

POSITION DESCRIPTION

Position Title:	CAS AMS Radiocarbon Team Lead
Cluster / Business Unit / Division	Nuclear Science and Technology / Centre for Accelerator Science
Section or Unit:	AMS
Classification:	Band 7/ Band 8
Job Family:	Science
Position Description Number:	PD-2584
Work Contract Type:	Science/Manager
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Science

POSITION PURPOSE

The CAS AMS Radiocarbon Team Lead is responsible for the leadership, delivery, and development of CAS's Radiocarbon accelerator mass spectrometry (AMS) capabilities for the radiocarbon user program. This includes oversight of workflows, through close integration with the AMS Chemistry Team Leads, user program delivery and engagement, and research leadership aligned with national priorities and scientific excellence.

The role manages day-to-day delivery, ensures safety and compliance, supports staff development, and drives method innovation. It works collaboratively with the Head of AMS and other CAS capability leads to integrate AMS capabilities into broader CAS user programs and to meet research, operational, and strategic objectives.

ORGANISATIONAL ENVIRONMENT

ANSTO leverages great science to deliver big outcomes. We partner with scientists and engineers and apply new technologies to provide real-world benefits. Our work improves human health, saves lives, builds our industries and protects the environment. ANSTO is the home of Australia's most significant landmark and national infrastructure for research. Thousands of scientists from industry and academia benefit from gaining access to state-of-the-art instruments every year.

Nuclear Science and Technology (NST) incorporate ANSTO's research, innovation, landmark research infrastructure, and associated platforms and capabilities. NST conducts research and development in relation to nuclear science and technology and connects people, transfers knowledge, and provides nuclear-based products and services for the benefit of Australia.

The Centre for Accelerator Science (CAS) is a multi-disciplinary team of scientists, technicians and engineers supporting academic and industry users across Australia and the world with a suite of accelerator instrumentation for ultra-sensitive measurement, analysis and irradiation applications. As a user facility open to all, supported by the National Collaborative Research Infrastructure Strategy, CAS informs policy, provides critical services for IAEA, and enables discovery and innovation in areas such as environment, climate and health sciences, space technologies, advanced materials for energy and quantum, and cultural heritage.

CAS operates four tandem particle accelerators and a wide range of advanced (and often bespoke, inhouse designed) engineering systems, scientific instrumentation, equipment, and technologies across twelve beamlines for accelerator science applications and twelve chemistry laboratories for specialised sample processing. CAS offers accelerator mass spectrometry, sample preparation, ion beam analysis,

ion beam implantation, and ion beam irradiation - together in one centre - backed by decades of accumulated experience in accelerator science and operations.

The CAS AMS Radiocarbon capability provides ultra-sensitive radionuclide detection and measurement for dating and tracing applications supporting research and industry applications across a broad application space, including environmental and earth sciences, hydrology, climate studies, archaeology and cultural heritage. The AMS radiocarbon capabilities encompass a suite of advanced sample preparation methods and laboratories, equipment, and workflows to support sample preparation, measurement, and interpretation of radiocarbon science as well as training for early career researchers and students. CAS specialises in complex and/or high-sensitivity and high-precision applications, with additional capabilities to support high-throughput and/or high-volume sample requirements.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

Leadership and Management (Band 7)

- Lead and manage the provision of CAS AMS Radiocarbon capability to deliver safe, compliant, efficient, high-quality, cost-effective user-service for high-impact research and industry outcomes.
- Ensure best practice operational and safety management of CAS AMS Radiocarbon resources and user program to deliver on agreed KPIs, metrics, contract and grant commitments, and milestones within the CAS Business Plan, in pursuit of CAS goals and supporting NST strategies.
- Lead the AMS Radiocarbon team to achieve excellence by inspiring an inclusive and innovative environment that promotes psychological safety and builds a learning and growth culture.
- Formulate and prioritise plans and objectives that translate the CAS strategy into measurable deliverables for AMS Radiocarbon science operations.
- Monitor team output against user delivery expectations and ensure timely, high-quality data reporting and engagement across research and commercial users.
- Produce content for business plans and report on AMS Radiocarbon team performance against targets and objectives, devise new ideas and strategies for growth including for streamlining and workforce development, secure collaboration and external funding opportunities.
- Develop and manage AMS Radiocarbon team outreach activities to engage new users, collaborators, and research partnerships, and to promote the impact of CAS to diverse stakeholder audiences.

Senior Accelerator Scientist (Band 7)

- Utilise extensive knowledge and expertise in AMS Radiocarbon science and applications to provide advanced scientific and technical support, advice, and training to national and international accelerator science users, including the making of scientific and technical decisions, ensuring optimal outcome from allocated accelerator science access and an excellent user service.
- Contribute to AMS-wide planning and development in collaboration with the Head of AMS and other team leads, ensuring integration of radiocarbon workflows into broader capability strategy.
- Facilitate the collection and distribution of capability specific AMS Radiocarbon measurement KPI's to enable method development and long-term tracking of chemistry and instrument performance.
- Reduce and interpret user data, offering guidance on data processing and further analytical methods to enhance scientific results
- Liaise with the Australian and international scientific community to expand CAS's user base, ensuring maximum usage of accelerator equipment, fostering a community of collaborators and users, and supporting potential revenue streams;
- Maintain and apply knowledge of international best practice and technological developments to ensure CAS AMS Radiocarbon capabilities are improved and upgraded to remain at the state-of-the-art and internationally competitive. Develop the capability to recognise and act on opportunities emerging from a global view of techniques enabled by CAS facilities

- Coach and mentor researchers, post-doctoral fellows, and students (as opportunities arise) in both their use of accelerator techniques and broader research endeavours. Collaborate with colleagues within CAS and across ANSTO, sharing scientific expertise and contributing to the research culture within CAS, NST, and ANSTO
- Initiate and conduct leading-edge research of international standard, expanding the capacity and understanding of accelerator techniques at CAS and enhancing CAS's scientific visibility through publication in leading journals. Deliver research and development aligned with the needs of users and stakeholders;

Principal Accelerator Scientist (Band 8), performing the above at internationally recognised expert level

- Lead long-term strategy for AMS Radiocarbon science program and capability investment, and design capability developments aligned to stakeholder needs, including staff development and technology/methodology advancement, that boost productivity to meet increasing demand for CAS AMS Radiocarbon capabilities and ensures CAS remains internationally competitive.
- As an internationally recognised expert with extensive experience in AMS Radiocarbon accelerator science, undertake and support novel collaborative research aligned with the strategic goals of CAS and ANSTO. Develop novel analytical techniques, capabilities and research applications that advance CAS capabilities, support and meet the needs of the CAS user community, and sustain excellence in our research impact and outcomes
- Identify and negotiate opportunities for collaborations, new users, and partnerships with mutual benefit that support the CAS focus areas, the CAS decadal plan, and the NST and NCRIS strategic imperatives
- Demonstrate research leadership, host national and international visitors, and provide training and knowledge transfer on specific techniques through supervision of PhD student and early-career researcher projects
- Represent ANSTO and CAS within global forums and use extensive research networks to foster value-add partnerships with local and global communities, to inform strategic decisions and planning for advancements in Irradiations science and instrumentation
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, operational excellence program, NST strategy and CAS business plan provide the context for the position.
- Assess desired outcomes and provide advice to internal and external stakeholders and collaborators on the feasibility and methodology for CAS AMS Radiocarbon applications to their research projects
- The position works within a framework of legislation, ANSTO policies, professional standards and resource parameters. Within this framework, the position will be provided with the parameters in which to operate the facilities including decisions pertaining to project planning and resource allocation. The position has independence for decision making on methods and approaches for project planning and allocation of resources within CAS AMS Radiocarbon and is fully accountable for delivering outcomes within agreed timeframes and budgets.
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided to users, staff, and CAS Head of AMS and is required to ensure that decisions are based on sound evidence.
- Determine work priorities within the context of agreed work plans and schedules and consult with the CAS Head of AMS on complex, sensitive and major issues that have a significant impact on the facility operations.
- The position will be provided a budget developed by management within the constraints of which the position is expected to operate. The position will have authority to assign and approve

expenditure within limits designated by the delegations manual and approve work hours and staff leave requests.

- The levels of authority delegated to this position are those approved and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced).
- The role also contributes to shared decision-making with other CAS functional team leaders to coordinate shared resource use, scheduling, and cross-capability planning.

Key Challenges

- Sustaining excellence in CAS AMS Radiocarbon capabilities and services as a world-class facility, identifying and prioritising opportunities to advance capabilities, and maintaining relationships within the community to engage new users and collaborators.
- Developing new methods and research in the relevant field. Keeping abreast of recent and emerging developments in field, ensuring continual improvement and implementation of best practise.
- Maintaining a research leadership profile and expertise
- Delivering results and outcomes to the required standards and timeframes, given the need to be agile and responsive to opportunities, and adapt in an often changing and unpredictable environment.
- Understanding the objectives of a wide range of user research projects to ensure the provision of expert advice to facilitate successful project outcomes, from sample collection, analysis, data interpretation to the preparation of manuscripts for journal publications.
- Performing method improvement and capability development in short or changing timeframes, to ensure maintenance of world leading capabilities of the facility.
- Balancing delivery expectations, development work, and staff capability-building in a resource-constrained and technically complex environment.

KEY RELATIONSHIPS

Who	Purpose
Internal	
CAS Head of AMS (Line Manager)	<ul style="list-style-type: none"> • Receive direction and guidance • Provide regular updates on key tasks, issues & priorities • Provide expert, authoritative and evidence-based advice • Support and implement staff engagement and quality recruitment • Negotiate and report on budgets and resources consistent with objectives, plans, targets and goals • Staff performance (APEA review of staff) and attendance and instruction on dealing with staff issues or problems • Recommend and gain endorsement for improvement or development plans and goals and other initiatives
CAS Head of Operations	<ul style="list-style-type: none"> • Ensure safe and compliant operations within AMS sample preparation laboratories and accelerator facilities • Ensure compliance with safety and quality systems and applicable legislation and regulations • Negotiate resourcing for maintenance and development of equipment, laboratories and capabilities • Provide expert knowledge and input for capital development plans and asset management
CAS Management Team (Peers)	<ul style="list-style-type: none"> • Support team members and work collaboratively to contribute to achieving outcomes • Contribute to CAS decision making processes, planning and goals • Collaborate and share accountability

	<ul style="list-style-type: none"> • Negotiate and resolve conflicts
CAS AMS Radiocarbon team scientists (Direct Reports)	<ul style="list-style-type: none"> • Provide management, guidance and support • Provide coaching, career counselling, mentoring, supervision, instruction, direction, support, recognition, training, and performance and attendance monitoring & review. • Communicate work plans and activities and monitor outputs. • Monitor trends, performance and progress against the operational plans and communicate adjustments to work priorities which may be required to ensure delivery against the plan
CAS Team Leaders	<ul style="list-style-type: none"> • Optimise shared resources, coordinate scheduling, and deliver integrated accelerator science capabilities. • Contribute to group discussions, decision making processes and planning. Participate in meetings, share information and provide input on issues • Collaborate and share accountability • Negotiate and resolve scheduling or lab access conflicts
NST staff (scientists, researchers, post-docs) and staff across ANSTO organisation	<ul style="list-style-type: none"> • Develop and maintain effective working relationships and open channels of communication • Understand user requirements and desired outcomes • Provide expert advice, analysis and training • Contribute to the preparation of manuscripts for journal publications • Support organisation-wide initiatives, strategic projects, and workgroups
External	
Facility users and collaborators from Universities, Industry, National and International Research organisations.	<ul style="list-style-type: none"> • Ensure laboratory and accelerator availability within appropriate timescales, co-ordinate usage • Ensure CAS AMS Radiocarbon science capabilities are fit for purpose and meeting user needs • Provide expert advice, analysis, training, guidance and supervision • Build and maintain relationships and partnerships • Assess competence to undertake activities within laboratory/s • Understand user requirements and desired outcomes • Contribute to the preparation of manuscripts for journal publications
Suppliers	<ul style="list-style-type: none"> • Negotiate specifications and costs for procurement and contracts for service and delivery schedules

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the CAS Head of AMS
Direct Reports	3 x Accelerator Scientist/AMS Scientist 1 x Instrumentation Physicist 1 x AMS Chemistry Experimental Officer 1 x AMS Development Scientist
Indirect Reports	1 x Radiocarbon Scientist (joint with UNSW)
Financial Data (2025/2026)	
Commercial Revenue / NCRIS Grants	\$0.5M

Operating Budget	\$50k
Staffing Budget	\$0.7M
Capital Budget	\$50k
Assets	

Special / Physical Requirements

Location:	Lucas Heights Working in different areas of designated site/campus as needed
Travel:	May be required travel to ANSTO sites from time to time Infrequent travel both internationally and nationally
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Laboratory facility physical requirements ((lifting, standing for long periods, operating machinery, equipment) Public speaking Wearing personal protective equipment for the handling of hazardous materials
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions
Hours:	Willingness to work extended and varied hours based on operational requirements After hours work may be required for short and infrequent periods
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements Maybe required to obtain and maintain appropriate federal government clearance

Workplace Health & Safety

Specific role/s as specified in <u>AP-2362</u> of the ANSTO WHS Management System	All Workers Managers / Leaders / Supervisors Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties
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ORGANISATIONAL CHART

On file

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 7

1. PhD in relevant field of science (physics, materials, chemistry, environmental science, radiochemistry) or equivalent tertiary qualification coupled with extensive experience in scientific field.
2. Experience in the provision of support to achieve business and operational strategy outcomes.
3. Experience in the provision of financial management, forecasting, planning (both financial and workforce/succession) and cost control.
4. Demonstrated ability to provide expert advice to users, researchers and commercial clients.

5. Experience in managing accelerator operations in a user-based research environment to achieve scientific excellence, desired organisational outcomes and achieving optimal work performance.
6. Demonstrated experience in mentoring and supervising staff and visiting scientists and allocating resources effectively to achieve outcomes in a variety of circumstances.
7. Demonstrated ability to facilitate training in specialised analytical and experimental techniques.
8. Strong interpersonal and communication skills with the ability to interact and communicate with a varied and multidiscipline audience and to develop and maintain productive working relationships.
9. Extensive experience operating within laboratory quality, safety and regulatory requirements (WHS, radiation safety, ARPANSA regulations, quality systems).
10. Demonstrated ability to represent the organisation at national and international forums as an expert in a relevant scientific field.

In addition to the required knowledge skills and experience above the Band 8 level will require:

1. Recognised as a national or international expert in radiocarbon AMS science, with a strong publication record and research leadership profile.
2. Demonstrated experience leading strategic platform or capability development in high-throughput AMS environments.
3. Proven ability to initiate and manage external collaborations and partnerships that align with CAS and NCRIS priorities.
4. Experience designing and delivering infrastructure upgrades, method development, or process innovation that supports both scientific excellence and operational throughput.
5. Ability to influence national or institutional strategy through active participation in consortia, infrastructure networks, or review panels.

VERIFICATION

This section verifies that the line manager and appropriate senior manager/executive confirm that this is a true and accurate reflection of the position.

Line Manager		Delegated Authority	
Name:		Name:	Ceri Brenner
Title:	CAS Head of AMS	Title:	Director, CAS
Signature:		Signature:	
Date:		Date:	

CAS AMS Radiocarbon Capability Team Lead Linked Role (PD-2584)**Band 7 to Band 8 Transition Checklist**

Name:	
Commencement Date:	
Assessment Date:	

Note: Full written submission demonstrating and justifying how the employee meets the requirements must also be attached.

Requirements for transition	Met Criteria
Demonstrates national or international leadership in radiocarbon AMS science, including significant peer-reviewed outputs or strategic partnerships.	Yes No
Leads development and implementation of high-throughput methodologies or process innovations to increase capability and impact.	Yes No
Initiates and sustains collaborations aligned with CAS, ANSTO, or NCRIS strategic priorities.	Yes No
Shapes strategic capability investment and infrastructure planning through planning documents or working group contributions.	Yes No
Supervises or mentors staff and students in radiocarbon science and contributes to capability pipeline development.	Yes No
Represents CAS in national or international forums, consortia, or reviews.	Yes No
Contributes to cross-platform strategic planning across CAS and ANSTO.	Yes No
Maintains a sustained record of scientific leadership, stakeholder engagement, and innovation	Yes No

Manager Recommendation:

I have reviewed the employee's competence in accordance with Linked Role PD-2584 and certify that the employee meets all requirements for transition and recommend transition from Band 7 to Band 8 be endorsed.

Manager Name:	
Signature:	
Date:	

General Manager Assessment

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 7 to Band 8.

General Manager Name:	
Signature:	
Date:	