POSITION DESCRIPTION

Position Title:	Instrument Scientist
Cluster / Business Unit / Division	Nuclear Science & Technology and Landmark Infrastructure – Research Infrastructure
Section or Unit:	Australian Centre for Neutron Scattering – Neutron Scattering Science
Classification:	Band 6
Position Description Number:	PD-1361
Work Contract Type:	Science / Research

POSITION PURPOSE

The Instrument Scientist operates, maintains and improves a neutron-scattering instrument at the OPAL research reactor for the benefit and development of the user community. Undertakes research and development and contributes to the development of the user community leading to significant outcomes that meet with ANSTO's strategic direction.

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 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 & delivery for multi-decadal, multi-disciplinary, multi-user platforms for a collaborative user community and for internal research and development endeavours.

The Australian Centre for Neutron Scattering (ACNS) operates neutron and X-ray scattering instruments with specialised sample environment equipment utilising ANSTO's modern high-flux reactor and reliable cold-neutron source. ACNS conducts scientific, material, structural, and functional investigations for industry, health, environment, biotechnology, nanotechnology, energy, advanced materials, engineering, food, and heritage / archaeology sectors. ACNS is within the top four reactor-based neutron facilities in the world and unique within the Southern Hemisphere with an internationally competitive instrument suite. There is an extensive user program of >460 users (1000 visits) per year from Australian universities and research institutes, international institutions, and internal ANSTO researchers. ACNS also services industry needs in engineering, infrastructure, food, automotive, and other sectors.

ACCOUNTABILITIES & RESPONSIBILITIES

- Provide scientific and technical support, advice and training to national and international neutron-beam instrument users, including the making of scientific and technical decisions, ensuring outcomes from allocated beam-time are maximised and the user experience is optimal;

- Reduce and correct user data and provide advice or further data processing and interpretation;
- Liaise with the Australian scientific community to develop the user base for the neutron-scattering instrument to ensure maximum usage of equipment, develop the community of collaborators and users, and maximise revenue;
- Develop knowledge of industry best practice and technological developments to contribute to improvement of the instrument and associated facilities;
- Use research networks to coordinate and collaborate with local and national scientists to produce research outcomes captured in international journals, and to increase usage of ACNS facilities;
- Undertake research which increases own capacity for instrumentation usage and understanding, and improves scientific visibility of the profile and facilities of ACNS. Deliver research and development which is aligned with customer and stakeholder needs;
- Ensure appropriate policy, procedures, and guidelines are adhered to associated with instrument and facility in particular in relation to WHS, radiation safety and plant/equipment;
- Work collaboratively to share scientific expertise to contribute to the research culture within ACNS and ANSTO;
- Undertake additional duties as required and during periods of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NSTLI strategy and ACNS 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 some independence in determining how to achieve operational plans and objectives of the facility and must ensure compliance to relevant regulations at all times.
- The position is fully accountable for the accuracy, integrity, and quality of the content of advice, analysis and interpretation provided and is required to ensure that prescribed facilities and activities are compliant with regulations.
- Determine key work priorities within the context of agreed work plans and consult with line manager on complex, sensitive and major issues that have a significant impact.
- 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

- Develop and maintain a national reputation for high-quality application of neutron techniques to structure-function investigations;
- Carry out work in a heavily regulated environment, adherence to all regulations, working in accordance with operational requirements and tight deadlines;
- Maintain knowledge and expertise with new systems that are custom built;
- Achieve significant research outcomes while not jeopardising the key priority of delivering quality experience for instrument users.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Line Manager – Instrument Team Leader	• Receive guidance and direction • Provide expert advice and recommendations • Report on compliance of facility • Collaborate on plans and activities for the instrument/s and related matters • Recommend and gain approval for instrument modifications, enhancements and improvements, and process/procedure changes or improvements • Escalate issues and propose solutions
Work-area team members	• Provide advice, analysis, and recommendations • Contribute to group-decision-making processes, planning, and goals • Collaborate and share accountability, information, ideas, and workloads • Negotiate and resolve conflicts • Combined analysis and problem resolution
NSTLI Researchers and Scientists, and other ANSTO staff utilising facilities	• Facilitate, plan, and manage experiments, advise on data processing, analysis, and interpretation where required • Understand user requirements and desired outcomes • Provide expert advice, analysis, and results interpretation • Ensure safety and regulatory compliance • Provide training and supervision while working in and operating neutron-scattering equipment/facility • Collaborate and share information • Build and maintain relationships
Sample Environment Officers, Technicians, Engineers and other support roles	• Collaborate, plan, and manage technical maintenance and development • Collaborate on facility and experiment requirements • Liaise to determine faults, troubleshooting and repair
External	
Instrument Users from local and international universities, research institutes and industry	• Facilitate, plan and manage experiments, advise on data processing, analysis and interpretation where required • Understand user requirements and desired outcomes • Provide expert advice, analysis, and results interpretation • Provide training & supervision while working and operating neutron-scattering equipment/facility • Ensure safety and regulatory compliance • Collaborate and share information • Build and maintain relationships

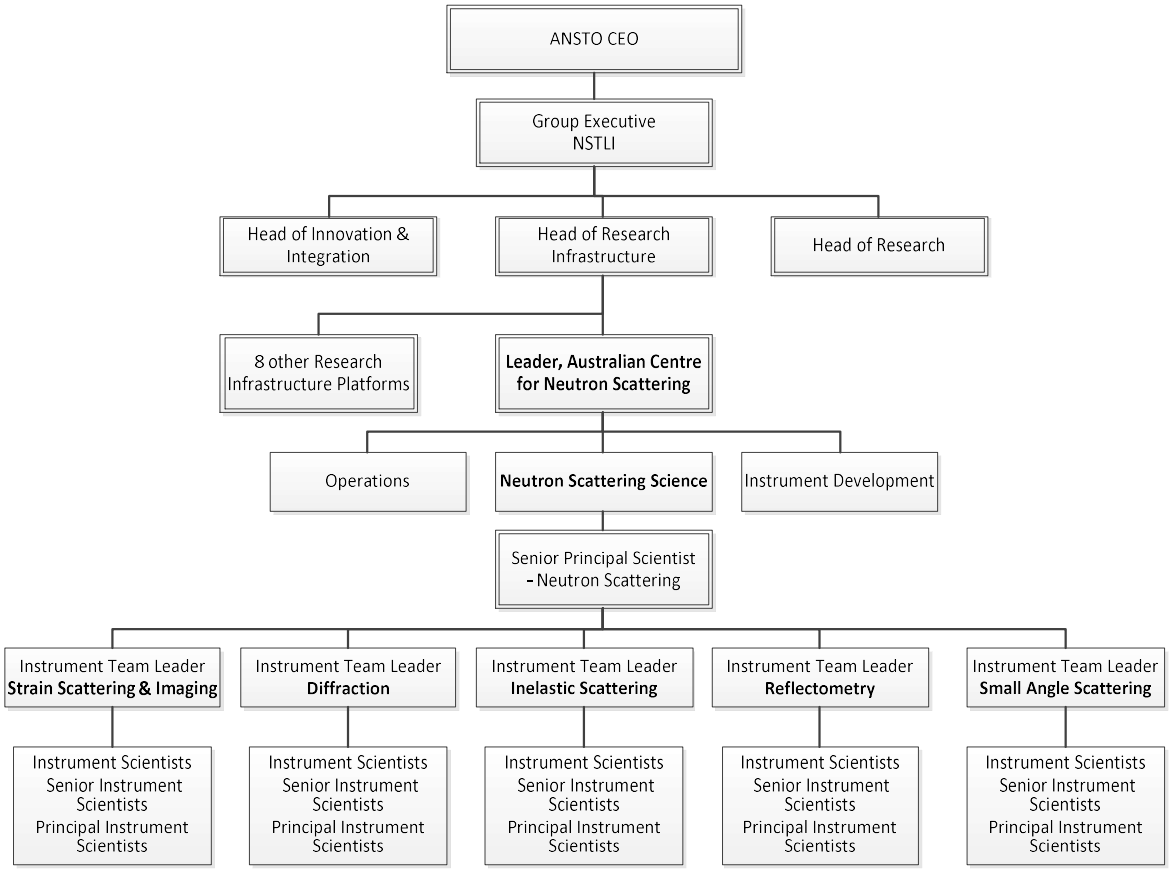
POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to Instrument Team Leader
Direct Reports	Nil
Indirect Reports	Nil

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 from time to time Occasional 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) Industrial-facility physical requirements (lifting, standing for long periods, operating machinery, equipment or manipulators) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials Public speaking
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 and availability to work outside normal 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

Workplace Health & Safety	
Specific role/s as specified in AG-2362 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



KNOWLEDGE, SKILLS AND EXPERIENCE

1. PhD in Chemistry, Physics, Biology, Materials Science, Engineering, or a related discipline;
2. Post-doctoral (or similar) experience in execution and research applications of neutron or x-ray scattering or relevant area of research;
3. Experience as an instrument scientist undertaking experiments, supporting users, and providing data analysis in neutron and/or X-ray scattering;
4. Demonstrated sound contribution to research within the discipline which has made a recognisable advancement of knowledge or its application at a national level and solid track record of publication;
5. Excellent interpersonal and communication skills to work collaboratively and willingly share knowledge and information with users and other stakeholders;
6. Ability to work independently and able to plan and manage time to meet deadlines and objectives;
7. Strong customer focus and the ability to function well in a scientific user facility, work in a multi-cultural environment and develop and maintain productive working relationships;
8. Demonstrated ability to follow policy, procedures and guidelines;
9. Personal qualities that will add value to a team operating in a high-level client/user, safety and quality environment.

Australian Government

Nuclear-based science benefiting all Australians

POSITION DESCRIPTION

Position Title:	Senior Instrument Scientist
Cluster / Business Unit / Division	Nuclear Science & Technology and Landmark Infrastructure – Research Infrastructure
Section or Unit:	Australian Centre for Neutron Scattering – Neutron Scattering Science
Classification:	Band 7
Position Description Number:	PD-1363
Work Contract Type:	Science / Research

POSITION PURPOSE

The Senior Instrument Scientist applies significant scientific expertise and experience in the operation, maintenance and improvement of a neutron-scattering instrument at the OPAL research reactor for the benefit and development of the user community. Undertakes research leading to significant outcomes that meet with ANSTO's strategic direction and that have national impact.

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 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 & delivery for multi-decadal, multi-disciplinary, multi-user platforms for a collaborative user community and for internal research and development endeavours.

The Australian Centre for Neutron Scattering (ACNS) operates neutron and X-ray scattering instruments with specialised sample environment equipment utilising ANSTO's modern high-flux reactor and reliable cold-neutron source. ACNS conducts scientific, material, structural, and functional investigations for industry, health, environment, biotechnology, nanotechnology, energy, advanced materials, engineering, food, and heritage / archaeology sectors. ACNS is within the top four reactor-based neutron facilities in the world and unique within the Southern Hemisphere with an internationally competitive instrument suite. There is an extensive user program of >460 users (1000 visits) per year from Australian universities and research institutes, international institutions, and internal ANSTO researchers. ACNS also services industry needs in engineering, infrastructure, food, automotive, and other sectors.

ACCOUNTABILITIES & RESPONSIBILITIES

- Utilise significant specific knowledge and expertise to provide advanced scientific and technical support, advice and training to national and international neutron-beam instrument users, including the making of scientific and technical decisions, ensuring outcomes from allocated beam-time are maximised and the user experience is optimal;
- Reduce and correct user data and provide advice or further data processing and interpretation;
- Liaise with the Australian and international scientific community to develop the user base for the neutron-scattering instrument to ensure maximum usage of equipment, develop the community of collaborators and users, and maximise revenue;
- Maintain and apply knowledge of industry best practice and technological developments to ensure neutron instruments are improved and upgraded and kept at state of the art to remain

internationally competitive. Develop the capability to recognise and act upon opportunities arising from a global view of techniques enabled by the instrument;

- Use research networks to coordinate and collaborate with local, national, and international scientists to produce research outcomes captured in leading international journals and other reputable publications, and to increase usage of ACNS facilities. Participate in professional fora, steering committees and other professional associations;
- Initiate and conduct leading-edge research of international standard which increases own capacity for instrumentation usage and understanding and improves scientific visibility of the profile and facilities of ACNS through conversion of results into publications in leading journals. Deliver research and development which is aligned with customer and stakeholder needs;
- Ensure appropriate policy, procedures, and guidelines are adhered to associated with instrument and facility in particular in relation to WHS, radiation safety and plant/equipment;
- Supervise, coach, and mentor researchers, post-doctoral fellows and students (as the opportunity arises) in both their use of neutron techniques and in their broader research. Work collaboratively to share scientific expertise and contribute to the research culture within ACNS and ANSTO;
- Undertake additional duties as required and during periods of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NSTLI strategy and ACNS 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 some independence in determining how to achieve operational plans and objectives of the facility and must ensure compliance to relevant regulations at all times.
- The position is fully accountable for the accuracy, integrity, and quality of the content of advice, analysis and interpretation provided and is required to ensure that prescribed facilities and activities are compliant with regulations.
- Determine key work priorities within the context of agreed work plans and consult with line manager on complex, sensitive and major issues that have a significant impact.
- 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

- Develop and maintain a leading national and emerging international reputation for high-quality application of neutron techniques to structure-function investigations;
- Carry out work in a heavily regulated environment, adherence to all regulations, working in accordance with operational requirements and tight deadlines;
- Maintain knowledge and expertise with new systems that are custom built;
- Achieve significant research outcomes while not jeopardising the key priority of delivering quality experience for instrument users.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Line Manager – Instrument Team Leader	• Receive guidance and direction • Provide expert advice and recommendations • Report on compliance of facility • Collaborate on plans and activities for the instrument/s and related matters • Recommend and gain approval for instrument modifications, enhancements and improvements, and process/procedure changes or improvements • Escalate issues and propose solutions
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NSTLI Researchers and Scientists, and other ANSTO staff utilising facilities	• Facilitate, plan, and manage experiments, advise on data processing, analysis, and interpretation where required • Understand user requirements and desired outcomes • Provide expert advice, analysis, and results interpretation • Ensure safety and regulatory compliance • Provide training and supervision while working in and operating neutron scattering equipment/facility • Provide coaching and mentoring in use of neutron techniques and in broader research • Collaborate and share information • Build and maintain relationships
Sample Environment Officers, Technicians, Engineers and other support roles	• Collaborate, plan and manage technical maintenance and development • Collaborate on facility and experiment requirements • Liaise to determine faults, troubleshooting and repair
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Instrument Users from local and international universities, research institutes, and industry	• Facilitate, plan, and manage experiments, advise on data processing, analysis, and interpretation where required • Understand user requirements and desired outcomes • Provide expert advice, analysis, and results interpretation • Provide training and supervision while working and operating neutron-scattering equipment/facility • Provide coaching and mentoring in use of neutron techniques and in broader research • Ensure safety and regulatory compliance • Collaborate and share information • Build and maintain relationships

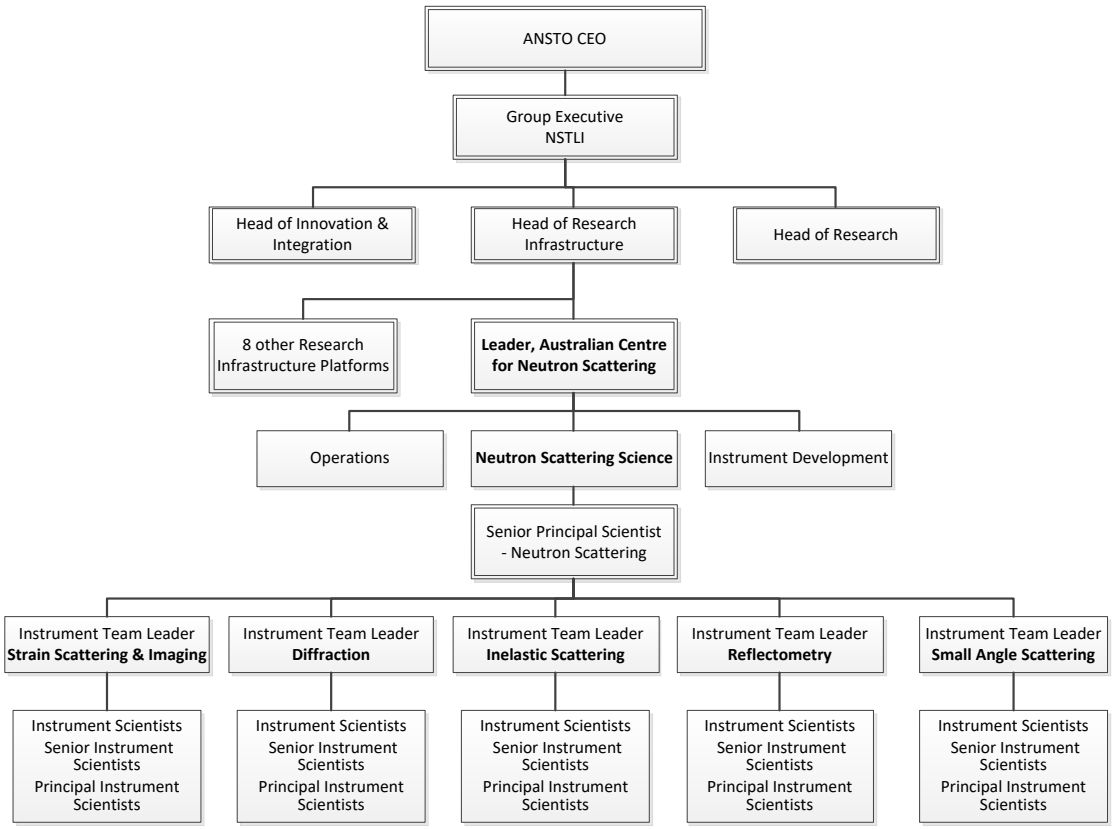
POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to Instrument Team Leader
Direct Reports	Nil
Indirect Reports	Nil

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 from time to time Occasional 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) Industrial-facility physical requirements (lifting, standing for long periods, operating machinery, equipment or manipulators) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials Public speaking
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 and availability to work outside normal 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

Workplace Health & Safety	
Specific role/s as specified in AG-2362 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

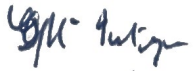


KNOWLEDGE, SKILLS AND EXPERIENCE

1. MSc or PhD in Chemistry, Physics, Biology, Materials Science, Engineering, or a related discipline;
2. Significant post-doctoral (or similar) experience in execution and research applications of neutron or x-ray scattering or relevant area of research;
3. Extensive experience as an instrument scientist undertaking experiments, supporting users, and providing data analysis in neutron and/or X-ray scattering;
4. Experience supporting user community including ensuring user and facility safety and regulatory compliance and mentoring, coaching, and training users and other researchers;
5. Demonstrated major contribution to research which has generated substantial new ideas, interpretations or critical findings and makes a significant and recognised contribution to knowledge or its application. Significant track record of publications in refereed journals of medium-to-high ranking;
6. Excellent interpersonal and communication skills to work collaboratively and willingly share knowledge and information with users and other stakeholders coupled with ability to develop and maintain collaborative relationships;
7. Well-developed capability to communicate science effectively at the international level through conferences and workshops;
8. Ability to work independently and able to plan and manage time to meet deadlines and objectives;
9. Strong customer focus and the ability to function well in a scientific user facility, work in a multi-cultural environment, and develop and maintain productive working relationships;
10. Demonstrated ability to follow policy, procedures, and guidelines;
11. Personal qualities that will add value to a team operating in a high-level client/user, safety and quality environment.

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:	Garry McIntyre	Name:	Jamie Schulz
Title:	Senior Principle Scientist – Neutron Scattering	Title:	Leader, Australian Centre for Neutron Scattering
Signature:		Signature:	
Date:	9/1/2018	Date:	16/1/2018

Version History

V1 – created November 2013 to standardise all Bragg Instrument Scientist B6 roles which specified instruments and scientific disciplines into 1 B6 generic PD for all Instrument Scientists.

V2 – created January 2018 – Title change from Instrument Scientist to Senior Instrument Scientist, update to organisational information to reflect current structure and organisational environment and to covert to new template. Position purpose, accountabilities, challenges and KSE have not changed therefore no change to job evaluation outcome of 21/11/2013.