

Dear all

Two items this week:

- A Research Scientist – Hydrologist position at CSIRO Land and Water in Canberra.
- A PhD opportunity at the University of Queensland

If you would like something included in this digest please email it to [office@mssanz.org.au](mailto:office@mssanz.org.au)

Kind regards, Karen

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### **CSIRO Land and Water Research Scientist**

CSIRO Land and Water is seeking a motivated Research Scientist – Hydrologist to join the Water Security Program. To be successful, you will need experience in hydrological process modelling, river system modelling and remote sensing applications in hydrology and experience in programming and working with large data sets. To apply, please go to [https://jobs.csiro.au/job/Canberra%2C-ACT-Research-Scientist-Hydrologist/731619200/?locale=en\\_GB](https://jobs.csiro.au/job/Canberra%2C-ACT-Research-Scientist-Hydrologist/731619200/?locale=en_GB)

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### **PhD project at the University of Queensland**

The Spatial Epidemiology Laboratory at the University of Queensland, Australia seeks a PhD student to work on an exciting new project: forecasting ecosystem responses to environmental change

There is a growing consensus that using models to anticipate the future is vital to mitigate the impacts of environmental change on ecosystems. Yet most ecological models are one-off attempts to predict what ecosystems might be like in many years or decades. This makes it hard for decision-makers to use these models. It also favours models that are not easily scrutinised and improved. A new international study will use an iterative cycle to 1) forecast how species occurrences and abundances will change over short timescales; 2) use predictions to inspect model failures and 3) improve models so that we can continue to learn. This represents a new way of thinking in ecology that, like weather forecasting, has the power to advance our understanding of ecological processes.

#### **The PhD project**

The candidate will work within a vibrant team of quantitative ecologists and spatio-temporal modellers to tackle two major questions in ecological modelling:

- (1) When can multivariate models improve forecasts of species distributions, abundances and biodiversity compared to simpler models?
- (2) What aspects of models and data control forecast uncertainty across space and time?

#### **Benefits of the project**

The student will be based at The University of Queensland within the School of Veterinary Science, supervised by Dr. Nicholas Clark and A/Prof Ricardo Soares Magalhães. The candidate will work with a diverse group of international researchers, including Dr Konstans Wells (Swansea University, UK), Prof Ethan White (University of Florida, USA) and A/Prof Wenbiao Hu (Queensland University of Technology). Additional support will be given by partners at the Ecological Forecasting Initiative and the Spatial Epidemiology Laboratory, including assistance in computer-based data analysis, model

building and scientific communication. The selected student will have the opportunity to work with all partners on this project but will be based at UQ.

This project will help develop the candidate's skills in critical thinking, project management, data management and analysis, writing and communication. Expected applications of the project are incredibly diverse, meaning the student will be well prepared for a future career in research or with government and non-government land management, biosecurity or conservation agencies.

This PhD scholarship is funded by the University of Queensland, providing a tax-free PhD stipend and full tuition fee support. The scholarship is for three years, with two possible six-month extensions. Funds are also available for the student to attend scientific conferences and workshops.

Applications will be judged on a competitive basis taking into account the applicant's previous academic record, publication record, honours and awards, and employment history.

#### **Competitive applicants should have**

- A BSc with First Class Honours or Masters degree in ecology or statistics
- A strong interest in ecological modelling, time series analysis or conservation science
- Excellent time and data management and interpersonal skills
- Evidence of well-developed verbal and written communication skills

#### **Desirable characteristics**

- Publication record in international peer-reviewed journals
- Experience with stochastic data simulation and analysis
- Knowledge of script-based statistical languages such as R or Python

#### **How to enquire**

For more information and to submit an expression of interest, please contact Dr. Nicholas Clark at [n.clark@uq.edu.au](mailto:n.clark@uq.edu.au). The expression of interest should include a cover letter and CV including names and contact details of 3 referees (2 pages max) and an academic transcript. Short-list applicants will be interviewed (via video conferencing if necessary) to better determine the applicant's fit, motivations and capabilities.

#### **COVID-19 information**

With current travel bans extending the timeframe for international applicants to commence, UQ will only accept on-shore (domestic and international students residing in Australia) applicants for this scholarship. If the commencing candidate is onshore but interstate, they will be required to come to Queensland to begin.

Expressions of interest will close 14th June 2021