## Position Description

### Research only - Research Fellow

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| **Position No:** | NEW |
| **Business Unit:** | Provost |
| **School:** | Department of Agriculture, Biomedicine & Environment |
| **Department:** | Environment and Genetics Melbourne |
| **Campus/Location:** | Melbourne (Bundoora) |
| **Classification:** | Level B Research Only |
| **Employment Type:** | Full-Time, Fixed Term (1.5 years) |
| **Other Benefits:** | http://www.latrobe.edu.au/jobs/working/benefits |

Further information about AgriBio: http://www.latrobe.edu.au/agribio

La Trobe University - http://www.latrobe.edu.au/about

## Level A – Research Officer or Level B – Research Fellow – Ecological Remote Sensing Scientist

The position will be responsible for undertaking research to integrate remote sensed data products with empirical ecological data. The research involves combining modelling and empirical approaches to improve prediction and mapping of natural capital assets on farms. The position will also work with ecologists to develop scientifically-robust indicators relating to on-farm biodiversity, as well as indices of natural capital for the purpose of benchmarking the value of natural capital to Australian farms.

The successful applicant will bring their advanced data handling and modelling expertise to explore relationships between remote sensed data products and on-ground ecological data. Working closely with the ecologists on the Project, the position will contribute critical expertise to translating remote sensed data and digital imagery to extract ecological meaning. The position will also contribute to developing and validating indices of biodiversity and natural capital, drawing on their knowledge of environmental processes and assessments.

### Position Context/Purpose

This role is part of La Trobe University's ongoing commitment to solving real world problems at the regional, national and international level. It is a new full-time fixed-term (1.5 years) position for a remote sensing data scientist within the Research Centre for Future Landscapes at La Trobe University (Bundoora campus). This position is part of a project team working at the leading edge of natural capital accounting for sustainable land management, and will assist with developing farm-scale natural capital accounts and natural capital indices for inclusion in a natural capital benefits benchmarking platform.

Postdoctoral, research-only academics are expected to make independent or original contributions to the research effort within their field of expertise. An academic at this level is expected to play a major role in research including the exercise of some leadership in research.

### Duties at this level may include:

- Leading the development of a modelling framework and methods to extrapolate remote sensed data to generate natural capital asset maps.
- Undertake advanced statistical modelling, including the use of Machine Learning and Random Forest techniques among others, to develop predictive models of land condition from remote sensed data products.
- Contribute to the development of indices of biodiversity and natural capital, and undertake statistical analysis to validate these indices against empirical field data.
- Conduct statistical analyses of biodiversity outcomes in relation to natural capital and other factors of farm mangagment and production.
- Ability to analyse and report on sophisticated modelling outcomes. The role specifically requires the ability to investigate, interpret and evaluate information from large databases of complex information from remote sensing data products and in field parameters.
- Preparation of reports and manuscripts for publication in the peer-reviewed literature.

### Essential Criteria

**Skills and knowledge required for the position**

- Completion of a PhD or equivalent qualifications or research experience.
- Advanced expertise in statistical modelling, including experience with Machine Learning and Bayesian approaches, including the use of R and Python.
- Evidence of strong data science skills, with experience in using and interpreteing remote sensed data products.
- Proven ability to handle, integrate, analyse, model and interpret both on-ground and remotely-sensed environmental data.
- Expertise in interpretation and analysis of complex data for presentation to industry and the science community.
- Demonstrated ability to set priorities and monitor workflows within own area of responsibility.
- Proven communication and interpersonal skills and a record of publications, conference papers and/or reports, or professional or technical contributions to peer reviewed journals.
- Demonstrated ability to work as a member of a team in a cooperative and collegial manner.
- Demonstrated high level of self-motivation and personal management skills.

**Desirable Criteria**

- Application of statistical models and use of remote sensed data in an ecological context and knowledge of biodiversity indicators.

**Capabilities required to be successful in the position**

- Ability to demonstrate self-awareness, see things from another person's perspective and actively seek out and act on feedback to improve knowledge, skills and behaviour.
- Ability to think creatively, explore new ideas and respectfully challenge existing practices in order to improve current ways of working.

**Essential Compliance Requirements**

To hold this La Trobe University position the occupant must:
- hold, or be willing to undertake and pass, a Victorian Working With Children Check; AND
- take personal accountability to comply with all University policies, procedures and legislative or regulatory obligations; including but not limited to TEQSA and the Higher Education Threshold Standards.

**Other Information**

The position description is indicative of the initial expectation of the role and subject to changes to University goals and priorities, activities or focus of the job.

**Position Flexibility**

La Trobe University is committed to providing a diverse, inclusive and respectful working environment for all staff. We offer flexible work arrangements that can assist you in balancing your work and other responsibilities.

**La Trobe Cultural Qualities**

Our cultural qualities underpin everything we do. As we work towards realising the strategic goals of the University we strive to work in a way which is aligned to our four cultural qualities:

- We are *Connected*: We connect to the world outside — the students and communities we serve, both locally and globally.
- *We are Innovative*: We tackle the big issues of our time to transform the lives of our students and society.
- *We are Accountable*: We strive for excellence in everything we do. We hold each other and ourselves to account, and work to the highest standard.
- *We Care*: We care about what we do and why we do it. We believe in the power of education and research to transform lives and global society. We care about being the difference in the lives of our students and communities.

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