeh at
Hosein.Najafzadeh@canterbury.ac.nz
x Applicants may be requested to also apply for the University of Canterbury
Masters Scholarships. Applicants should make themselves familiar with these
regulations here.

Application Process:
All of the below material must be coherently included in your application.
1. A full academic transcript with a Bachelor of Eng. or Bachelor of product
design.
2. A 2-pg max curriculum vitae emphasising courses completed with grades
3. A 1-pg statement of your previous research experience or a 1-pg statement
of purpose describing your motivation and any previous experience.
4. Contact details for two referees
5. For non-native English speakers: Evidence of sufficient English communication
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