UNSW SYDNEY

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POSITION DESCRIPTION

Postdoctoral Fellow

Environment Data Scientist

Position Level	A
Faculty/Division	Science
Position Number	00154458
Original document creation	15/02/ 2020

Position Summary

A Research Associate/Post-Doctoral Fellow (Level A) is expected to contribute towards BluebottleWatch, an ARC-funded linkage project in partnership with Surf Life Saving Australia.

The role of the Postdoctoral Fellow – Environmental Data Scientist is to lead the data analysis and statistical modelling component of the linkage project, contributing to the forecast of bluebottles' arrival to shore. The primary aim of this linkage project is to understand and predict the main environmental drivers of the bluebottle behaviour and drift using lab and field experiments, numerical and statistical modelling.

The role of Research Associate/Post-Doctoral Fellow reports to Dr Amandine Schaeffer and has no direct reports. While the role does not involve any supervisory responsibilities, it will include collaborations with Surf Lifesaving Australia, State and Federal Government agencies, including the Bureau of Meteorology. It is expected that the appointee will engage and collaborate with other members of the research team.

Accountabilities

Specific accountabilities for this role include:

- Combine, quality-control, and analyse observational and numerical datasets of recorded stings, presence/absence or abundance surveys, citizen science, and environmental data (e.g. winds, ocean currents, waves).

- Identify explanatory variables for the bluebottle's arrival to shore and develop a statistical ecological model using historical and real-time data. The model will make predictions of blue bottle prevalence, including uncertainty estimates.
- Evaluate the performance of the model as a routine real-time bluebottle forecast system.
- Produce a report recommending further refinements for operationalisation.
- Maintain a strong focus on communicating research findings by publishing in highly ranked journals, presenting to peers at local, national and global conferences, workshops, and communicating with industry partners and stake holders.
- Contribute to BluebottleWatch academic activities such as student co-supervision, committee membership, leading workshops, etc.
- Work collaboratively with other researchers in the multi-disciplinary team and in other groups as applicable to the project.
- Report regularly on progress and outputs as stipulated by the project leader.
- Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct.
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

Skills and Experience (Selection criteria)

- A PhD and documented research experience in environmental data science or statistics.
- High level analytical and problem-solving skills.
- Experience with programming languages such as proficiency in Python and/or R, and bash; and experience working with Linux, high-performance computing environments and github or similar.
- Demonstrated experience with building data-driven statistical models, including choosing an appropriate model for the context and conducting model comparison and evaluation. For example, expertise could include generalized linear models, Bayesian models, machine learning algorithms, or other complex modelling techniques.
- Basic understanding of environmental science including oceanography, meteorology, marine or climate science.
- Experience with scripting languages and job schedulers for the routine deployment of applications is desirable e.g., data retrieval, forecast models, data processing.
- Demonstrated track record of publications and conference presentations relative to opportunity in an area listed in the position summary.
- Demonstrated verbal and written communication skills.
- Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders, project partners and students.
- Demonstrated self-motivation and ability to work independently with limited supervision.

- Attention to detail and an ability to prioritise tasks and manage projects in a timely fashion.
- An understanding of and commitment to UNSW's aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

Pre-employment checks required for this position

- Verification of qualifications

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.