

## POSITION DESCRIPTION

<b>Position Title:</b>	Senior Physicist
<b>Cluster / Business Unit / Division</b>	Business Excellence
<b>Section or Unit:</b>	Detection & Imaging
<b>Classification:</b>	Band 6/7
<b>Job Family:</b>	Research
<b>Position Description Number:</b>	PD-2103
<b>Work Contract Type:</b>	Professional
<b>STEMM/NON-STEMM:</b>	STEMM

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### POSITION PURPOSE

As part of the ANSTO Detection & Imaging (AD&I) business unit, the Senior Physicist will use their subject matter expertise to undertake a lead role to develop advanced radiation detection technologies, deliver scientific & technical advice and support the commercial objectives of the unit. The technology development activities will fall within a newly formed business unit and will therefore have a strong commercialisation focus. The position takes a proactive role in developing team members and is the technical point of contact for external clients.

### ORGANISATIONAL ENVIRONMENT

ANSTO is the national organisation for nuclear science and technology. We focus on undertaking leading edge research, delivering innovative scientific services and providing specialised advice to government, industry, academia and other research organisations.

The ANSTO Detection & Imaging (AD&I) business unit is part of the Business Excellence cluster which drives and stimulates integration, innovation and engagement amongst our internal and external stakeholders. The group plays a key role in ANSTO's future growth and development projects and helps to facilitate ANSTO's evolution into a more outward-looking organisation.

The AD&I business unit houses the Commercial Development team and the Ionising Radiation team. The Commercial Development team is focused on the development activities for transitioning radiation detection & imaging technologies to market. The Ionising Radiation team provides core radiation detection activities (including: Advice & International Engagement), on behalf of ANSTO, to our stakeholders in Government. Both the Commercial Development and Ionising Radiation capability teams directly report to the AD&I Chief Technology Officer. Due to the demarcation of national security classification work activities of the Ionising Radiation team, the reporting line of these activities is through the Leader, Nuclear Stewardship (NSSS); and the Group Executive, NSSS; Broader activities, such as R&D, being performed on behalf of Nuclear Stewardship, will also be reported through this line.

### ACCOUNTABILITIES & RESPONSIBILITIES

#### Key Accountabilities- Band 6

- Apply high level specialist knowledge and experience in radiation detection physics to assist in the development of new radiation detection concepts.
- Provide expert scientific knowledge to ensure the trusted advice and specialised service provided by the team meets customer requirements.
- Taking a leading role in solving highly complex, conceptual scientific problems by seeking knowledge and alternative solutions and developing new techniques, methods and experimental capabilities.
- Provide technical leadership, guidance and support to staff within the team with the overall aim of advancing the team capabilities.

- Represent ANSTO, and Australia, in a range of domestic and international fora including meetings, technical working groups and conferences.
- Deliver on the project management of research projects as required and directly liaise with/manage external stakeholder relationships.
- Keep abreast of industry best practice and technological developments and ensure research projects are aligned with ANSTO strategic objectives.
- Contribute to the business elements of the team, develop project proposals and actively participate in commercialisation activities.
- Develop intellectual property while working as part of a broader team that is developing high technology readiness level radiation detection systems.
- Undertake additional duties as required during periods of leave of other staff.

**In addition to performing all Band 6 accountabilities, the Band 7 role includes these additional accountabilities**

- When required, manage human resources through selection, training, development, performance management and review, recognition and guidance of managers and staff. Ensure the sustainability and knowledge retention of the unit through succession and workforce planning, talent management and employee development activities.
- Support the CTO, AD&I, in establishing the strategic direction and technical vision for the business unit.
- Drive the development of original and innovative ideas directed at enhancing the current state of the art ionising radiation detection capabilities.
- Provide strategic guidance and the provision of specialist scientific advice & support to ANSTO and Government to enable informed decision making concerning ionising radiation matters.
- Drive the development of, and secure, internally/externally funded project proposals that are aligned with the strategic goals.

**Decision Making**

- The ANSTO values, organisational corporate plan, business plan, operational excellence program and AD&I strategy and plans, 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 some independence in determining how to achieve assigned objectives however will be constrained by the project deliverables and timeframes.
- 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, but at times may be required to make effective judgements under pressure or in the absence of complete information or expert advice.
- Independently determine key work priorities of project members/activities within the context of agreed work plans and project plans and consult with the line manager on complex, sensitive and major issues that have a significant impact on the project.
- The levels of authority delegated to this position are those approved in accordance with the project management structure and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced).

**In addition to all Band 6 decision making, the Band 7 role includes these additional decision making requirements**

- When required, manage the financial resource allocation for operational and capital expenditure, including the engagement of subcontractors. Negotiation of commercial contracts, including the technological scope and outcomes, with external clients.

## Key Challenges

- Driving the future ideas and technological developments of the team that lead to an increased capability in delivering the strategic objectives of the business unit.
- Managing and leading multiple project/R&D activities when facing competing priorities
- Delivering high quality project outcomes on time and to budget.

### In addition to performing all Band 6 challenges, the Band 7 role includes these additional challenges

- Managing the relationships, projects and complexities arising from the dual reporting lines within the business unit.

## KEY RELATIONSHIPS

Who	Purpose
<b>Internal</b>	
Manager	<ul style="list-style-type: none"> <li>• Receive guidance and direction</li> <li>• Provide advice and recommendations</li> <li>• Provide regular updates on key tasks, issues &amp; priorities</li> <li>• Recommend and gain endorsement for project activities, plans and other initiatives</li> <li>• Escalate issues and propose solutions</li> </ul>
Project team	<ul style="list-style-type: none"> <li>• Provide supervision, instruction, direction, support, training and technical leadership</li> <li>• Contribute to group decision making processes, planning and goals</li> <li>• Collaborate and share accountability</li> <li>• Teamwork and knowledge sharing</li> <li>• Engagement and learning</li> </ul>
ANSTO staff/teams	<ul style="list-style-type: none"> <li>• Build constructive and productive relationships within ANSTO in support of the delivery of client services, advice and radiation detection equipment</li> </ul>
<b>External</b>	
Users (customers, scientists, researchers and visitors)	<ul style="list-style-type: none"> <li>• Establish constructive relationships</li> <li>• Consult to identify users requirements and desired outcomes</li> <li>• Provide advice on analytical capabilities, analysis and training</li> </ul>
National and international stakeholders	<ul style="list-style-type: none"> <li>• Establish constructive relationships</li> <li>• Develop fit-for-purpose ionising radiation products to meet stakeholder needs</li> <li>• Communicate scientific outcomes, identify opportunities for continuous improvement and identify commercial/development opportunities</li> </ul>

## POSITION DIMENSIONS

<b>Staff Data</b>	
Reporting Line	Reports to Principle Scientist – Ionising Radiation
Direct Reports	Nil
Indirect Reports	3-5
<b>Financial Data (2021/2022)</b>	
Revenue / Grants	N/Ail

Operating Budget	N/Ail
Staffing Budget	N/Ail
Capital Budget	N/Ail
Assets	N/Ail

<b>Special / Physical Requirements</b>	
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 Frequent 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 work may require standing for long periods and operating equipment. Laboratory facility physical requirements (lifting, sitting, standing, operating equipment, manual handling) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	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 radioactive 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

<b>Workplace Health &amp; Safety</b>	
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

## ORGANISATIONAL CHART

Refer to published Organisational Chart.

## KNOWLEDGE, SKILLS AND EXPERIENCE

<b>Band 6</b>	<b>Band 7</b>
1. PhD in Physics, Mathematics, Engineering or equivalent experience.	PhD in Physics, Mathematics, Engineering or equivalent experience and at least 5 years relevant experience in the detection of ionising radiation
2. Subject matter expertise in the interaction of ionising radiation with matter and its detection.	Domestically and internationally recognised expert in the interaction of ionising radiation with matter and its detection

3.	Expert knowledge of ionising radiation measurement techniques and the associated nucleonic equipment.	Same as band 6
4.	Significant experience in developing innovative solutions for technical, scientific or engineering problems.	Extensive experience in developing innovative solutions for technical, scientific or engineering problems.
5.	High level computer skills including programming in Matlab and/or C++ and using statistical data analysis techniques.	Same as band 6
6.	Demonstrated ability to apply mathematical methods.	Same as band 6
7.	Significant experience in one or more of the following: advanced measurement concepts, systems engineering, mathematical inverse problems, machine learning and radiation transport simulations.	Extensive scientific experience and expertise in at least 2 of the following: advanced measurement concepts, systems engineering, mathematical inverse problems, machine learning and radiation transport simulations
8.	Experience in developing technologies for nuclear industry, safeguards, non-proliferation and national security applications, would be an advantage.	Experience in developing technologies for nuclear industry, safeguards, non-proliferation and national security applications.
9.	Expertise in the analysis, interpretation and reporting of scientific findings	Same as band 6
10.	Experience in client relationships, meeting client expectations and operating within deadlines;	Extensive experience in client relationships, meeting client expectations and operating within deadlines;
11.	Ability to develop and maintain productive working relationships internal and external to ANSTO;	Same as band 6
12.	Excellent verbal communication skills with emphasis on the ability to communicate clearly with people at a variety of organisational levels and varied technical understanding	Same as band 6

#### LINKED ROLE TRANSITION REQUIREMENTS

- Minimum 4 years working as Senior Physicist (band 6) or equivalent experience
- Demonstrated capability to independently manage substantial project tasks to successful completion
- Demonstrated ability to independently and responsibly perform Band 7 accountabilities and apply required knowledge, skills and experience for the Band 7 position including:
  - PhD in Physics, Mathematics, Engineering or equivalent experience and at least 5 years relevant experience in the detection of ionising radiation
  - Domestically and internationally recognised expert in the interaction of ionising radiation with matter and its detection
  - Extensive experience in client relationships, meeting client expectations and operating within deadlines;
  - Extensive experience in developing innovative solutions for technical, scientific or engineering problems.

Transition from Band 6 to Band 7 will occur following a recommendation from the relevant line manager, assessment by management and approval from

Transition within the linked role is not automatic and ability to perform Band 7 accountabilities will need to be demonstrated and assessed. This is to be done by completing the attached form and completing a full written submission demonstrating and justifying how the employee meets the transition requirements noted above.

#### 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.

<b>Line Manager</b>		<b>Delegated Authority</b>	
Name:	David Boardman	Name:	Rosanne Robinson
Title:	Principle Scientist – Ionising Radiation	Title:	General Manager Business Development
Signature:		Signature:	
Date:		Date:	



**Senior Physicist (PD-2103)  
Band 6 to Band 7 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 4 years working as Senior Physicist (band 6) OR	<input type="checkbox"/> Yes <input type="checkbox"/> No OR
b) Minimum 4 years equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated capability to independently manage projects to successful completion	<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 7 position including:	
Undertake Band 6 accountabilities independently with no direct supervision	<input type="checkbox"/> Yes <input type="checkbox"/> No
PhD in Physics, Mathematics, Engineering or equivalent experience and at least 5 years relevant experience in the detection of ionising radiation	<input type="checkbox"/> Yes <input type="checkbox"/> No
Domestically and internationally recognised expert in the interaction of ionising radiation with matter and its detection	<input type="checkbox"/> Yes <input type="checkbox"/> No
Extensive experience in client relationships, meeting client expectations and operating within deadlines;	<input type="checkbox"/> Yes <input type="checkbox"/> No
Extensive experience in developing innovative solutions for technical, scientific or engineering problems.	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

**Manager Recommendation**

I have reviewed the employee's competence in accordance with Linked Role PD-2103 and certify that the employee meets all requirements for transition and recommend transition from Band 6 to Band 7 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

**Principle Scientist – Ionising Radiation**

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 6 to Band 7.

Name & Title:			
Signature:		Date:	

**General Manager Business Development**

I have reviewed all information and approve transition from Band 6 to Band 7.

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