



POSITION DESCRIPTION

Position Title:	Nuclear Chemist Nuclear Science & Technology and Landmark Infrastructure -
Cluster / Business Unit / Division	Research
Section or Unit:	Nuclear Fuel Cycle
Classification:	Band 5
Position Description Number:	PD-2086
Work Contract Type:	Professional/Research
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

To perform research that contributes to ANSTO-NFC Projects in Nuclear Fuel and Nuclear Waste by carrying out laboratory-based experimental work, and writing reports or other forms of scientific publications. To support chemistry-related research activities in Reactor Systems on corrosion of nuclear materials by molten salts, and to contribute with high-level support for other parts of the Organisation such as Waste Operations, ANM and others.

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 & Technology and Landmark Infrastructure (NSTLI) incorporate ANSTO's research, innovation, landmark research infrastructure and associated platforms and capabilities. NSTLI 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.

NSTLI's Research Portfolio undertakes world class applied and translational research utilising nuclear techniques to foster innovation in research and development programs to enhance ANSTO's contribution to supporting a sustainable and healthier future for our planet and people everywhere. The Research Portfolio consists of research themes that define the broad subject areas of research with underlying research programs that are focussed activity groupings that contribute to the overall objectives of the research theme and also conducting research sub-programs within platforms. The Research Themes are Environment, Human Health and Nuclear Fuel Cycle.

The Nuclear Fuel Cycle research theme undertakes research in safe, secure and efficient use of nuclear fuel commodities utilising our expertise and capabilities. Research is undertaken into a series of industrial processes that encompasses all aspects of nuclear fuel refinement, development and utilisation covering every phase of fissile materials use.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Conduct research on synthesis and characterisation of actinide-doped materials as potential nuclear fuels, spent fuels and wastes from future Gen 4 reactors.
- Conduct research on characterisation of liquid waste forms for various legacy waste streams.
- Conduct research on removing nuclear contaminants from various surfaces.
- Conduct research on corrosion of nuclear materials by molten salts.

- Contribute to the outcomes of Nuclear Fuel Cycle Research Theme by initiating and conducting scientific research relevant to commercial and research projects.
- Take research ideas through to conclusion by problem solving, looking at solutions, investigating alternatives and selecting preferred options.
- Liaise with industry on specific commercial projects to collect specific information on client requirements, present reports to clients and collect their feedback.
- Contribute to applications for funding from potential clients.
- Work collaboratively with senior researchers within NFC, and interact constructively with researchers and technical personnel from across ANSTO to advance the requirements of specific projects.
- Publish scientific results and develop personal professional networks with other local, national and international research groups and industry.
- Communicate the results of research both within ANSTO and across the scientific community.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NSTLI Research strategy and Nuclear Fuel Cycle objectives provide the context for the position.
- The position works within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position has limited independence in determining how to achieve objectives of the unit
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided, and is required to ensure that decisions are based on sound evidence.
- Determine own work priorities in consultation with senior researchers and line managers.
- Apply methods and approaches within the context of agreed work plans and will consult with the line manager on issues that have an impact on the project or research theme.

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

- Pro-activity in keeping up-to-date with best practice when working with active materials and with the current nuclear industry standards.
- Understand the conditions of working under a tightly regulated environment.
- Development of skills and knowledge in nuclear materials synthesis and characterisation.
- Contributing to the research theme and research project objectives and project completion whilst managing conflicting priorities and deadlines.
- Willingness to challenge established ways of working in favour of more productive approaches.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	<ul style="list-style-type: none"> • Receive guidance and direction • Provide expert, authoritative and evidence based advice
Work area team members	<ul style="list-style-type: none"> • Contribute to development of synthesis methods and analysis on a full range of nuclear materials • Contribute to group decision making processes, planning and goals • Collaborate and share accountability

Direct Reports	<ul style="list-style-type: none"> • No direct reports
External	
Industry	<ul style="list-style-type: none"> • Provide expert, authoritative and evidence based advice • Report on work outcomes, outputs and results and project contribution and status. • Build relationships, ensuring effective communication of commercial and research results and to allow collection of data and continued business.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Manager of Spent Fuel Management Program in NFC
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2019/2020)	
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 ANSTO sites from time to time Infrequent travel to meet clients within Australia Some travel to workshops and conferences internationally and nationally
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Standing for long periods Public speaking Wearing personal protective equipment for materials characterisation
Radiation areas:	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:	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 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 Officer (definitions found in appendix A of AP-2362) Group Executive / General Manager

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

Refer to published Organisational Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

1. PhD in Chemistry, Physics, Materials Science, or equivalent.
2. Demonstrated ability to work independently and effectively, and contribute and share knowledge within a research project team environment.
3. Demonstrated personal qualities that will add value to the research project teams.
4. Desirable experience in working with active materials.
5. Desirable knowledge in surface corrosion.
6. Demonstrated capacity to carry out experimental work.
7. Ability to effectively manage relationships and work collaboratively with key stakeholders
8. Good verbal and written science communication and good interpersonal communication.

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:	Yingjie Zhang	Name:	Mihail Ionescu
Title:	Research Program Manager	Title:	Leader, Nuclear Fuel Cycle
Signature:		Signature:	
Date:	7/05/2020	Date:	7/05/2020