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:	**AMS Specialist Programme Support Officer**
Classification:	**ANU08 (Specialist Stream)**
Position No:	**00041599**
Responsible to:	**A/Prof Steve Tims**
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 Heavy Ion Accelerators (HIA) National Collaborative Research Infrastructure Strategy (NCRIS) project operates world-leading particle accelerators for a wide variety of scientific and industrial applications. HIA infrastructure is hosted at the Australian National University and the University of Melbourne, and it enables researchers to build a fundamental understanding of nuclear physics, develop new medical treatments and tools to fight cancer, build advanced quantum computing technologies, understand, monitor and protect our environment, and test electronics destined for space. In the advanced manufacturing sector, HIA supports the precise fabrication of quantum centres (the building blocks of quantum computing), microelectronics, advanced materials fabrication and prototyping of quantum sensors.

The Research School of Physics hosts the leading accelerator-based, fundamental nuclear physics research facility in Australia (https://physics.anu.edu.au/research/npaa/). 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 (https://hiaf.anu.edu.au/). Our staff and students have an international reputation for undertaking world-class research into the nature of atomic nuclei and in the development of techniques and applications in the field of accelerator mass spectrometry (AMS).

As part of the HIA team, you will play a critical role by ensuring HIA facilities remain world-class, and continue to drive innovation, collaboration and cutting-edge research at an international level.

KEY ACCOUNTABILITY AREAS:

Position Dimension and Relationships:

The AMS Specialist Programme Support Officer will be a member of the Research School of Physics, accountable through the CEO Heavy Ion Accelerators to the Head, Department of Nuclear Physics and Accelerator Applications, and to the Director of the School. They will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with the School and College academic and professional staff, students and honorary appointees, as well as with industry stakeholders. This position may also have a mentoring role for students, particularly in the use of the accelerator facilities.

The role of the AMS Specialist Programme Support Officer will be to support the AMS program, and to liaise with, and facilitate the projects of, external users of the AMS capability. They will work closely with the other members of the AMS group, their students, and HIA technical staff, with a primary focus on ensuring that the needs of external users are met by providing high-quality data in a timely fashion.

Role Statement:

In their role, the Specialist Programme Support Officer is expected to:

- Provide high-level technical and strategic support to external users of the facility, and in particular to hydrologists requiring ^{36}Cl measurements for groundwater dating and tracing. This includes:
  - Initial liaison with user to ascertain the nature of the project and what the user is trying to accomplish, and to give advice on strategy and sampling.
  - Chemical preparation of high-purity AgCl from groundwater.
  - Preparing for an AMS run, including pressing samples into the wheel, mounting it in the ion source, mounting of the detector, setting up detector electronics, setting up data acquisition
  - AMS measurement, including tuning beam through the accelerator, setting up the fast-cycling system, operating and trouble-shooting the detection and data acquisition systems.
  - Off-line data analysis to extract $^{36}Cl/Cl$ ratios.
  - Report results to user, and where appropriate, assist with interpretation.
- Provide high-level technical and managerial support to environmental and geoscientists seeking access to the broader spectrum of AMS isotopes available at HIAF and mentoring to technical support staff.
- Lead the operation and ongoing development support to operation of the accelerator and associated equipment for AMS measurements.
- Lead the ongoing development of AMS methodology, including methods for measuring new isotopes, innovative approaches to isotopes already being measured, developing new applications, either independently or in consultation with potential or actual users, as well as detector and software development.
- Contribute to outreach and liaison activities to expand the HIA user base with a focus on AMS users.
- 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.

SELECTION CRITERIA:

1. Progress towards postgraduate qualifications with subsequent relevant specialist experience in AMS or an AMS-related field, or equivalent qualifications and experience.
2. An extensive track record in the innovative design and development of sophisticated AMS-related instrumentation and/or heavy ion accelerators.
3. Extensive experience in training and supervision of students working on research projects, especially those of external users.
4. Demonstrated success in delivering projects on time and in accordance to policies and agreements.
5. Effective communication and interpersonal skills with a flexible approach and capacity to work both independently and as an effective team member.
6. A demonstrated ability to communicate and interact effectively with stakeholders, potentially external users, who will often not be AMS experts, and with technical support staff and students in a cross-disciplinary environment, fostering respectful and productive working relationships with staff, students and colleagues at all levels.
7. Demonstrated ability in problem solving and the capacity and willingness to seek, acquire and apply new knowledge and skills.
8. 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 Name:	**Associate Professor Steve Tims**	**Date:**	**February 2024**

References:

General Staff Classification Descriptors

Australian National University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	**College of Science**	**Dept/School/Section**	**NPAA / Physics**
Position Title	**AMS Specialist Programme Support Officer**	**Classification**	**Professional ANU08 (Specialist Stream)**
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:	**Associate Professor Steve Tims**	**Date:**	***February 2024***