



## Position Description

College/Division:	ANU College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	RSAA Academic Program
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	TBC
Responsible to:	Associate Professor Michael Ireland
Number of positions that report to this role:	NA
Delegation(s) Assigned:	NA

### PURPOSE STATEMENT:

The ANU College of Science (CoS) comprises: the Research School of Astronomy and Astrophysics, the Research School of Biology, the Research School of Chemistry, the Research School of Earth Science, the Fenner School of Environment and Society, the Mathematical Sciences Institute, the Research School of Physics, and the Centre for the Public Awareness of Science. Staff and students within the ANU College of Science conduct research and delivers a research-led education program that encompasses the entire breadth of the sciences, supported by extensive international networks and by world-class facilities. The College has a strong tradition of research excellence that has fostered distinguished Nobel Laureates and Kyoto Prize winners and that trains scientific leaders in disciplines in which the ANU is consistently ranked in the top twenty in the world. The Research School of Astronomy and Astrophysics is a leading centre of astronomical instrumentation research in Australia. It is part of Australian Astronomical Optics (AAO), has successfully delivered world-class instruments for the Gemini telescope, and is currently designing instruments for world leading telescopes such as ESO's Very Large Telescope and the Giant Magellan Telescope. The Research School of Physics (where this position is also based) has a long history of excellence in photonics through the Department of Laser Physics, as well as the Department of Quantum Science.

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 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.

### POSITION DIMENSION AND RELATIONSHIPS:

The Postdoctoral Fellow will be a member of Research School of Astronomy and Astrophysics, accountable to A/Prof Michael Ireland and Director of the School. The Postdoctoral Fellow will also be expected to spend a significant fraction of their time at the Research School of Physics. 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:

1. Work as part of a team in the designing, creating and test nulling beam combiners on a planar chalcogenide platform.
2. Undertake independent research in the area of mid-infrared photonics and astronomical instrumentation 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. This includes working as part of a team on an externally funded project subject to deadlines.
3. Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.

4. Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to 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.
5. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
6. Assist to supervise research support staff in your research area.
7. Actively contribute to all aspects of the operation of the School.
8. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
9. Maintain high academic standards in all education, research and administration endeavours.
10. Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
11. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
12. Other duties as required that are consistent with the classification of the position.

### 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:

1. A PhD (or awarding of a PhD within six months of appointment commencement) in photonics or astronomical optical instrumentation, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of photonic or astronomical instrumentation as evidenced by publications in peer-reviewed journals and conferences.
2. Evidence of experience that is relevant to photonics research in some or all of the following areas: photolithography, mid-infrared photonics, astronomical instrumentation. Previous use of RSoft, electron microscopy, knowledge of MMI couplers and practical experience with all steps in photolithographic production of waveguides would be an advantage but is not essential.
3. An ability and commitment to contribute to bids for competitive external funding to support individual and collaborative research activities.
4. Evidence of an ability and willingness to teach at all levels.
5. The ability to assist in the supervision of students working on research projects.
6. The ability to work as part of a team and to meet deadlines.
7. 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.
8. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

**Delegate Signature:**

**Date:**

Printed Name:

A/Prof Michael Ireland

**Position:**

### References:

[Academic Minimum Standards](#)