# Australian National University

## Position Description

<table>
<thead>
<tr>
<th>College/Division:</th>
<th>College of Science</th>
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<tbody>
<tr>
<td>Faculty/School/Centre:</td>
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<tr>
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<td>Nuclear Physics and Accelerator Applications</td>
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<td>Position Title:</td>
<td>Postdoctoral Fellow</td>
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<tr>
<td>Classification:</td>
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### 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 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 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.

ANU is a member of the Science in Australia Gender Equity (SAGE) Athena SWAN Program to support gender equity and diversity in the Science, Technology, Engineering, Mathematics and Medicine (STEMM) disciplines, and is a Bronze Medal recipient.

The Postdoctoral Fellow position is associated with the ANU Node of the ARC Centre of Excellence for Dark Matter Particle Physics (Dark Matter Centre) in the Department of Nuclear Physics and Accelerator Applications. The incumbent will assist and contribute to the Direct Detection and Rare Isotope Metrology research themes in the Dark Matter Centre. The Metrology will have an emphasis on Inductively Coupled Plasma Mass Spectrometry (ICPMS) and Accelerator Mass Spectrometry (AMS) relevant to Dark Matter detection. The position is funded by the ARC Centre of Excellence for Dark Matter Particle Physics.

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 appointee’s 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.

### KEY ACCOUNTABILITY AREAS:

#### Position Dimension & 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 with the 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 areas of Rare Isotope Metrology and Direct Detection of Dark Matter, with a view to achieving the goals of the Dark Matter Centre, including publishing original and innovative results in refereed journals,
presenting research at academic seminars and at national and international conferences, and collaboration with other researchers at national and international 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 and the Dark Matter Centre.
- 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.
- 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 graduate diploma level.

SELECTION CRITERIA:

- A PhD (or awarding of a PhD within six months of appointment commencement) in Physics, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of Rare Isotope Metrology and Nuclear and Particle Detector Applications/Development as evidenced by publications in peer-reviewed journals and conferences.
- Evidence of the ability to articulate and prosecute innovative research in the fields of Rare Isotope Metrology and Nuclear and Particle Detector Applications/Development. 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 contribute to the wider goals of the Dark Matter Centre in one or more of its Portfolios: Outreach, Mentoring, Translation, Equity and Diversity.
- 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: ____________
Printed Name: ___________________________ Uni ID: ___________________________

References:
Pre-Employment Work Environment Report

Position Details

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<th>Dept/School/Section</th>
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Position Title

Classification

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](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.

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.

<table>
<thead>
<tr>
<th>TASK</th>
<th>regular</th>
<th>occasional</th>
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<th>occasional</th>
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<tr>
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<td></td>
<td>✓</td>
<td>laboratory work</td>
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<td>lifting, manual handling</td>
<td></td>
<td>✓</td>
<td>work at heights</td>
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<td>repetitive manual tasks</td>
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<td>work in confined spaces</td>
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<td>Organizing events</td>
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<td>✓</td>
<td>noise / vibration</td>
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<td>fieldwork &amp; travel</td>
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<td>✓</td>
<td>electricity</td>
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<td>driving a vehicle</td>
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<td>IONIZING RADIATION</td>
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<td>solar</td>
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<td>gamma, x-rays</td>
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<td>beta particles</td>
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<td>✓</td>
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<td>nuclear particles</td>
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<td>BIOLOGICAL MATERIALS</td>
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<tr>
<td>hazardous substances</td>
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<td>microbial materials</td>
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<td>potential biological allergens</td>
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<td>cytotoxics</td>
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<td>laboratory animals or insects</td>
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<tr>
<td>mutagens/teratogens/</td>
<td></td>
<td></td>
<td>clinical specimens, including blood</td>
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<tr>
<td>carcinogens</td>
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<td></td>
<td>genetic manipulated specimens</td>
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<td>pesticides / herbicides</td>
<td>✓</td>
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<td>immunisations</td>
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OTHER POTENTIAL HAZARDS (please specify): None

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SELECTION CRITERIA:
- A PhD (or awarding of a PhD within six months of appointment commencement) in Physics, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of Dark Matter Direct Detection, or related expertise relevant to the SABRE and CYGNUS projects as evidenced by publications in peer-reviewed journals and conferences.
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For assistance please contact HR Division Ph. 6125 3346
General Staff Classification Descriptors

Academic Minimum Standards

Pre-Employment Work Environment Report

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**NON-IONIZING RADIATION**

- solar
- ultraviolet
- infra red
- laser
- radio frequency

**IONIZING RADIATION**

- gamma, x-rays
- beta particles
- nuclear particles

**CHEMICALS**

- hazardous substances
- allergens
- cytotoxics
- mutagens/teratogens/
carcinogens
- pesticides / herbicides

**BIOLOGICAL MATERIALS**

- microbiological materials
- potential biological allergens
- laboratory animals or insects
- clinical specimens, including blood
- genetically-manipulated specimens
- immunisations

**OTHER POTENTIAL HAZARDS (please specify):**

Supervisor/Delegate Name: [ ] Date: [ ]

For assistance please contact HR Division Ph. 6125 3346