Australian National University

Position Description

College/Division:	**ANU College of Science**
Faculty/School/Centre:	**Research School of Physics**
Department/Unit:	**Nuclear Physics and Accelerator Applications**
Position Title:	**Postdoctoral Fellow**
Classification:	**Academic Level A**
Position No:	**TBA**
Responsible to:	**Dr AJ Mitchell, Senior Lecturer**
Number of positions that report to this role:	**0**
Delegation(s) Assigned:	**0**

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 Physics hosts the leading accelerator-based, fundamental nuclear physics research facility in Australia. The Heavy Ion Accelerator Facility (HIAF) is a national facility established to support world-class research activities across diverse themes related to nuclear science and its applications. Our staff and students have an international reputation for undertaking world-class research into the nature of atomic nuclei and the development of unique technical infrastructure to do so.

KEY ACCOUNTABILITY AREAS:

Position Dimension and Relationships:

The Postdoctoral Fellow will be a member of the Research School of Physics, accountable to the Head, Department of Nuclear Physics and Accelerator Applications, and to the Director of the School. The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships within the School and College academic and professional 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.

The Postdoctoral Fellow will perform research related to the Australian Research Council Discovery Project DP210101201, “Nuclear vibrations under scrutiny in near-spherical and deformed nuclei”. They will work closely with the Project Chief Investigators, their students, and HIAF Technical Staff, with a primary focus on conducting internationally competitive research while contributing to education and service activities (including outreach). Allocation of time to each area will be discussed with the supervisor and will be reflective of the appointee’s research agenda, School and interdisciplinary teaching requirements and leadership opportunities within the School environment.

The Postdoctoral Fellow may also have the opportunity to supervise or assist in the supervision of students, contribute to coursework teaching at undergraduate and graduate level, and contribute cooperatively to the overall intellectual life of the School, College and University.

Role Statement:

In their role, the Postdoctoral Fellow is expected to:

- Contribute to establishment and optimisation of ongoing research infrastructure upgrades at HIAF, including: a new focal-plane detection system for the ANU Enge Magnetic Spectrometer to facilitate nuclear-structure studies; integration of a new charged-particle detector with the existing CAESAR array

of HPGe and $LaBr_3$ gamma-ray detectors for Coulomb-excitation studies; and development of associated digital data collection and analysis software for both of these systems.
- Undertake independent research in the area of nuclear physics related to the Discovery Project science goals 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.
- 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 with students or acting as subject coordinators.
- Supervise students working on individual or group projects at undergraduate, honours and 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 wilfully place at risk the health and safety of another person in the workplace.
- Demonstrate understanding of equal opportunity principles and policies and a commitment to their application in a university context.
- Perform 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 Masters level.

SELECTION CRITERIA:

- A PhD (or awarding of a PhD within six months of appointment commencement) in experimental nuclear physics, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of nuclear structure, gamma-ray or charged-particle spectroscopy, or instrumentation development for nuclear-physics research, as evidenced by publications in peer-reviewed journals and conferences.
- Evidence of the ability to articulate and prosecute innovative research in the field of nuclear physics.
- 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:**	**21 July 2022**
Printed Name:	**Dr AJ Mitchell**	**Uni ID:**	**U1003437**

References:
General Staff Classification Descriptors
Academic Minimum Standards

Australian National University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	**College of Science**	**Dept/School/Section**	**NPAA / Physics**
Position Title	**Postdoctoral Fellow**	**Classification**	**Academic Level A**
Position No.		**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

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	☒	☐	laboratory work	☒	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☒	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			**IONIZING RADIATION**		
solar	☐	☐	gamma, x-rays	☐	☒
ultraviolet	☐	☐	beta particles	☐	☒
infra red	☐	☐	nuclear particles	☐	☒
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			**BIOLOGICAL MATERIALS**		
hazardous substances	☐	☒	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐

OTHER POTENTIAL HAZARDS (please specify):

Supervisor/Delegate Name:	**Dr AJ Mitchell**	**Date:**	**21 July 2022**