

Prospective **Summer Research/Honours/PhD** Students

in Mathematics and/or Biology

You are invited to join our cross-disciplinary collaborative team in the following

Research Project:

Stochastic Models for the Conservation of Endangered Species



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Supervisor:

Dr Małgorzata O'Reilly, Discipline of Mathematics, University of Tasmania

Co-supervisors:

Dr Sophie Hautphenne, School of Mathematics and Statistics, University of Melbourne

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In collaboration with:

A/Prof. David Liberles, Department of Molecular Biology, Temple University

A/Prof. Menna Jones, School of Zoology, University of Tasmania

Dr Barbara Schönfeld, School of Zoology, University of Tasmania

Project Summary: In populations of endangered species, management strategies referred to as *genetic rescue* have been advocated in order to help avoid extinction. An example of considerable concern in the Australian context is the conservation management of Tasmanian Devils suffering from the *Devil Facial Tumour Disease* (DFTD), which puts them in danger of extinction. Conservation strategies have been used with the hope of increasing the *genetic diversity* of the wild population, but this remains a challenging problem. An important factor in this context is the ability to assess the impact of conservation efforts.

This project will focus on developing *models for the numerical assessment of conservation strategies*, and is an exciting opportunity to help make a difference. We aim to develop a suite of algorithmic techniques and make the code publicly available to the research community.

You will work on simulation and/or theoretical models using statistical analysis of real data.

You will have an opportunity to be part of a rich collaborative environment and interact with mathematicians and biologists studying the wild populations of Tasmanian Devils.

Further Details: Please contact Małgorzata O'Reilly (malgorzata.oreilly@utas.edu.au, 6226 2405).