



## Position Description

<b>College/Division:</b>	Deputy Vice-Chancellor (Research and Innovation)
<b>Faculty/School/Centre:</b>	National Computational Infrastructure (NCI)
<b>Department/Unit:</b>	
<b>Position Title:</b>	Senior Software Engineer
<b>Classification:</b>	Senior Manager 1 (IT)
<b>Position No:</b>	TBA
<b>Responsible to:</b>	Senior High Performance Data Specialist
<b>Number of positions that report to this role:</b>	0
<b>Delegation(s) Assigned:</b>	Nil

### PURPOSE STATEMENT:

National Computational Infrastructure (NCI) is Australia's leading national provider of high-end computational and data-intensive services, with a well-respected reputation for its services, expertise and innovation. NCI is an operating unit of the Australian National University and is built on and sustained by a formal collaboration of national research organisations, ANU, CSIRO, Bureau of Meteorology, Geoscience Australia, other research-intensive universities and eResearch support organisations nationally. NCI engages in a dynamic range of projects across a number of areas that focus on Development and Innovation. The activities span a range of HPC and data developments that require both a well-developed understanding of advanced and commodity ICT technology and scientific computing environments – particularly within the earth system and geospatial sciences.

The position of Senior Software Engineer will play a major role in software design, testing, development and deployment and management processes to support the diverse and complex needs of research communities.

### KEY ACCOUNTABILITY AREAS:

#### Position Dimension & Relationships:

The Senior Software Engineer works closely with other members of the Research Engagement and Initiatives portfolio, as well as colleagues across NCI, in particular project managers, development and operational team managers. The Senior Software Engineer will support NCI's Research Engagement and Initiatives software development program which provides quality production services to enhance research and science outcomes through more effective utilisation of NCI high performance computing and data assets.

#### Role Statement:

Under the broad direction of the Senior High Performance Data Specialist, NCI, the incumbent will:

1. Gather and assimilate technical requirements from the supported research communities and research organisations.
2. Working with relevant members of the NCI team, lead the design and development of software and testing and optimisation of software, to ensure secure and robust operations that effectively exploit NCI's data and HPC assets.
3. Document software design and development activities and develop measures for performance and capability assessment during the establishment of the software and data infrastructure.
4. Lead the development of processes and procedures that will advance software development at NCI, and, as appropriate, work with staff in comparable or related roles at partner organisations, and other external stakeholders to ensure coordination and interoperability of software and services.
5. Comply with all ANU policies and procedures, and in particular those relating to health and safety, and equal opportunity.
6. Other duties, as appropriate to this classification, and as directed.

**SELECTION CRITERIA:**

1. Postgraduate qualifications and relevant experience plus management experience and expertise or an equivalent combination of experience and education/training.
2. Demonstrated experience in: software design, software development, testing and deployment, Scientific programming including, debugging, optimizing and introducing new algorithms, profiling utilities, version control utilities, and desirably knowledge of, and experience with, newer or evolving HPC programming paradigms (including accelerators) and self-describing data formats (notably netCDF/CF, as used in climate and earth system science applications).
3. Demonstrated high-level oral and written communication skills and the capacity to engage and communicate effectively with peers and end-users of the service.
4. Capacity to work both as a self-starter, with proven experience in leading projects and/or small teams, and demonstrated capacity to work effectively within a team (both local and distributed) to deliver effective outcomes.
5. A demonstrated high level understanding of equal opportunity principles and a commitment to the application of EO policies in a university context.

<b>Supervisor/Delegate Signature:</b>		<b>Date:</b>	
Printed Name:	Professor Sean Smith	<b>Uni ID:</b>	

**References:**

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



Australian National University

# Pre-Employment Work Environment Report

## Position Details

<b>College/Div/Centre</b>	Deputy Vice-Chancellor (Research and Innovation)	<b>Dept/School/Section</b>	National Computational Infrastructure (NCI)
<b>Position Title</b>	Senior Software Engineer	<b>Classification</b>	Senior Manager 1 (IT)
<b>Position No.</b>	TBA	<b>Reference No.</b>	

In accordance with the Occupational Health and Safety Act 1991 the University has a duty of care to provide a safe workplace for all staff.

- This form must be completed by the supervisor of the advertised position and forwarded with the job requisition to Appointments and Promotions Branch, Human Resources Division. Without this form jobs cannot be advertised.
- This form is used to advise potential applicants of work environment issues prior to application.
- Once an applicant has been selected for the position consideration should be given to their inclusion on the University's Health Surveillance Program where appropriate – see . [http://info.anu.edu.au/hr/OHS/\\_Health\\_Surveillance\\_Program/index.asp](http://info.anu.edu.au/hr/OHS/_Health_Surveillance_Program/index.asp) Enrolment on relevant OHS training courses should also be arranged – see [http://info.anu.edu.au/hr/Training\\_and\\_Development/OHS\\_Training/index.asp](http://info.anu.edu.au/hr/Training_and_Development/OHS_Training/index.asp)
- 'Regular' hazards identified below must be listed as 'Essential' in the Selection Criteria - see ' Employment Medical Procedures' at [http://info.anu.edu.au/Policies/\\_DHR/Procedures/Employment\\_Medical\\_Procedures.asp](http://info.anu.edu.au/Policies/_DHR/Procedures/Employment_Medical_Procedures.asp)

## Potential Hazards

- Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a **regular** or **occasional** part of the duties.

TASK	regular	occasional	TASK	regular	occasional
key boarding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	laboratory work	<input type="checkbox"/>	<input type="checkbox"/>
lifting, manual handling	<input type="checkbox"/>	<input type="checkbox"/>	work at heights	<input type="checkbox"/>	<input type="checkbox"/>
repetitive manual tasks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	work in confined spaces	<input type="checkbox"/>	<input type="checkbox"/>
catering / food preparation	<input type="checkbox"/>	<input type="checkbox"/>	noise / vibration	<input type="checkbox"/>	<input type="checkbox"/>
fieldwork & travel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	electricity	<input type="checkbox"/>	<input type="checkbox"/>
driving a vehicle	<input type="checkbox"/>	<input type="checkbox"/>			
<b>NON-IONIZING RADIATION</b>			<b>IONIZING RADIATION</b>		
solar	<input type="checkbox"/>	<input type="checkbox"/>	gamma, x-rays	<input type="checkbox"/>	<input type="checkbox"/>
ultraviolet	<input type="checkbox"/>	<input type="checkbox"/>	beta particles	<input type="checkbox"/>	<input type="checkbox"/>
infra red	<input type="checkbox"/>	<input type="checkbox"/>	nuclear particles	<input type="checkbox"/>	<input type="checkbox"/>
laser	<input type="checkbox"/>	<input type="checkbox"/>			
radio frequency	<input type="checkbox"/>	<input type="checkbox"/>			
<b>CHEMICALS</b>			<b>BIOLOGICAL MATERIALS</b>		
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	microbiological materials	<input type="checkbox"/>	<input type="checkbox"/>
allergens	<input type="checkbox"/>	<input type="checkbox"/>	potential biological allergens	<input type="checkbox"/>	<input type="checkbox"/>
cytotoxics	<input type="checkbox"/>	<input type="checkbox"/>	laboratory animals or insects	<input type="checkbox"/>	<input type="checkbox"/>
mutagens/teratogens/ carcinogens	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including blood	<input type="checkbox"/>	<input type="checkbox"/>
pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens	<input type="checkbox"/>	<input type="checkbox"/>
			immunisations	<input type="checkbox"/>	<input type="checkbox"/>

**OTHER POTENTIAL HAZARDS (please specify):**

<b>Supervisor's Signature:</b>		<b>Print Name:</b>		<b>Date:</b>	
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