

Mushrooms and truffles - why are they different?

Departments of Botany and Biochemistry, University of Otago

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About the Project

An excellent PhD candidate ('A' grades) interested in researching the fundamental process of mushroom development is being recruited to join a multidisciplinary team led from the University of Otago, Dunedin, New Zealand. The University of Otago is ranked in the top 1% of Universities in the world.

The goal is to understand how and why some mushrooms have evolved into truffle-like fungi. This has occurred multiple times during evolution and seems to be more common in Australia and New Zealand. This is part of a research project entitled 'Fruit body differentiation in mushrooms and truffle-like fungi'. It contributes to projects aiming to understand the evolution of NZ's unique species, particularly plants and fungi in the NZ 'bush' and how they may adapt to climate change.

This project will also contribute to a fundamental understanding of mushroom growth and development and the process of evolution.

The PhD candidate will work with a small team, particularly a Post-doctoral Fellow and Bioinformatician. The candidate will master and use a wide range of genetic and genomic techniques. The project is a collaboration between researchers from the Botany Department (Orlovich, Summerfield) and Biochemistry (Brown, Chyou) and Dr Jonathan Plett, Western Sydney University. The primary supervisor will be in Botany or Biochemistry, depending on the candidate's background. The PhD course would be within the Botany, Biochemistry, Plant Biotechnology, or Genetics programmes at the University of Otago.

Highly motivated individuals with a BSc (Hons) or MSc in Mycology, Botany, Plant Sciences, Bioinformatics, Molecular Biology, Microbiology, Biochemistry, or related discipline are encouraged to apply. The ideal candidates will have practical knowledge in molecular biology and in genomic analysis. Excellent communication skills, willingness to work in a team, and the ability to plan and interpret experiments in an independent manner are important attributes.

This would be best for a NZ applicant as there are restrictions on entering NZ. We are still looking for someone that meets the criteria, could this be you? Several Molecular Bioscience backgrounds would suit (e.g. genomics, molecular biology, genetics, microbiology, biotechnology)

Funding Notes

A fully funded project for three years that includes an annual stipend, tuition fees, and consumable costs is available. These are available through a Marsden Fund grant with Dr David Orlovich as PI, but candidates should also be eligible to apply to for University of Otago Doctoral Scholarships. <https://www.otago.ac.nz/study/scholarships/database/otago014687.html>

It is expected the project will start early in 2021 (e.g., Jan) or late 2020 or when filled.

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

- i. a copy of your CV,

- ii. a copy of your academic transcript,
- iii. a short motivation statement (~500 words), and
- iv. 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>

Applicants must be eligible for admission to the PhD programme at the University of Otago.

Although this project is funded by an external source students should also be eligible for a scholarship. A GPA of equivalent to an Otago GPA of 8.0 (A) on a nine point scale or greater is expected.