

Position Description

Postdoctoral Research Associate

Position No:	NEW
Business Unit:	Provost
Division:	School of Agriculture, Biomedicine and Environment
Department:	Animal Plant and Soil Sciences
Classification Level:	Level A Research Only
Employment Type:	Full-Time (1 FTE), Fixed-Term (3 years)
Campus Location:	Melbourne (Bundoora)
Other Benefits:	http://www.latrobe.edu.au/jobs/working/benefits

Further information about:

Australian Research Council Centre of Excellence in Plants for Space - <https://plants4space.com/>

Lunar Effects on Agricultural Flora project - <https://www.spacelabtech.com/lunar-payload-leaf---lunar-effects-on-agricultural-flora.html>

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

Prof Mathew G Lewsey (Node Leader, CoE Plants for Space)
Email: m.lewsey@latrobe.edu.au

Position Context/Purpose

The purpose of this position is to conduct fundamental research into plant biology as a member of Prof Mathew G Lewsey's lab and of the Australian Research Council Centre of Excellence in Plants for Space (P4S). Based at the La Trobe Institute for Sustainable Agriculture and Food (LISAF) in Bundoora, the appointee will support development and deployment of a plant growth experiment on the moon for the NASA Artemis iii mission (scheduled for September 2026).

The mission of the ARC Centre of Excellence in Plants for Space P4S is to deliver transformative solutions for Space habitation and create enhanced plant-derived food and bioresources to for emerging domestic and global markets. P4S aims to create on-demand, zero-waste, high-efficiency plants and plant products to address grand challenges in sustainability for Space and on Earth. ARC Centres of Excellence are focal points of expertise through which high-quality researchers maintain and develop Australia's international standing in research areas of national priority. P4S is a major global collaborative transdisciplinary venture partnering 15 academic institutions, 5 Space agencies and enablers, 5 CEA companies, 6 education providers, and 7 government and technology partners.

The appointee will be part of the Lunar Effects on Agricultural Flora team, who are developing a fully contained growth capsule to be deployed by Artemis iii NASA astronauts on the moon. Inside the capsule *Arabidopsis*, *Brassica rapa* and duckweed will be grown and monitored for approximately 5 days, then samples returned to Earth for analysis. These samples will be analysed using primarily transcriptomic techniques, to understand the effects on plants of low gravity, the closed environment, and high radiation exposure. The appointee will be involved in method development for sample fixation/preservation, analyses of single-cell and bulk transcriptomic data, and integration of transcriptomic data with other data modalities to generate gene regulatory networks or similar. The project will combine wet-lab and computational approaches, and would suit someone with enthusiasm for method development and refinement. This project offers the opportunity to work as part of a diverse and talented team with members across Australia and overseas, including academics, industrial researchers, and scientists from international space agencies.

Duties at this level will include:

- Conduct and publish, or otherwise disseminate high quality and/or high impact research/scholarly activities under limited supervision either independently or as part of a team.
- Acquire and interpret research data and results. Run analyses and tests using specified and agreed techniques and models. Contribute to the development of techniques, models and methods.
- Assist in applications for research funding from external sources.
- Participate in professional activities including presentations at conferences and seminars in field of expertise.
- Provide advice within the field of the employee's research to Honours and postgraduate students.
- Attendance at meetings associated with research or the work of the unit to which the research is connected.
- Develop and refine wet-lab based plant molecular biology and genomics methods.
- Analyse large datasets, for example RNA-seq, single cell RNA-seq.
- Integrate large-scale datasets of different modalities to generate, for example, gene regulatory networks.

Essential Criteria

Skills and knowledge required for the position

- Completion of a PhD in the relevant discipline (plant molecular sciences, agricultural science, plant biology, bioinformatics, computational biology), and evidence of participation in higher level study relevant to discipline or professional area.
- Evidence of experience in research and evaluation and the ability to work effectively under limited supervision or independently.
- A record of contribution to publications, conference papers and/or reports, or professional or technical contributions which provide evidence of research potential.
- Experience in the analysis and modelling of data, including the capacity to integrate data from a range of sources and of uneven quality.
- Effective oral and written communication skills, including the ability to interact effectively with people from a diverse range of backgrounds.
- Demonstrated ability to work as a member of a team in a cooperative and collegial manner.
- Experience of molecular biology or computational biology, ideally with a focus on plant genetics or genomics.

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 work collaboratively, recognise the value of diversity and model accountability, connectedness, innovation and care.
- Ability to think creatively, explore new ideas and respectfully challenge existing practices in order to improve current ways of working.
- Ability to implement improvements to local processes.
- 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 enable a safe, inclusive, high-performing team culture, prioritising staff mental health and wellbeing.
- Ability to cultivate and create space for creativity, continuously reviewing and identifying improvements to local work practices.
- Ability to build a culture of continuous improvement, implementing ideas generated by team members.

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

We offer flexible work arrangements that can assist you in balancing your work and other responsibilities.

Why La Trobe:

- Develop your career at an innovative, global university where you'll collaborate with community and industry to create impact.
- Enjoy working on our inspiring and stunning campuses – the perfect hub for industry, students and academics
- Help transform the lives of students, partners and communities now and in the future

This is more than just a job. Working at La Trobe offers opportunities to demonstrate excellence and transform lives.

Here, you'll join exceptional people, partners and communities, who power our operations with ambition and purpose.

Our success can be attributed to its strong sense of community. We have a long-standing commitment to diversity, inclusion and social justice; we are committed to providing a workplace where all staff feel valued, respected and supported to achieve their full potential. We strive to build a workplace where all employees of diverse backgrounds, abilities, experiences, sexuality, gender, religion and age are welcome, valued, respected and one that is representative of our community. We demonstrate our cultural qualities by holding ourselves accountable and creating a culture of trust and innovation while genuinely caring for one another.

La Trobe's Cultural Qualities:

WE ARE CONNECTED



We are **connected** to each other and the communities around us. We engage with those communities to learn from our past, inform our present and impact our future.

WE ARE INNOVATIVE



We are **innovative** in tackling the most important issues of our time. We are inquisitive and seek to develop new ideas that positively impact the way we work and the world around us.

WE ARE ACCOUNTABLE



We are **accountable** for what we do and share a commitment to excellence. We are courageous and respectful in the way we hold ourselves and each other to account.

WE CARE



We **care** about what we do and value the power of education and research. We care about each other and strive to create a safe and inclusive community.

For Human Resource Use Only

Initials:

Date: