



Position Description

College/Division:	College of Engineering, Computing and Cybernetics
Faculty/School/Centre:	School of Engineering
Position Title:	Postdoctoral Fellow
Classification:	Academic Level B
Job No:	555252
Responsible to:	Associate Professor Nan Yang

Purpose Statement:

The Australian National University (ANU) College of Engineering, Computing and Cybernetics (CECC) is dedicated to contributing to the ANU's reputation for excellence in research and research-led education, bringing together expertise across a range of areas to reimagine the role of engineering and computing for future generations.

The Research Fellow is expected to carry out independent and collaborative research under a project funded through the Australian Research Council's Discovery Projects funding scheme.

Key Accountability Areas:

The ANU College of Engineering, Computing and Cybernetics (CECC) is a vibrant and diverse community of more than three thousand students, staff, and visitors. The College is comprised of three schools: The School of Computing, School of Cybernetics, and School of Engineering, supported by the Professional Services Group.

The School of Engineering brings together a creative mix of staff and students that embrace the breadth of engineering professions from renewable energy, environmental and aerospace engineering to electronics, robotics, telecommunications and control systems. Join us in our fundamental quest of discovery and passionate pursuit of knowledge that goes beyond our lived world.

Academic staff members are expected to contribute to the Research, Education and Service (including Outreach) activities within the School and College. The allocation of time to each activity area will be discussed with the position supervisor and subject to the requirements of the funding source. The Research Fellow may also be required to supervise or mentor research and coursework students and undertake leadership roles as applicable. The Research Fellow will contribute cooperatively to the overall intellectual life of the School, College and University.

Position Dimension & Relationships:

The academic will be a member of the School of Engineering, accountable to their direct supervisor and to the School Director. This position is funded through an industry-engaged project focusing on "Software Defined Radio for Satellite Communications".

The purpose of this appointment is to:

- Conduct innovative research and development (R&D) on satellite communications and signal processing, under a specific project in collaboration with an Australian company.
- Support the development of partnerships with industry and engage with the wider research community to embed progressive engineering research and education capabilities.
- Contribute to the School's academic activities and intellectual life.

Role Statement:

- Conduct R&D on satellite communication technologies and systems across various frequency bands, including channel simulation, signal transmission and processing design, and software defined radio (SDR) prototype.
- Take a leading role to produce project deliverables, meet project milestones and write project reports.
- Where a suitable opportunity exists, assist in external funding applications including the preparation of research proposals to external funding bodies.
- Where a suitable opportunity exists, supervise coursework students working on individual or group projects.
- Where a suitable opportunity exists, contribute to the education and service (including outreach) activities of the School.
- Maintain high academic standards in all research, education and administration endeavours and effective

relationships with all academic, industry and government stakeholders.

- Comply with all ANU policies and procedures, and particularly those relating to work health and safety and equal opportunity.
- Other duties as required consistent with the classification level of the position.

Selection Criteria:

The breadth and depth of this role are illustrated in the following selection criteria. While candidates should ideally meet all selection criteria, the School of Engineering will consider all applications that demonstrate alignment with its mission.

1. A PhD (completed or close to completion) or equivalent qualification in a relevant discipline area.
2. Demonstrated ability to successfully meet deadlines and milestones of research projects, preferably involving hardware prototypes based on SDR and/or field programmable gate arrays (FPGA). Evidence of project deliverables can include project demo videos, testbeds, project reports/websites, publications, patents, etc.
3. Demonstrated ability to carry out innovative R&D with a high degree of autonomy as well as collaboratively as part of a team, with a track record of high-quality research outputs, such as peer-reviewed research publications and/or patent.
4. Demonstrated ability in programming for wireless communications and signal processing. Proficiency in programming languages such as Matlab, Python, C/C++, etc.
5. R&D experience or knowledge in some or all of the following areas: Satellite communications, wireless channel modelling, signal processing for wireless communication systems, and hardware prototype.
6. Excellent communication skills and a demonstrated ability to interact effectively and foster respectful and productive working relationships with colleagues, students and external collaborators.
7. An ability and willingness to contribute to the School's education activities in the area of the applicant's expertise.
8. A demonstrated high-level understanding of equal opportunity principles and a commitment to the application of these policies 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 Name:	Nan Yang	Date:	28 May 2024
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References:

[Professional Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



Australian
National
University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	ANU College of Engineering, Computing and Cybernetics	Dept/School/Section	School of Engineering
Position Title	Research Fellow	Classification	Academic Level B
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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 forwarded with the job requisition to Appointments and Promotions Branch, Human Resources Division. Without this form jobs cannot be advertised.
- 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

Potential Hazards

- Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a **regular** or **occasional** part of the duties.

TASK	regular	occasional	TASK	regular	occasional
key boarding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	laboratory work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lifting, manual handling	<input type="checkbox"/>	<input type="checkbox"/>	work at heights	<input type="checkbox"/>	<input 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 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 type="checkbox"/>			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	<input type="checkbox"/>	<input type="checkbox"/>	gamma, x-rays	<input type="checkbox"/>	<input type="checkbox"/>
ultraviolet	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	microbiological materials	<input type="checkbox"/>	<input type="checkbox"/>
allergens	<input type="checkbox"/>	<input type="checkbox"/>	potential biological allergens	<input type="checkbox"/>	<input type="checkbox"/>
cytotoxics	<input type="checkbox"/>	<input type="checkbox"/>	laboratory animals or insects	<input type="checkbox"/>	<input type="checkbox"/>
mutagens/teratogens/ carcinogens	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including blood	<input type="checkbox"/>	<input type="checkbox"/>
pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens	<input type="checkbox"/>	<input type="checkbox"/>
			immunisations	<input type="checkbox"/>	<input type="checkbox"/>
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		Nan Yang	Date:		28 May 2024