



## POSITION DESCRIPTION

<b>Position Title:</b>	Radiochemist / Senior Radiochemist (Nuclear Medicine Development)
<b>Cluster / Business Unit / Division</b>	Nuclear Science & Technology
<b>Section or Unit:</b>	Biosciences / Radiochemistry
<b>Classification:</b>	Band 5 / 6 (Linked)
<b>Job Family:</b>	Research
<b>Position Description Number:</b>	PD-2321
<b>Work Contract Type:</b>	Research and Science
<b>STEMM/NON-STEMM:</b>	STEMM

### POSITION PURPOSE

#### Radiochemist – Band 5

The primary objective of the Radiochemist is to contribute to late-stage development, and manufacture of high-quality radiopharmaceuticals and radioisotopes. The position undertakes capability development programs to enable and improve radiochemistry manufacturing capabilities to support the translation and provision of radiopharmaceuticals and radioisotopes technologies into high-quality products. The position supports users, collaborators, and partners across NST, ANSTO Nuclear Business, the nuclear medicine community, universities, and industry, and assists with building productive national and international networks.

#### Senior Radiochemist - Band 6

The primary objective of the Senior Radiochemist is to contribute and provide technical and scientific leadership to late-stage development and manufacture of high-quality radiopharmaceuticals and radioisotopes. The position undertakes and leads capability development programs to enable and improve radiochemistry manufacturing capabilities to support the translation and provision of radiopharmaceuticals and radioisotopes technologies into high-quality products. The position holder uses their expertise and experience to supervise and train early career radiochemists, supports users, collaborators, and partners across NST, ANSTO Nuclear Business, the nuclear medicine community, universities, and industry, and assists with building productive national and international networks.

### 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 (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 Research Infrastructure portfolio consists of platforms established on scientific infrastructure and capabilities, with a number of the platforms categorised as landmark infrastructure. This includes a range of scientific assets, infrastructure, capability development and delivery for multi-decadal, multi-disciplinary, multi-user platforms for a collaborative user community and for internal research and development endeavours.

Biosciences is a Research Infrastructure platform which includes facilities and capabilities organised into three groups – Radiochemistry, Irradiations, and Biology & Preclinical Imaging. The platform partners with pharmaceutical, biomedical and medical devices companies to bring new products and methods to market. It collaborates with the NST Human Health research theme to develop greater understanding of disease states, diagnosis and treatment, assists in optimising ANSTO Nuclear Business production methods and develops new and improved methods of deploying landmark infrastructure and nuclear methods for the benefit of partners, collaborators and customers.

The Radiochemistry group provides a wide range of capabilities to enable radiochemistry research and development and to deploy the delivery of radiopharmaceuticals, radioisotopes, advanced manufacturing methods and radioisotope separations. The radiochemistry Nuclear Medicine Development team develop manufacturing processes and methodologies to test and optimise the production of radiopharmaceuticals and radioisotopes. Using automated radiosynthesis modules and custom in-hotcell remote handling devices following GMP and GLP principles, to provide radiopharmaceuticals and radioisotopes manufacture procedures, technologies, and products at production scale. The radiochemistry Nuclear Medicine Development team operates dedicated infrastructure and works in close cooperation and collaboration with the radiopharmaceuticals and radioisotopes teams to deliver a diverse range of theranostic products and technologies.

## **ACCOUNTABILITIES & RESPONSIBILITIES**

### **Key Accountabilities**

#### **Radiochemist - Band 5**

- Support research and development in radiochemistry for the provision of radiopharmaceuticals and radioisotopes, including the development of radiochemical automation and radioanalytical measurement methods.
- Conduct and support large scale routine radiopharmaceutical and radioisotope production and propose, evaluate, validate, and execute new and improved production methods for routine supply of radiopharmaceuticals and radioisotopes to internal and external user communities.
- Support the development and validation of radiopharmaceutical and radioisotopes and apply them at a proof-of-principle scale for radiopharmaceutical and radioisotope manufacture, to optimise radiochemistry parameters such as yield, reliability, purity, and stability.
- Work within a team of scientists, laboratory professional officers & laboratory technicians and other internal and external scientists/researchers to facilitate and contribute to research and commercial outcomes in response to user needs.
- Prepare experimental work, undertake analysis and interpretation of experimental results, and prepare reports and papers for peer-reviewed publication and presentation at national and international fora.
- Contribute to the management of radiochemistry facilities and equipment through an asset management framework and assist with the capital development program to ensure the availability and utilisation of capabilities, meeting operational safety, security, sustainability and compliance requirements within applicable standards, legislation, and regulations.
- Contribute to regular monitoring, maintenance, and calibration of radiochemistry team equipment including radiosynthesisers, dispensing modules, and quality control equipment.
- Develop and maintain quality, safety, and compliance programs. Write safety and reliability assurance documents, risk assessments, work instructions and procedures for experimental laboratory work and equipment usage and for safe experimental practice, validation records and protocols. Ensure laboratories and equipment is used properly, safely and in accordance with ANSTO policies and procedures. Maintain accurate records to meet regulatory and quality requirements, including radioactive sample and chemical registers, to ensure inventory and relevant safety documentation (Materials Safety Data) are kept up to date.

- Build professional and productive networks nationally and internationally to identify and secure collaborative research opportunities with strategic partners including universities, medical research institutes and industry.
- Undertake additional duties as required and during period of leave of other staff.

### **Senior Radiochemist - Band 6**

- Provide sound knowledge to ensure the effective development and deployment of radiochemistry capabilities for the manufacture of radiopharmaceutical and radioisotopes, including the development of high-quality and reproducible radiochemistry automation and radio-analytical measurement methods.
- Lead routine radiopharmaceutical and radioisotope production and propose, evaluate, validate, and execute new and improved manufacture methods for routine supply of radiopharmaceuticals and radioisotopes to user communities.
- Provide leadership and support for the development and validation of novel manufacture technologies for radiopharmaceutical and radioisotope manufacture, to optimise radiochemistry parameters such as yield, reliability, purity, and stability.
- Coordinate and deliver nuclear medicine projects including liaising with clinical commercial and academic partners, setting, and planning commercial project tasks, motivating project team members, monitor and review outputs.
- Lead, coordinate, and prepare experimental work, undertake analysis and interpretation of experimental results, and prepare reports and papers for peer-reviewed publication and presentation at national and international fora. Write technical reports and development procedures for equipment usage, experimental practice and validation records and protocols.
- Lead regular monitoring, maintenance, and calibration of radiochemistry team equipment including synthesisers, dispensing modules, and quality control equipment.
- Lead the preparation of safety and reliability assurance documents, risk assessments, work instructions and procedures for experimental laboratory work and equipment usage and for safe experimental practice, validation records and protocols.

## **Decision Making**

### **Radiochemist Band 5**

- The ANSTO values, organisational corporate plan, integrated business planning process, the NST strategic plan and the Biosciences business plan provide the context for the position.
- Determine key work priorities and methods within the context of agreed work plans and consult with the line manager on issues that have an impact on the group. The position has limited independence in deciding on methods and approaches to achieve performance objectives.
- The position is fully accountable for the accuracy, integrity and quality of the advice provided and for decisions being based on sound evidence.
- The position works within a framework of legislation, policies, professional standards, and resource parameters.
- 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).

### **Senior Radiochemist Band 6**

- Same as for Band 5

## Key Challenges

### Radiochemist Band 5

- Building professional networks within NST and with other groups within ANSTO and external radiochemistry laboratories.
- Keeping abreast of recent developments in radiochemistry, nuclear medicine, laboratory management, quality systems, ANSTO radiation safety processes and any identified aligned fields of scientific inquiry.
- Understanding and balancing the different expectations from a variety of users, collaborators, and partner communities, following the expectations set by regulators and safety advisors.

### Senior Radiochemist Band 6

- Balancing project demands against operational need in a highly complex, heavily regulated, tightly constrained, and dynamic environment to ensure successful delivery of agreed objectives.

## KEY RELATIONSHIPS

Who	Purpose
<b>Internal</b>	
Principal Radiochemist (Nuclear Medicine Development Manager)	<b>Band 5</b> <ul style="list-style-type: none"> <li>• Receive guidance, direction, and advice</li> <li>• Receive performance requirements consistent with business plans &amp; goals</li> <li>• Report on compliance of the instrumentation</li> <li>• Recommend and gain approvals for facility modifications, enhancements, improvements, and process/procedure changes or improvements.</li> <li>• Escalate issues and propose solutions</li> <li>• Provide regular updates on key tasks, issues, and priorities</li> </ul>
Principal Radiochemist (Core Product Manager)	<b>Band 6</b> <ul style="list-style-type: none"> <li>• Provide advice on operational and capital budgetary requirements.</li> <li>• Provide expert, authoritative and evidence-based advice</li> </ul>
Radiochemistry Team	<b>Band 5</b> <ul style="list-style-type: none"> <li>• Receive guidance, direction, and advice</li> <li>• Provide advice and analysis</li> <li>• Deliver to the business plan</li> <li>• Contribute to group decision-making regarding processes, plans and goals</li> <li>• Provide support and work collaboratively to contribute to achieving platform and research theme outcomes</li> <li>• Collaborate and share accountability</li> <li>• Identify, negotiate, and resolve conflicts</li> </ul>
Radiochemistry Team	<b>Band 6</b> <ul style="list-style-type: none"> <li>• Determine work priorities.</li> <li>• Maximise the user experience.</li> <li>• Lead team members and work collaboratively to contribute to the delivery of high impact outputs.</li> <li>• Provide expert scientific advice, analysis, and leadership.</li> </ul>

	<ul style="list-style-type: none"> <li>• Guide, facilitate and shape group decision making processes, planning, and goals.</li> <li>• Identify and negotiate solutions to conflicting demands on resources</li> </ul>
Facility Users – internal	<b>Band 5</b> <ul style="list-style-type: none"> <li>• Collaborate and develop plans</li> <li>• Maximise user experience</li> <li>• Provide advice and analysis</li> <li>• Collaborate and contribute to research projects</li> </ul>
Facility Users – internal	<b>Band 6</b> <ul style="list-style-type: none"> <li>• Provide expert advice, analysis, and leadership</li> <li>• Monitor trends and progress against agreed project plans and develop and implement strategies to ensure project delivery</li> <li>• Provide user training and supervision and ensure safety, regulatory and quality compliance</li> </ul>
ANSTO Nuclear Medicine and NST Subject Matter Experts	<b>Band 6</b> <ul style="list-style-type: none"> <li>• Collaborate and share knowledge</li> <li>• Provide expert advice, analysis, and leadership</li> </ul>
Preclinical and Biology Team	<b>Band 5 and Band 6</b> <ul style="list-style-type: none"> <li>• Receive guidance, direction, and advice</li> <li>• Provide advice and analysis</li> <li>• Contribute to group decision-making regarding processes, plans and goals</li> <li>• Provide support and work collaboratively to contribute to achieving platform and research theme outcomes</li> <li>• Collaborate and share accountability</li> <li>• Identify, negotiate, and resolve conflicts</li> </ul>
<b>External</b>	
Capability users from universities, industry, national and international research organisations.	<b>Band 5</b> <ul style="list-style-type: none"> <li>• Understand user requirements and desired outcomes</li> <li>• Provide advice, analysis, training, guidance, and supervision</li> <li>• Ensure compliance with safety and quality systems and applicable legislation and regulations</li> <li>• Maintain relationships</li> </ul>
Capability users from universities, industry, national and international research organisations.	<b>Band 6</b> <ul style="list-style-type: none"> <li>• Build and maintain relationships</li> <li>• Provide expert advice, analysis, training, guidance, and supervision</li> </ul>

## POSITION DIMENSIONS

<b>Staff Data</b>	
Reporting Line	Principal Radiochemist (Core Product Manager)
Direct Reports	Nil
Indirect Reports	Nil
<b>Special / Physical Requirements</b>	
Location:	Lucas Heights Working in different areas of designated site/campus as needed
Travel:	Operational needs may require temporary and/or periodic assignments at collaborative partner facilities within Australia or training assignments both nationally and internationally.

Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Labour intensive physical requirements (sitting, standing, frequent manual handling) Standing for long periods 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:	Willingness to work extended and varied hours based on operational requirements
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

### Workplace Health & Safety

Specific role/s as specified in <a href="#">AG-2362</a> of the ANSTO WHS Management System	All Workers 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

Refer to published Organisational Chart

### KNOWLEDGE, SKILLS AND EXPERIENCE

#### Radiochemist - Band 5

1. Higher degree (PhD) in radiochemistry, a relevant branch of chemical research (e.g., organic, inorganic, synthetic, medicinal, or analytical chemistry) or pharmaceutical sciences.
2. Demonstrated ability to produce scientific and research outcomes, develop scientific capabilities and undertake scientific analysis.
3. Knowledge and demonstrated experience in synthetic organic and or inorganic and or analytical chemistry.
4. Ability to develop and apply knowledge of radiopharmaceuticals and or radioisotopes manufacture, their development and radioanalytical measurement.
5. Proven ability to plan, setup and undertake experiments including collecting and presenting data based on required outcomes.
6. Demonstrated problem solving skills and analytical ability including obtaining and interpreting information and making specific recommendations and conclusions.
7. Demonstrated track record of publications in chemical research.
8. Ability to develop and maintain productive working relationship with a wide variety of staff, facility users and regulators.
9. Demonstrated level of interpersonal and communication skills.

#### Senior Radiochemist - Band 6

1. Higher degree (PhD) in radiochemistry, a relevant branch of chemical research (e.g., organic, inorganic, synthetic, medicinal or analytical chemistry) or pharmaceutical sciences.
2. Proven experience and knowledge in the manufacture of radiopharmaceuticals and or radioisotopes, their development and radioanalytical measurement.

3. Significant knowledge and demonstrated experience in the development and manufacture of radiopharmaceuticals and or radioisotopes, radiolabelling methods, optimisation, characterisation, and stabilisation.
4. Demonstrated problem solving skills and analytical ability including obtaining and interpreting information and making specific recommendations and conclusions.
5. Demonstrated experience in managing the planning and setup of experiments to achieve required outcomes including collecting and presenting data and publishing research results in refereed journals.
6. Demonstrated experience in the effective management of radiochemistry facilities including laboratories, capital equipment, chemicals, reagents and radiochemicals, standards, and consumables.
7. Experience operating within laboratory quality, regulatory and safety requirements.
8. Ability to develop and maintain productive working relationships with a wide variety of staff, facility users, commercial vendors, and regulators.
9. Demonstrated high level of interpersonal and communication skills.

#### 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:	Leena Burgess	Name:	John Bennett
Title:	Principal Radiochemist (Nuclear Medicine Development)	Title:	Leader, Biosciences
Signature:		Signature:	
Date:		Date:	

**Radiochemist / Senior Radiochemist (Nuclear Medicine Development (PD-2321)  
Band 5 to Band 6 Transition Checklist**

Name:	
Commencement Date:	
Assessment Date:	

**Written submission demonstrating and justifying how the employee meets requirements must also be attached.**

Requirements for transition	Met Criteria
a) Minimum 5 years working as Radiochemist (Band 5) OR b) Minimum 5 years equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No OR <input type="checkbox"/> Yes <input type="checkbox"/> No
Higher degree (PhD) in radiochemistry, a relevant branch of chemical research (e.g., organic, inorganic, synthetic, medicinal or analytical chemistry), pharmaceutical sciences.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated knowledge and experience with the manufacture of radiopharmaceuticals and / or radioisotopes, their development and radioanalytical measurement and demonstrate meeting all below requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Demonstrated ability to independently and responsibly perform Band 6 accountabilities and apply required knowledge, skills and experience for the Band 6 position including:**

Requirements for transition	Met Criteria
Undertake Band 5 accountabilities at a technical expert level and independently without supervision or guidance	<input type="checkbox"/> Yes <input type="checkbox"/> No
Provide sound knowledge to ensure the effective development and deployment of radiochemistry capabilities for the manufacture of radiopharmaceuticals and radioisotopes, including the development of high-quality and reproducible radiochemistry automation and radio-analytical measurement methods.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead routine radiopharmaceutical and radioisotope production and propose, evaluate, validate, and execute new and improved manufacture methods for routine supply of radiopharmaceuticals and radioisotopes to user communities.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Provide leadership and support for the development and validation of novel manufacture technologies for radiopharmaceutical and radioisotope manufacture, to optimise radiochemistry parameters such as yield, reliability, purity, and stability. Provide evidence of leading x5 projects.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Coordinate and deliver nuclear medicine projects including liaising with clinical commercial and academic partners, setting and planning commercial project tasks, motivating project team members, monitor and review outputs.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead, coordinate and prepare experimental work, undertake analysis and interpretation of experimental results, and prepare reports and papers for peer-reviewed publication and presentation at national and international fora. Write technical reports and development procedures for equipment usage, experimental practice and validation records and protocols. Provide evidence of at least x2 radiochemistry publications and or technical reports as lead author determined by the Group Manager, Radiochemistry.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead regular monitoring, maintenance, and calibration of radiochemistry team equipment including radiosynthesisers, dispensing modules, and quality control equipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Build professional and productive networks nationally and internationally to identify and secure collaborative research opportunities with strategic partners including universities, medical research institutes and industry.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Completed all role required training as per Biosciences Training Needs Analysis.	<input type="checkbox"/> Yes <input type="checkbox"/> No



**Attach written submission demonstrating and justifying how the employee meets each of the above requirements.**

**Manager Recommendation**

I have reviewed the employee's competence in accordance with Linked Role PD-2321 and certify that the employee meets all requirements for transition and recommend transition from Band 5 to Band 6 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

**Leader, Biosciences**

I have reviewed all information and approve transition from Band 5 to Band 6.

Name & Title:			
Signature:		Date:	
Effective date of transition:			

## Appendix 1

<b>ANSTO Job Families</b>
Accounting & Finance
Administration
Communications & Marketing
Compliance & Regulation
Engineering and Technical
Human Resources
ICT & Digital Solutions
Information & Knowledge Management
Legal
Manufacturing
Monitoring & Audit
Operations
Organisational Leadership
Project & Program
Research
Science
Security & Intelligence
Senior Executive
Service Delivery
Strategic Policy
Trades & Labour