



Dr Rachel Purcell (Surgery), Associate Professor John Pearson (Pathology and Biomedical Science), Prof Frank Frizelle (Surgery)

### **About the Project**

An excellent PhD candidate ('A' grades) interested in researching the **molecular mechanisms, genomics and role of the microbiome in response to therapy in rectal cancer** is being recruited to join a multidisciplinary team led from the University of Otago, Christchurch, New Zealand.

The goal of the project is to understand why patients with rectal cancer can have completely different responses to radiotherapy treatment: some have a complete response with the tumour disappearing, some have tumour shrinkage and some do not respond at all. The project aims to identify biomarkers of radiotherapy response that could be used in a clinical setting to direct treatment. Understanding the contribution of the microbiome to the underlying mechanisms of response may allow targeted modulation of the microbiome to improve patient outcomes.

The PhD candidate will work with a small team, particularly a Research Fellow and Bioinformatician and will be carried out in the Department of Surgery Research Group at the Christchurch Campus. The candidate will master and use a wide range of molecular biology and genomic techniques. The project is a collaboration between the Department of Surgery (Christchurch) and the Peter MacCallum Cancer Centre (Melbourne).

Highly motivated individuals with a BBiomedSc (Hons), or BSc (Hons) or MSc in Molecular Biology, Microbiology, Biochemistry, Bioinformatics, or a related discipline are encouraged to apply. The ideal candidates will have practical knowledge in molecular biology and in genomic analysis, e.g. RNA-seq. Excellent communication skills, willingness to work in a team and the ability to plan and interpret experiments in an independent manner are important attributes. The candidate must also be willing to interact with patients for consenting and sample collection.

Applicants must be eligible for admission to the PhD programme at the University of Otago, and would be best suited to an NZ applicant as there are restrictions on entering NZ.

It is expected the project will start early in 2021 or when filled.

In the first instance, applicants should make contact with Rachel Purcell (rachel.purcell@otago.ac.nz) to discuss the project. Further information may be sought from suitable candidates that will include:

a copy of your CV, a copy of your academic transcript, a short motivation statement (~500 words), and a pdf copy of your research thesis.

The ability to communicate proficiently in English is essential. Formal English language requirements can be found at <http://www.otago.ac.nz/study/entrance/otago001300.html#minp>

### **Funding Notes**

A fully funded project for three years that includes an annual stipend and consumable costs is available. This is available through a Sir Charles Hercus Fellowship grant with Dr Rachel Purcell.

Although this project is funded by an external source students should also be eligible for a scholarship <https://www.otago.ac.nz/.../sch.../database/otago014687.html>. A GPA of equivalent to an Otago GPA of 8.0 (A) on a nine-point scale or greater is expected.