Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	CAS Ion Beams for Materials (IBM) Team Lead
Cluster / Business Unit / Division	Nuclear Science and Technology / Centre for Accelerator Science
Section or Unit:	IBM
Classification:	Band 7/ Band 8
Job Family:	Science
Position Description Number:	PD-2580
Work Contract Type:	Science/Manager
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Science

POSITION PURPOSE

The CAS Ion Beams for Materials (IBM) Team Lead is responsible for the leadership, delivery, and development of CAS's IBM capabilities for analysis and implantation applications. This includes oversight of workflows, 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 other CAS capability leads to integrate IBM capabilities into broader CAS 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 Ion Beams for Materials capability provides high-sensitivity element analysis via a suite of ion beam analysis techniques and surface engineering via ion beam implantation for research and industry applications in environment and advanced materials sectors, including air pollution monitoring, PFAS contaminant screening, and the development clean energy and quantum technologies. The IBM capability suite includes physics modelling, aerosol sample collection, sample preparation, and support for experimentation preparation, interpretation, as well as training for early career researchers and students.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

Leadership and Management (Band 7)

- Lead and manage the provision of CAS Ion Beams for Materials (IBM) 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 IBM resources and user program to deliver on agreed KPIs, metrics, contract and grant commitments, and milestones within the CAS Business Plan and NCRIS Activity Plans, in pursuit of CAS goals and supporting NST strategies.
- Lead the IBM 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 IBM 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 IBM 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 IBM 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 to operate accelerators for IBM applications, 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 CAS-wide strategy and planning through collaboration with other functional leads to ensure the integration of IBM capabilities into platform-wide delivery.
- 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 IBM 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;

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

- Lead long-term strategy for IBM 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 IBM capabilities and ensures CAS remains internationally competitive.
- As an internationally recognised expert with extensive experience in ion beam analysis and implantation 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 Ion Beam Analysis and Implantation 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 IBM 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 IBM 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 Director 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 Director 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 IBM 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 Director (Line Manager)	• 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, financial performance 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	• Ensure safe and compliant operations within IBM 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)	• Support team members and work collaboratively to contribute to achieving outcomes • Contribute to CAS decision making processes, planning and goals • Collaborate and share accountability • Negotiate and resolve conflicts

CAS IBM team scientists (Direct Reports)	• 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 Head of AMS and CAS Team Leaders	• 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	• 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.	• Ensure laboratory and accelerator availability within appropriate timescales, co-ordinate usage • Ensure CAS IBM science capabilities meet the analytical and materials deployment needs of researchers and industry, particularly in environmental analysis, quantum materials and advanced device prototyping and are fit for purpose. • 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	• Negotiate specifications and costs for procurement and contracts for service and delivery schedules

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Director, CAS
Direct Reports	2 x Accelerator Scientists 1 x Accelerator Science Officer 1 x Scientific computing engineer
Indirect Reports	Nil

Financial Data (2025/2026)	
Commercial Revenue / NCRIS Grants	$1.1M

Operating Budget	$50k
Staffing Budget	$0.5M
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 AP-2362 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

ORGANISATIONAL CHART

On file

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 7

1. PhD in relevant field of science (e.g. physics, engineering, materials, chemistry) 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. Internationally recognised expert and leader in ion beam analysis and/or implantation, with strong publication record and research leadership profile
2. Demonstrated capability to lead program-wide planning for IBM applications and capability development aligned with emerging materials science priorities.
3. Extensive experience in translating scientific research into operationally viable techniques and user workflows.
4. Proven ability to attract external funding and integrate IBM science into institutional and national strategic goals (e.g., environment, quantum, space) through partnership and investment planning, aligned to NCRIS and CAS priorities.
5. Active leadership in national/international technical networks and/or advisory roles that shape facility or discipline direction.

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:	Ceri Brenner	Name:	Andrew Peele
Title:	Director, CAS	Title:	Group Executive, Nuclear Science and Technology
Signature:		Signature:	
Date:		Date:	

CAS Ion Beams for Materials (IBM) Team Lead - Linked Role (PD-2580)

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**
Recognised scientific leader in ion beam analysis and/or implantation, with demonstrated national or international profile.	Yes No
Leads strategic development of analytical or implantation capabilities to meet evolving research and industry needs.	Yes No
Initiates and manages partnerships in emerging areas.	Yes No
Shapes CAS investment or planning documents that define future IBM capability or infrastructure needs.	Yes No
Supervises and mentors staff in technique development, scientific delivery, or capability stewardship.	Yes No
Represents CAS externally and contributes to sector-relevant working groups, panels, or peer review.	Yes No
Supports CAS-wide coordination of shared infrastructure, platform strategy, and scientific direction.	Yes No
Sustains a record of scientific innovation, infrastructure impact, and leadership engagement.	Yes No

Manager Recommendation:

I have reviewed the employee's competence in accordance with Linked Role PD-2580 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:	