



## Position Description

<b>College/Division:</b>	ANU College of Science
<b>Faculty/School/Centre:</b>	Research School of Biology
<b>Department/Unit:</b>	Division of Plant Sciences
<b>Position Title:</b>	Postdoctoral Fellow
<b>Classification:</b>	Level A
<b>Position No:</b>	TBA
<b>Responsible to:</b>	Professor Justin Borevitz
<b>Number of positions that report to this role:</b>	N/A
<b>Delegation(s) Assigned:</b>	N/A

### PURPOSE STATEMENT:

The ANU College of Science (CoS) encompasses the disciplines of: Astronomy, Biology, Chemistry, Earth Sciences, Environment and Society, Mathematics, Physics, Science Communication and is also home to cross-disciplinary and specialist Institutes and Centres. Staff and students within the ANU College of Science conduct research and deliver a research-led education program that encompasses the entire breadth of the sciences, supported by extensive international networks and by world-class facilities.

The Research School of Biology is a leading centre of Plant Science research in Australia. Researchers have a tradition of excellence in addressing the world's most pressing issues, including climate change and food security.

The Postdoctoral Fellow is expected to undertake work in all three areas of academic activity –research, education and service (including outreach). The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the external funding conditions that support the appointment, the appointees research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment.

The Postdoctoral Fellow will work in monitoring and modelling of agro-ecosystem productivity, growth and development, carbon allocation and response to land management in collaboration with NESP climate hub, CSIRO, ANU Research Schools of Biology, Environment and Earth Sciences and USYD. The partnership focuses on water, nutrient and carbon cycles, genetic variation and response to management. Farm Systems include (cover) cropping, pasture and (agro) forestry with disturbances of mechanical harvest, grazing and/or prescribed fire. The goal is to expand point based models to a managed mixed use landscape and link this with remote sensing and on ground environmental and physical measurement. Modelling tools include APSIM, DayCent, DAESim, LPJml, Jules/Cable

The Postdoctoral Fellow may also be required to supervise or assist in the supervision of students, and contribute cooperatively to the overall intellectual life of the School, College and University.

### KEY ACCOUNTABILITY AREAS:

#### Position Dimension and Relationships:

The Postdoctoral Fellow will be a member of Research School of Biology, accountable to the Chief Investigator, Professor Justin Borevitz. The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships within the all-academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and where possible, international colleagues.

#### Role Statement:

In their role as an Academic Level A the Postdoctoral Fellow is expected to:

- Undertake independent research in the area of plant or ecosystem modelling and monitoring with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national level.
- Lead modelling, monitoring and interface with on ground measurement to link agroecosystem growth and yield under field conditions. Controlled environment [climate chamber] experiments can be included, analyse data and conduct simulation scenarios using point, grid and landscape modelling approaches, integrate laboratory processes and field physiology with model steps, report their results through presentations at these meetings on a rotational basis
- Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
- Contribute to the teaching activities of the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations, and with students or acting as subject coordinators.
- Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
- Assist to supervise research support staff in your research area.
- Actively contribute to all aspects of the operation of the School.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not willfully place at risk the health and safety of another person in the workplace.
- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

### **Skill Base:**

A Level A academic will work with the support and guidance from more senior academic staff and is expected to develop their expertise in teaching and research with an increasing degree of autonomy. A Level A academic will normally have completed four years of tertiary study or equivalent qualifications and experience and may be required to hold a relevant higher degree.

A Level A academic will normally contribute to teaching at the institution, at a level appropriate to the skills and experience of the staff member, engage in scholarly, research and/or professional activities appropriate to their profession or discipline, and undertake administration primarily relating to their activities at the institution. The contribution to teaching of Level A academics will be primarily at undergraduate and graduate diploma level.

### **SELECTION CRITERIA:**

- A PhD (or awarding of a PhD within six months of appointment commencement) in plant biology, ecosystem modelling or monitoring, computation, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of plant or ecosystem modelling or monitoring as evidenced by publications in peer-reviewed journals and conferences.
- Demonstrated knowledge of and experience in multi-disciplinary (agro) ecosystem science, spatial variability, and change over time, environmental co-variation, and demonstrated experience working in a multidisciplinary team across fields of genetics, physiology/development, remote sensing, and/or landscape ecology, and/or computer science. Experience in any of the following would be desirable: ecosystem modelling, plant growth modelling, machine learning and graph neural network, remote phenotyping, and landscape management.
- Evidence of the ability to articulate and prosecute innovative research in the field of landscape modelling and monitoring.
- An ability and commitment to contribute to bids for competitive external funding to support individual and collaborative research activities.
- Evidence of an ability and willingness to teach at all levels.
- The ability to assist in the supervision of students working on research projects.
- The ability to work as part of a team and to meet deadlines.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.

- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

*The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.*

Supervisor/Delegate Signature:		Date:	January 2023
Printed Name:	Professor Justin Borevitz	Uni ID:	U5083581

**References:**

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



# Pre-Employment Work Environment Report

## Position Details

College/Div/Centre	College of Science	Dept/School/Section	Plant Sciences
Position Title	Postdoctoral Fellow	Classification	Academic Level A
Position No.	TBA	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- 'Regular' hazards identified below must be listed as 'Essential' in the Selection Criteria - see 'Employment Medical Procedures' at [http://info.anu.edu.au/Policies/\\_DHR/Procedures/Employment\\_Medical\\_Procedures.asp](http://info.anu.edu.au/Policies/_DHR/Procedures/Employment_Medical_Procedures.asp)

## Potential Hazards

<ul style="list-style-type: none"> <li>• Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a <b>regular</b> or <b>occasional</b> part of the duties.</li> </ul>					
TASK	regular	occasional	TASK	regular	occasional
key boarding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	laboratory work	<input type="checkbox"/>	<input checked="" type="checkbox"/>
lifting, manual handling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	work at heights	<input type="checkbox"/>	<input checked="" type="checkbox"/>
repetitive manual tasks	<input type="checkbox"/>	<input type="checkbox"/>	work in confined spaces	<input type="checkbox"/>	<input type="checkbox"/>
Organizing events	<input type="checkbox"/>	<input checked="" type="checkbox"/>	noise / vibration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
fieldwork & travel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	electricity	<input type="checkbox"/>	<input type="checkbox"/>
driving a vehicle	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	<input type="checkbox"/>	<input checked="" type="checkbox"/>	gamma, x-rays	<input type="checkbox"/>	<input type="checkbox"/>
ultraviolet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	beta particles	<input type="checkbox"/>	<input type="checkbox"/>
infra red	<input type="checkbox"/>	<input type="checkbox"/>	nuclear particles	<input type="checkbox"/>	<input type="checkbox"/>
laser	<input type="checkbox"/>	<input type="checkbox"/>			
radio frequency	<input type="checkbox"/>	<input type="checkbox"/>	BIOLOGICAL MATERIALS		
CHEMICALS			microbiological materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	potential biological allergens	<input type="checkbox"/>	<input checked="" type="checkbox"/>
allergens	<input type="checkbox"/>	<input type="checkbox"/>	laboratory animals or insects	<input type="checkbox"/>	<input type="checkbox"/>
cytotoxics	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including blood	<input type="checkbox"/>	<input type="checkbox"/>
mutagens/teratogens/ carcinogens	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens	<input type="checkbox"/>	<input checked="" type="checkbox"/>
pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	immunisations	<input type="checkbox"/>	<input type="checkbox"/>
<b>OTHER POTENTIAL HAZARDS (please specify):</b>					
<b>Supervisor/Delegate Name:</b>		<b>Professor Justin Borevitz</b>		<b>Date:</b>	<b>January 2023</b>