

POSITION DESCRIPTION

Position Title	Principal Research Scientist – Climate Science
Cluster / Business Unit / Division	Nuclear Science and Technology Environment Research and Technology Group / Environmental Change
Section or Unit:	Change
Classification:	Band 8
Job Family:	Research
Position Description Number:	PD-2606
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Research

POSITION PURPOSE

The Principal Research Scientist in Climate Science provides strategic scientific leadership and expert advice to advance ANSTO's climate research initiatives. As an international leader in climate science, the principal research scientist applies nuclear and isotopic techniques to investigate the past climate and the interdependence of human activities on environmental change. The role drives the development of new international standards and the application of innovative methodologies to address complex climate challenges, contributing to national and international climate science agendas and delivering high-impact research outcomes aligned with ANSTO's strategic imperatives. The role also engages with key national and international stakeholders to maximise the visibility and impact of ANSTO's climate science capabilities.

ORGANISATIONAL ENVIRONMENT

ANSTO is a leading global nuclear science and technology organisation delivering world class research and expertise to benefit Australia and support a more sustainable future. Using nuclear science, we improve health, support industries, provide expert advice to government on nuclear technologies and help develop Australia's nuclear workforce.

Nuclear Science & Technology (NST) incorporates 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 Environment Research and Technology Group (ERTG) uses its nuclear expertise, capabilities and access to unique research infrastructure to support water resource management decisions, build capacity to understand how our environment is changing and inform the management of human impacts on the geosphere.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Lead world-class research using nuclear methods, and develop innovative techniques to generate new scientific insights into climate and environmental change
- Lead the development of climate change mitigation solutions, including the use of refined climate models and predictive tools to inform strategic planning and policy development.
- Lead high-impact research that meets or sets international standards, including leading publications in peer-reviewed journals, invited to reputable scientific conferences and forums, and the development of applied outputs such as technical documentation, stakeholder-facing materials, and other knowledge translation products.

- Collaborate with ANSTO leaders to develop research and technical work programs that add value to ANSTO's capabilities and facilities and align with NST research priorities and ANSTO's Corporate Plan.
- Lead strategic communication of research outcomes within ANSTO and across the scientific community to influence policy, public understanding, and stakeholder engagement.
- Lead opportunities for external revenue, research funding and resourcing.
- Represent ANSTO in high-level scientific forums and contribute to national and international climate science agendas.
- Provide strategic leadership in the formation of multi-disciplinary research initiatives, fostering collaboration across ANSTO, national institutions and international partners to deliver high-impact scientific projects, services and advisory outcomes.
- Promote and role model a culture of scientific excellence and innovation within NST by fostering talent development, mentoring emerging researchers, and leading initiatives that build institutional capability through sharing and transfer of technical expertise, networks, and knowledge, strengthening collaboration and advancing ANSTO's reputation as a leader in climate science.
- Provide strategic oversight of palaeoclimate and environmental change research initiatives to ensure alignment with organisational priorities, optimal resource utilisation, and delivery of measurable scientific and stakeholder impact.
- Undertake additional strategic responsibilities, as required, to ensure continuity of research leadership, including assuming key advisory or coordination roles to uphold scientific outcomes, fulfil contractual obligations, and maintain stakeholder engagement during periods of transition or absence.

Decision Making

- Decisions are made within the context of ANSTO's corporate and business plans, integrated business planning, NST strategy, and the ERTG business plan, ensuring alignment within organisational priorities and national science objectives.
- As a leading expert in their field, the position holder operates with autonomy in determining scientific approaches, allocating resources from secured funding, and setting the strategic direction of research initiatives. They serve as the principal and authoritative source of scientific advice to the Science Program Leader and Director of ERTG, actively influencing and shaping the development of new research areas and informing strategic decisions in climate and palaeoenvironmental science.
- The position holder is accountable for the accuracy, integrity and quality of the advice provided to the Science Program Leader and other ANSTO stakeholders, and must ensure that decisions are evidence-based, ethically sound and uphold research integrity.
- At times, effective judgements are required under pressure or in the absence of complete information. The position holder is expected to engage collaboratively with internal and external stakeholders to ensure decisions are informed, transparent, and aligned with both organisational goals and broader scientific and societal needs.
- The position holder contributes to the development of operational plans by advocating for the inclusion of strategically important research activities, using evidence-based insights to influence planning decisions. They set research priorities and shape project direction in alignment with organisational goals, consulting with the Science Program Leader on complex, sensitive or major project issues and providing well-reasoned, evidence based alternative solutions.
- 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).

Key Challenges

The major challenges for this position include:

- Maintaining thought leadership in the application of nuclear and isotopic techniques to climate science and environmental research.

- Leading national collaboration with other government research agencies to enable a whole of government approach to monitor, mitigate and adapt to climate change through nuclear science.
- Developing and leading opportunities which lead to increased research revenue and impact, in agreement with senior leadership and other stakeholders.
- Identifying strategic risks and opportunities in research directions, funding landscapes, and stakeholder engagement to guide long-term planning.
- Managing the interests and expectations of multiple stakeholders within an environment of differing expectations, providing leadership to ensure delivery of high-value outcomes for ERTG.
- Working with government, external collaborators and ANSTO stakeholders to identify and secure opportunities for external resources that support and advance high-impact research initiatives.
- Building and sustaining strategic knowledge-sharing networks across Government, academia, and industry to deliver high-quality impactful climate and palaeoenvironmental research.
- Translating complex scientific information into actionable insights for diverse audiences, including policy makers, industry leaders, and the public.
- Providing strategic oversight and expert guidance in the safe and compliant use of radioactive and hazardous materials within a highly regulated environment.
- Demonstrating leadership in mentoring, capability development, and knowledge transfer internally and with external collaborators.
- Providing trusted advisory input on sensitive and/or confidential matters, ensuring integrity and professionalism in all engagements.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Line Manager/Executive	<ul style="list-style-type: none"> • Ensure organisational objectives guide the strategic direction of research and advisory activities • Receive broad guidance and direction and operate with a high level of autonomy • • Provide expert, authoritative and evidence-based advice • • Recommend and gain endorsement for project plans, research initiatives and deliver on project management, reporting and KPIs • Negotiate and report on budgets and resources consistent with strategic plans and goals • Recommend and gain endorsement for plans and goals and other initiatives
Work area team members	<ul style="list-style-type: none"> • Provide expert advice and analysis on a full range of scientific matters • Contribute to team planning, group decision making and goal setting. • Collaborate and share accountability for program and ERTG's outputs, including KPI targets. • Resolve conflicts constructively and support a high-performance team culture. • Participate in mentoring and mutual learning and capability development.
Indirect Reports	<ul style="list-style-type: none"> • Provide leadership, guidance and support to team members, including ANSTO graduates and PhD students. • Evaluate and interpret experimental data as required. • Mentor and guide ANSTO graduates and PhD students.

	<ul style="list-style-type: none"> Engage to monitor trends, performance and progress against strategic/business/project plans and evaluate further support which may be required to ensure delivery against the plans.
Other departments	<ul style="list-style-type: none"> Provide expert, authoritative advice to other ANSTO business units and operational areas which will utilise the advice and knowledge generated by this position. Utilise ANSTO's capabilities in specialised analytical services and nuclear techniques to the project. Build relationships to ensure effective communication of commercial and research outcomes and facilitate data sharing and business continuity.
External	
Universities, industry partners, research institutes, government agencies, regulatory authorities and international organisations	<ul style="list-style-type: none"> Lead productive collaborations with universities and external research institutes. Mentor students and ECRs. Share knowledge and deliver outcomes from research. Develop and maintain strategic relationships with external stakeholders, particularly those engaged in climate and environmental science. Provide expert, authoritative and evidence-based advice. Understand the needs and provide requested expert advice to Australian Government agencies and regulatory authorities. Actively contribute and represent ANSTO and the Australian Government position. Support whole-of-government approaches to climate and environmental challenges. Participate and collaborate with international organisations, such as the IAEA, on global research initiatives.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Science Program Leader (Environmental Change Program)
Direct Reports	Nil
Indirect Reports	Early-career researchers, ANSTO graduates, PhD, Masters and Honours students, postdoctoral fellows, and visiting researchers.

Financial Data (2021/2022)	
Revenue / Grants	N/A
Operating Budget	N/A
Staffing Budget	N/A
Capital Budget	N/A
Assets	N/A

Special / Physical Requirements	
Location:	B21, Lucas Heights Working in different areas of designated site/campus as needed
Travel:	May be required travel to other ANSTO sites Potential travel both internationally and nationally

Physical:	Office based, laboratory and fieldwork will be part of this role Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions. Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions. Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions.
Hours:	After hours work or varied working hours may be required for short and infrequent periods
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety

Specific role/s as specified in AP-2362 of the ANSTO WHS Management System	<p>Conform with ANSTO WH&S requirements applicable to all Workers</p> <p>Individuals are responsible for undertaking their activities in a safe manner and cooperating with OHSE requirements to improve OHSE in their workplace by;</p> <ul style="list-style-type: none"> • Reporting unsafe work practices, equipment, incidents and near misses; • Working safely to reduce risk to self and others; • Using appropriate controls; and • Taking a proactive approach to OHSE.
--	---

ORGANISATIONAL CHART

Refer to published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

1. PhD in Hydrology, Hydrogeology, Meteorology, Climatology, Environmental Science/Engineering or similar science or engineering discipline.
2. Demonstrated leadership in advancing the frontiers of climate and paleoenvironmental research through the development and application of novel nuclear and isotopic techniques.
3. Expertise in the application of nuclear and isotopic techniques (e.g., radiocarbon dating, stable isotope analysis) to climate and environmental research, including integration with advanced climate modelling, scenario analysis, and understanding natural climate variability.
4. Significant track record in planning and delivering research and commercial projects, including managing multidisciplinary teams, budgets, materials and regulatory compliance.
5. Proven ability to build and maintain productive working relationships across diverse teams within ANSTO and with national and international collaborators.
6. Extensive professional and scientific networks in climate and environmental change monitoring, mitigation and adaptation, and/or environmental pollution assessment, with the ability to develop and apply innovative solutions for technical, scientific or engineering challenges.
7. Proven extensive capacity for strategic thinking, aligning research initiatives with government, industry, and organisational priorities.
8. Strong publication track record, with demonstrated ability to lead and contribute to sustained, high-quality peer-reviewed research outputs in high-impact journals.

9. Excellent communication and interpersonal skills, including active listening, mentoring/counselling, conflict-resolution, negotiation and the ability to convey complex scientific concepts to diverse audiences.
10. Ability to work independently and collaboratively, contributing to high-performing teams and shared research outcomes.
11. Ability to identify, develop and drive commercial opportunities, including translating research into policy, industry applications, or commercial products.
12. Experience in stakeholder engagement, including providing strategic advice to executive leadership, contributing to government advice and representing ANSTO in national and international forums.

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:	Carol Tadros	Name:	Karina Meredith
Title:	Science Program Leader	Title:	Director, Environment Research and Technology Group
Signature:		Signature:	
Date:	13/10/25	Date:	13/10/25