

POSITION DESCRIPTION

Position Title	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 6
Job Family:	Research
Position Description Number:	PD-2587
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Research

POSITION PURPOSE

The primary objective of the position is to provide specialised expertise and to undertake original research in climate science using nuclear and isotopic techniques, leading to significant research outcomes aligned with ANSTO's strategic imperatives. The role will deliver scientific and technical advice, to inform climate change mitigation solutions, and engage in commercial applications of the research.

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 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

- Design and conduct laboratory and field experiments using nuclear methods, and develop innovative techniques to generate new scientific insights into climate and environmental change
- Apply high-level specialist knowledge and experience in climate science to support the development of climate change mitigation solutions, including the use of refined climate models and predictive tools to inform strategic planning and policy development.
- Produce high-impact research that meets emerging international standards, including publications in peer-reviewed journals, contributions to reputable scientific conferences and forums, and the development of applied outputs such as technical documentation, stakeholder-facing materials, and other knowledge translation products.
- Provide trusted scientific advice and specialised services which meets stakeholder and customer requirements, particularly those related to nationally significant environmental projects.

- Take a leading role in solving highly complex, conceptual scientific problems by seeking knowledge and alternative solutions and developing new techniques, methods and experimental capabilities.
- Seek out and develop opportunities for new projects, including those generating external revenue for ANSTO, that contribute to advancing climate science and environmental sustainability.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, integrated business planning, NST strategy, and Environment Research and Technology business plan provide the context for the position.
- The position holder works within a framework of legislation, policies, professional standards and resource parameters.
- The position holder is expected to exercise sound scientific judgment, uphold research integrity and ethical standards, and 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 scientific knowledge and technical expertise towards the accuracy, integrity and quality of the content of advice provided to the Science Program Leader, and other staff across ANSTO and is required to ensure that decisions are based on sound evidence.
- Daily work priorities are determined within the context of agreed work plans and the position holder will consult with the line manager on complex, sensitive and major issues.
- 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:

- Working in a highly regulated environment with radioactive and hazardous materials, and may include operating complex scientific equipment.
- Conducting field work and collecting samples at remote and/or potentially contaminated sites
- Building a national reputation in the application of nuclear and isotopic techniques to climate science and environmental research.
- Management of any potentially sensitive or confidential aspects of the work with discretion and professionalism.
- Establishing and maintaining effective communication and knowledge sharing networks with internal and external collaborators, potential clients, and stakeholders including across Government, universities and industry to deliver high quality climate and environmental research.
- Support the translation of complex scientific information into a relevant format for application and use by diverse audiences.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Line Manager/Executive	<ul style="list-style-type: none"> • Ensure that organisational objectives guide the work undertaken in this role • Provide expert, authoritative and evidence-based advice • 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 findings of research • Contribute to group decision making processes, planning and goals

	<ul style="list-style-type: none"> • Collaborate and share accountability • Negotiate and resolve conflicts • Participate in mentoring and mutual learning and development • Contribute fully to group outputs such as reports, journal papers and presentations
Direct Reports / students	<ul style="list-style-type: none"> • Provide leadership, guidance and support • Evaluate and interpret experimental data as required • Mentor and guide ANSTO graduates and PhD students
Other departments	<ul style="list-style-type: none"> • Interact and advise ANSTO operational areas including Centre for Accelerator Science which will utilise the advice and knowledge generated by this position • Utilise and enhance the capabilities of ANSTO which provide specialised analytical services and nuclear techniques to the project
External	
	<ul style="list-style-type: none"> • Seek and implement productive interactions with universities and students • Understand the needs and provide requested advice to Australian Government agencies and regulatory authorities • Work collaboratively with external research institutes • Participate and collaborate with international organisations such as the IAEA • Develop and maintain positive relationships with industry partners, particularly those concerned with climate and environmental science.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Science Program Leader (Environmental Change Program)
Direct Reports	Nil
Indirect Reports	Nil
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:	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 Field work including remote locations
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 <u>AP-2362</u> of the ANSTO WHS Management System	Conform with ANSTO WH&S requirements applicable to all Workers Individuals are responsible for undertaking their activities in a safe manner and cooperating with OHSE requirements to improve OHSE in their workplace by; <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.
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ORGANISATIONAL CHART

Refer to published Organisational Chart.

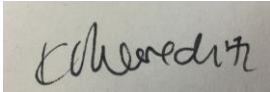
KNOWLEDGE, SKILLS AND EXPERIENCE

1. PhD in Environmental or Earth Science or a related discipline.
2. Demonstrated expertise in interpreting and modelling climate data using climate models, including applications for climate projections, scenario analysis, and understanding natural climate variability.
3. Proficient in programming languages (e.g., Python, R, MATLAB), with experience in GIS tools, spatial analysis, and statistically rigorous assessments of large climate datasets.
4. Broad knowledge of standard sample collection and preparation techniques, and practical experience in preparation of water, rock and soil samples for isotope and chemical analyses.
5. Experience in one or more of the following areas:
 - a. Palaeoenvironmental reconstruction techniques, such as radiocarbon dating, sediment dating, cosmogenic isotope methods, and stable isotope analysis for reconstructing past climates and environmental conditions.
 - b. Geochemical and isotope applications to investigate Antarctic or Southern Ocean ecosystems, including isotope-enabled climate modelling. Using multiproxy geochemical techniques and/or geochemical modelling experience, would be an advantage.
6. Experience in climate change mitigation and adaptation strategies, and/or environmental pollution assessment. develop and apply innovative solutions for technical, scientific or engineering challenges.
7. Proven ability to conduct independent leading-edge research, with an excellent publication track record commensurate with experience and opportunities.
8. Demonstrated success in building and maintaining productive research relationships and networks across disciplines and institutions.
9. Experience in and commitment to following policy, procedures, and guidelines.

10. Demonstrated personal qualities that will contribute positively to the team environments, including mentoring and supporting the development of students and early-career researchers.

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:	20/05/2025	Date:	14/05/2025