



**Australian
National
University**

Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	TBC
Responsible to:	Advanced Instrumentation and Technology Centre Deputy Director
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation and Technology Centre (AITC) is the technical research department of the ANU Research School of Astronomy and Astrophysics, engaging in instrumentation and technology research, design and development for astronomy and space. The AITC is located at Mount Stromlo Observatory near Canberra, comprising state of the art research laboratories and space testing facilities including more than forty academic and engineering staff deployed across twelve research and education programs.

The Postdoctoral Fellow will contribute to the strategic goals of the AITC working on several instrumentation projects in the AITC laser communication program and related instrumentation programs for astronomy and space. The AITC is currently involved in the design and construction of an optical communication ground station as well as laser communication experiments funded by the space industry and various international space agencies.

The Postdoctoral Fellow is expected to undertake work in all three areas of academic activity –research, education and service (including outreach). The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the external funding conditions that support the appointment, the appointees research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment. The Postdoctoral Fellow may also be required to supervise or assist in the supervision of students, and contribute cooperatively to the overall intellectual life of the School, College and University.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Postdoctoral Fellow will be a member of the Research School of Astronomy and Astrophysics, accountable to the AITC Deputy Director in agreement and close collaboration with the relevant AITC Research Program Leads depending on the projects that the Postdoctoral Fellow is working on.

The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships within all academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and where possible, international colleagues.

Role Statement:

In their role as an Academic Level A the Postdoctoral Fellow is expected to:

- Undertake independent research in the area of instrumentation with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level. This includes working as part of a team on an externally funded project subject to deadlines.
- Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.

- Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to contribute to the teaching activities of the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations, and with students or acting as subject coordinators.
- Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
- Actively contribute to all aspects of the operation of AITC and, where relevant the School. This may include representation through committee memberships.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

Skill Base:

A Level A academic will work with the support and guidance from more senior academic staff and is expected to develop their expertise in teaching and research with an increasing degree of autonomy. A Level A academic will normally have completed four years of tertiary study or equivalent qualifications and experience and may be required to hold a relevant higher degree.

A Level A academic will normally contribute to teaching at the institution, at a level appropriate to the skills and experience of the staff member, engage in scholarly, research and/or professional activities appropriate to their profession or discipline, and undertake administration primarily relating to their activities at the institution. The contribution to teaching of Level A academics will be primarily at undergraduate and graduate diploma level.

SELECTION CRITERIA:

- A Master's degree or PhD or progress towards a PhD or equivalent in physics, astronomy, optical communications or other relevant field, with research experience in experimental physics or engineering, preferably in optical communications or applied optics, including publications in peer-reviewed journals or equivalent, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences .
- Evidence of experience in optical lab work or a combination of optical, mechanical and systems engineering experience. Programming expertise (e.g. Python, MATLAB), High Performance Computing expertise, or knowledge of mechanical and optical design tools (Solidworks, Zemax) would be an advantage but is not essential.
- An ability and commitment to contribute to bids for competitive external funding to support individual and collaborative research activities.
- Evidence of an ability and willingness to teach at all levels.
- The ability to assist in the supervision of students working on research projects.
- The ability to work as part of a team and to meet deadlines.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	7 June 2022
Printed Name:	Professor Celine D'Orgeville	Uni ID:	U5090939

References:
Academic Minimum Standards



Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Postdoctoral Fellow	Classification	Academic Level A
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☒	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☒	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☒	
laser	☐	☒	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/ carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☒	☐	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☒	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:	Professor Celine d'Orgeville		Date: 7 June 2022



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	TBC
Responsible to:	Advanced Instrumentation and Technology Centre Deputy Director
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation and Technology Centre (AITC) is the technical research department of the ANU Research School of Astronomy and Astrophysics, engaging in instrumentation and technology research, design and development for astronomy and space. The AITC is located at Mount Stromlo Observatory near Canberra, comprising state of the art research laboratories and space testing facilities including more than forty academic and engineering staff deployed across twelve research and education programs.

The Postdoctoral Fellow will contribute to the strategic goals of the Advanced Instrumentation and Technology Centre (AITC) working on several instrumentation projects in ground and space-based astronomy and related fields. The AITC is currently involved in the design and construction of instruments for the Giant Magellan Telescope (GMT), the European southern Observatory (ESO), the Subaru Telescope, and other ground-based observatories and space-based capabilities, in Australia and internationally.

The Postdoctoral Fellow is expected to undertake work in all three areas of academic activity –research, education and service (including outreach). The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the external funding conditions that support the appointment, the appointees research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment.

The Postdoctoral Fellow may also be required to supervise or assist in the supervision of students, and contribute cooperatively to the overall intellectual life of the School, College and University.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Postdoctoral Fellow will be a member of the Research School of Astronomy and Astrophysics, accountable to the AITC Deputy Director in agreement and close collaboration with the relevant AITC Research Program Leads depending on the projects that the Postdoctoral Fellow is working on.

The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships within the all academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and where possible, international colleagues.

Role Statement:

In their role as an Academic Level A the Postdoctoral Fellow is expected to:

- Undertake independent research in the area of instrumentation with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level. This includes working as part of a team on an externally funded project subject to deadlines.
- Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.

- Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to contribute to the teaching activities of the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations, and with students or acting as subject coordinators.
- Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
- Actively contribute to all aspects of the operation of AITC and, where relevant, the School. This may include representation through committee memberships.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

Skill Base:

A Level A academic will work with the support and guidance from more senior academic staff and is expected to develop their expertise in teaching and research with an increasing degree of autonomy. A Level A academic will normally have completed four years of tertiary study or equivalent qualifications and experience and may be required to hold a relevant higher degree.

A Level A academic will normally contribute to teaching at the institution, at a level appropriate to the skills and experience of the staff member, engage in scholarly, research and/or professional activities appropriate to their profession or discipline, and undertake administration primarily relating to their activities at the institution. The contribution to teaching of Level A academics will be primarily at undergraduate and graduate diploma level.

SELECTION CRITERIA:

- A Master's degree or PhD or progress towards a PhD or equivalent in physics, astronomy, optical engineering, or other relevant field, with research experience in experimental physics or engineering, including publications in peer-reviewed journals or equivalent, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences.
- Evidence of experience in instrumentation development for astronomy and/or space, with high-level expertise in one or more of the following areas: visible and/or infra-red optical instrumentation (imaging or spectroscopy), adaptive optics, detector technology, scientific programming (e.g. Python), high performance computing. Knowledge of project management and system engineering would be an advantage but is not essential.
- An ability and commitment to contribute to bids for competitive external funding to support individual and collaborative research activities.
- Evidence of an ability and willingness to teach at all levels.
- The ability to assist in the supervision of students working on research projects.
- The ability to work as part of a team and to meet deadlines.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	7 June 2022
Printed Name:	Professor Celine D'Orgeville	Uni ID:	U5090939

References:
General Staff Classification Descriptors
Academic Minimum Standards



Australian
National
University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Postdoctoral Fellow	Classification	Academic Level A
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	☒	☐	laboratory work	☒	☐
lifting, manual handling	☐	☒	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☒	electricity	☐	☒
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☒	nuclear particles	☐	☐
laser	☐	☒			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/	☐	☐	clinical specimens, including blood	☐	☐
carcinogens			genetically-manipulated specimens	☐	☐
pesticides / herbicides	☐	☐	immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		Professor Celine D'Orgeville	Date:	7 June 2022	



Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Research Fellow
Classification:	Academic Level B
Position No:	TBC
Responsible to:	AITC Deputy Director
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation and Technology Centre (AITC) is the technical research department of the ANU Research School of Astronomy and Astrophysics, engaging in instrumentation and technology research, design and development for astronomy and space. The AITC is located at Mount Stromlo Observatory near Canberra, comprising state of the art research laboratories and space testing facilities including more than forty academic and engineering staff deployed across twelve research and education programs.

The Research Fellow will contribute to the strategic goals of the AITC working on one or more instrumentation projects in ground and space-based astronomy and related fields. The AITC is currently involved in the design and construction of instruments for the Giant Magellan Telescope (GMT), the European southern Observatory (ESO), the Subaru Telescope, and other ground-based observatories and space-based capabilities, in Australia and internationally.

The Research Fellow is expected to undertake work in all three areas of academic activity – research, education and service (including outreach). The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the conditions of the external funding, the appointees research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment. The Research Fellow may also be required to supervise or mentor less senior staff, and undertake leadership roles as applicable. The staff member will contribute cooperatively to the overall intellectual life of the School, College and University.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Research Fellow will be a member of the Research School of Astronomy and Astrophysics, accountable to the AITC Deputy Director in agreement and close collaboration with the relevant AITC Research Program Leads depending on the projects that the Postdoctoral Fellow is working on.

The Research Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with the academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and, where possible, international colleagues.

Role Statement:

Under broad direction of the AITC Deputy Director, the Research Fellow will:

- Undertake independent research in the area of instrumentation with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level. This includes working as part of a team on externally funded projects subject to deadlines and being primarily responsible for project delivery in some areas.

- Actively seek and secure external funding including the preparation and submission of research proposals to external funding bodies.
- Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to contribute to the teaching activities of the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations with students, acting as subject coordinators and the initiation and development of course/subject material.
- Supervise students working on individual or group projects at undergraduate, honours, and graduate-coursework levels, and supervise research students at postgraduate levels.
- Actively contribute to all aspects of the operation of the AITC and the School. This may include representation through committee memberships.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.

Skill Base:

A Level B academic will undertake independent teaching and research in their discipline or related area. In research and/or scholarship and/or teaching a Level B academic will make an independent contribution through professional practice and expertise and coordinate and/or lead the activities of other staff, as appropriate to the discipline.

A Level B academic will normally contribute to teaching at undergraduate, honours and postgraduate level, engage in independent scholarship and/or research and/or professional activities appropriate to their profession or discipline. The academic will normally undertake administration primarily relating to their activities at the institution and may be required to perform the full academic responsibilities of and related administration for the coordination of an award program of the institution.

SELECTION CRITERIA:

- A PhD in physics, engineering or a related area, with work experience in a research field related to astronomical and/or space instrumentation in the visible and/or infrared wavelength. Experience in designing, fielding, using and/or operating Adaptive Optics system on large astronomical telescopes highly desirable. A track record of independent research as evidenced by publications in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences.
- Demonstrated experience in instrumentation development, with high-level expertise in two or more of the following areas: visible and/or infra-red optical instrumentation, adaptive optics, detector technology, programming, high performance computing. Basic knowledge of project management and system engineering principles required.
- A demonstrated ability and commitment to apply for competitive external funding to support individual and collaborative research activities.
- Evidence of an ability and willingness to teach at all levels.
- An ability to supervise and graduate high quality PhD/Masters research students.
- The demonstrated ability to work as part of a team, contributing to team management and meeting deadlines for project elements.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:

Date:

7 June 2022

Printed Name:	Professor Celine D'Orgeville	Uni ID:	U5090939
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References:[General Staff Classification Descriptors](#)[Academic Minimum Standards](#)



Australian
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University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Research Fellow	Classification	Academic Level B
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☒	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☒	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☒	
laser	☐	☒	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☒	☐	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☒	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:		Professor Celine d'Orgeville	Date: 7 June 2022



**Australian
National
University**

Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Instrument Scientist
Classification:	Academic Level C
Position No:	TBC
Responsible to:	AITC Deputy Director
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation and Technology Centre (AITC) is the technical research department of the ANU Research School of Astronomy and Astrophysics, engaging in instrumentation and technology research, design and development for astronomy and space. The AITC is located at Mount Stromlo Observatory near Canberra, comprising state of the art research laboratories and space testing facilities including more than forty academic and engineering staff deployed across twelve research and education programs.

The Instrument Scientist makes a major original contribution to the AITC research priority areas, in the domain of visible and infra-red optical instrumentation for ground-based telescopes and space missions. An academic at this level is expected to play a major role in research including the exercise of leadership in their research area.

The Instrument Scientist is expected to undertake work in all three areas of academic activity –research, education and service (including outreach). The allocation of time to each area will be discussed with the position supervisor annually and be reflective of the conditions of the external funding that supports the position, the appointees independent research agenda, school and interdisciplinary teaching requirements and leadership opportunities within the School environment. The Instrument Scientist may also be required to supervise or mentor less senior staff, and undertake leadership roles as applicable. The staff member will contribute cooperatively to the overall intellectual life of the School, College and University.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The AITC is currently involved in the design and construction of instruments for the Giant Magellan Telescope (GMT), the European southern Observatory (ESO), the Subaru Telescope, and other ground-based observatories and space-based capabilities, in Australia and internationally. The Instrument Scientist will take a prominent role in leading research activities in one or more of the AITC instrumentation research programs, with a particular focus on the AITC Laser Guide Star Adaptive Optics program and related projects for astronomy, space situational awareness and laser communications. The position will report to the AITC Deputy Director.

Role Statement:

In their role as an Academic Level C the Instrument Scientist is expected to:

- Undertake a lead scientific role on major instrument projects, with responsibility to ensure that the instrument design and operational concept achieves scientific objectives, and to manage day-to-day interactions with the technical teams in close collaboration with the project Principal Investigator.
- Play a significant role in research projects at a national and/or international level including, where appropriate, leadership of research teams or management of projects.
- Undertake research including the production of conference and research papers and publications.
- Actively seek and secure external funding including the preparation and submission of research proposals to external funding bodies. The Instrument Scientist will have responsibility for the financial management and compliance of grants received for research projects as a project lead investigator or co-investigator.

- Subject to the requirements of the funding source and where an opportunity exists, the occupant may be required to contribute to or lead some teaching activities at the School at the undergraduate and graduate levels. This includes, but is not limited to, the preparation and delivery of lectures and tutorials, the preparation of online material, marking and assessment, consultations with students, acting as a subject coordinator, the initiation and development course/subject material and actively lead overall development of courses in the discipline.
- Supervise students working on individual or group projects at undergraduate, honours, and graduate-coursework levels, and supervise research students at postgraduate levels.
- Lead, supervise and develop less senior academic and research support staff in your research area.
- Proactively contribute to all aspects of the operation of the AITC, School and College. This may include representation through committee memberships.
- Lead outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
- Maintain and actively promote high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.

Skill Base:

A Level C academic will make a significant contribution to the discipline at the national level. In research and/or scholarship and/or teaching they will make original contributions, which expand knowledge or practice in their discipline.

A Level C academic will normally make a significant contribution to research and/or scholarship and/or teaching and administration activities of an organisational unit or an interdisciplinary area at undergraduate, honours and postgraduate level. The academic will normally play a major role or provide a significant degree of leadership in scholarly, research and/or professional activities relevant to the profession, discipline and/or community and may be required to perform the full academic responsibilities of and related administration for the coordination of a large award program or a number of smaller award programs of the institution.

SELECTION CRITERIA:

- A PhD in physics, engineering or a related area, with over 8 years of work experience in a research field related to astronomical and/or space instrumentation in the visible and/or infrared wavelength. Experience in designing, fielding, using and/or operating Adaptive Optics system on large astronomical telescopes highly desirable. A track record of independent research, preferably in the field of Adaptive Optics, as evidenced by cited publications in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at prominent conferences.
- Demonstrated experience in instrumentation development, with high-level expertise in three or more of the following areas: visible and/or infra-red optical instrumentation for astronomy and/or space, adaptive optics, lasers, detector technology, scientific programming, high performance computing, project management, system engineering, astronomical research using adaptive optics. Demonstrated knowledge and understanding of project management and system engineering principles required.
- A demonstrated ability and commitment to win bids for competitive external funding to support individual and collaborative research activities.
- Evidence of effective teaching and/or supervising of undergraduate and/or postgraduate students, including where applicable a track record of successfully supervising and graduating high quality PhD/Masters research students
- Demonstrated ability to lead and work as part of a team, significantly contributing to team management, meeting deadlines and being primarily responsible for significant project deliveries.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
- A demonstrated understanding of equity, diversity, inclusion, and equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	7 June 2022
Printed Name:	Professor Celine d'Orgeville	Uni ID:	U5090939

References:

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Instrument Scientist	A	Academic Level C
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☒	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☒	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☒	
laser	☐	☒	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☒	☐	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☒	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:	Professor Celine d'Orgeville		Date: 7 June 2022



Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation Technology Centre (AITC)
Position Title:	Project Manager Discipline Lead
Classification:	SM1 (Specialist)
Position No:	TBC
Responsible to:	AITC Technical Director
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program maintains a high-level specialist team to develop innovative state-of-the-art ground-based and space-based optical/Infrared instrumentation and telescope systems, as well as for helping support existing telescope facilities at Siding Spring Observatory. The Project Manager Discipline Lead is responsible for project management activities and provide direction and mentoring for members of the Project Management Group ("Discipline"), ensuring optimal provision of specialist support of the RSAA research program in the area of project management, including maintaining an up to date knowledge of awareness of state-of-the-art in the field.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Project Manager Discipline Lead reports to the Technical Director of the RSAA Advanced Instrumentation Technology Centre (AITC), providing project and project portfolio expertise for approved AITC projects and activities. A close working relationship is required with the ANU staff along with external partners and stakeholders. The Project Manager Discipline Lead will refine and maintain management procedures to ensure optimum results for complex, multi-disciplinary instrumentation projects, often within the framework of international consortia. The Project Manager Discipline Lead is responsible for ensuring AITC projects have the necessary project management standards, resources, expertise and facilities required to fulfil AITC commitments and target, also balancing the Project Management Group operating expenses against the annual budget.

Role Statement:

Under the broad direction of the AITC Technical Director and working with a considerable degree of freedom the Project Manager Discipline Lead will:

- Undertake project management assignments relating ground-based and space-based optical/Infrared instrumentation and telescope systems throughout the full project life-cycle. Providing expert project management advice to facilitate efficient and effective delivery of interdisciplinary and interinstitutional projects
- Mentor and manage a multi-disciplinary team of researchers, industry specialists, administrative and technical professionals to deliver project outcomes in line with the strategic commitments of AITC. Contribute to setting project management standards, tools, templates and maintaining them through the use of consistent procedures and processes.
- Manage project proposals, providing expert advice and evaluation on project feasibility and needs, including the budget/costs, resources and schedule.
- Provide appropriate project management resources, support, guidance and advice to project teams and assisting in establishing and maintaining projects.

- Manage and implement plans, budgets and schedules for assigned projects whilst working closely with technical teams to manage risks and ensure that projects are delivered in a cost-effective, timely manner and to the required quality.
- Maintain a working knowledge both of best-practice project management procedures in the context of prototype, one-off and small batch constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC operations management procedures.
- Participate in University initiatives, contributing strategic expertise and local area implementation, and collaborating in a range of activities, workgroups, and networks across the University, as required.
- Perform other duties as requested, consistent with the classification level of the position and in line with the concept of multi-skilling.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

- Progress towards postgraduate qualifications project management or closely related discipline (eg. PMI, PRINCE2) with 4+ years relevant experience in managing complex projects. Experience in astronomical or space/physics research or similar field and or management experience with complex project portfolios will be highly regarded.
- Relevant experience in a senior management position within an engineering environment or evidence of high-level management success in a relevant field, and a track record of studious direction in project management. Experience working in a research and development environment will be highly regarded.
- Proven extensive experience with project management of complex multidisciplinary projects using classic, waterfall and/or agile project management techniques.
- Extensive experience; liaising with project teams, stakeholder management and negotiation and demonstrated success in project development including; resource estimation, project timelines and dependencies, risk estimation and mitigation.
- Highly developed analytical, conceptual and problem solving skills, report writing, time management skills.
- Demonstrated people management experience, with an ability to coach/mentor staff, to prioritise workloads and to guide a team to deliver on demanding commitments in an effective, timely manner and on budgets.
- A demonstrated high level of understanding of equal opportunity best practice and a commitment to the application of EO policies in a University context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	May 2022
Printed Name:	Dr Roger Haynes	Uni ID:	

References:

[General Staff Classification Descriptors](#)



Australian
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University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Project Manager Discipline Lead	Classification	SM1 (Specialist)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☐	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☐	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☐	
laser	☐	☐	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☐	☐	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☐	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:	Dr Roger Haynes		Date: May 2022



Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Mechanical Specialist
Classification:	ANU Officer 6/7 (Specialist)
Position No:	TBC
Responsible to:	AITC Mechanical Discipline Lead
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program requires a high-level engineering team to develop innovative state-of-the-art instrumentation for observing the distant Universe, as well as for helping support existing RSAA telescopes at Siding Spring Observatory. The Mechanical Specialist provides specialist technical management skills in support of the program in the area of mechanical engineering.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Mechanical Specialist reports to the Mechanical Discipline Lead, providing design, development, validation, and maintenance expertise for approved RSAA technical projects and activities. A close working relationship is required with engineers in Optical, Electronics, Controls, Software, Detector, and Systems Engineering as well as the project/program management, scientists and external stakeholders.

Role Statement:

Under the broad direction of the Mechanical Discipline Lead, the Mechanical Specialist will:

- Manage mechanical engineering assignments from concept through to implementation, entailing technical specifications, design, modelling, prototyping, alignment, testing, detailed planning and support documentation. The designer is expected to take the lead in subsequent assembly, integration and test.
- Contribute to the development of budgets and schedules for assigned project tasks, ensuring budget is achieved and risks are mitigated while ensuring that mechanical systems are delivered in a cost-effective manner within schedule and to technical requirements.
- Contribute to mechanical project proposals, applying engineering knowledge to develop work plans covering; cost, resource implications and test needs.
- Provide engineering advice to the RSAA project managers, facilitate interdisciplinary design solutions, and provide guidance and mentoring to designers, developers and technical support staff.
- Contribute to the commissioning, enhancement, and optimizing of instrumentation.
- Develop technical documentation and descriptive articles for general publication.
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of Advanced Instrumentation and Technology Centre (AITC) operations management procedures.
- Undertake other duties as required from time to time consistent with the classification level of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

- Degree in Science, Engineering or related discipline and a minimum of two years relevant experience. Professional experience in the context of astronomical or physics research will be highly regarded and experience working in structured system engineering and project managed environments is highly desirable.
- Demonstrated experience in mechanical and opto-mechanical design, system validation techniques and maintenance of mechanical or opto-mechanical systems, including the use of modern concepts and approaches for integrating electronic and optical designs with mechanical constructions, preferably in the context of forefront astronomical research
- Demonstrated experience in computer assisted design and modelling, including integration of optical, thermal, and mechanical (including FEA) design approaches and proficiency with solid modelling and the ASME Y14.5 Standard or equivalent. Experience in vacuum cryogenic design is highly desired.
- Demonstrated proficiency in design, assembly and alignment of precision mechanical systems. Experience in successful test campaigns including; design, prototyping, assembly, alignment, integration, testing is highly valued.
- Demonstrated ability to take responsibility for work outcomes and priorities workloads to deliver on challenging objectives timely and on budgets.
- High level of interpersonal, liaison and negotiation skills with demonstrated effective communication skills and experience with demonstrated experience working with customers, industry partners, suppliers and contractors.
- Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature

The successful candidate must have rights to live and work in this country.

ANU Officer Levels 6 and 7 are broad banded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	May 2022
Printed Name:	Gaston Gausachs	Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Mechanical Specialist	Classification	ANU Officer 6/7 (Spec)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

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	☒	☐	laboratory work	☐	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/	☐	☐	clinical specimens, including blood	☐	☐
carcinogens			genetically-manipulated specimens	☐	☐
pesticides / herbicides	☐	☐	immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		Gaston Gausachs	Date:	May 2022	



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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Senior Mechanical Specialist
Classification:	ANU Officer 8 (Specialist)
Position No:	TBC
Responsible to:	AITC Mechanical Discipline Lead
Number of positions that report to this role:	None
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program requires a high-level engineering team to develop innovative state-of-the-art instrumentation for observing the distant Universe, as well as for helping support existing RSAA telescopes at Siding Spring Observatory. The Senior Mechanical Specialist provides specialist technical management skills in support of the program in the area of mechanical engineering.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Senior Mechanical Specialist reports to the Mechanical Discipline Lead, providing design, development, validation, and maintenance expertise for approved RSAA technical projects and activities. A close working relationship is required with engineers in Optical, Electronics, Controls, Software, Detector, and Systems Engineering as well as the project/program management, scientists and external stakeholders.

Role Statement:

Under the broad direction of the Mechanical Discipline Lead, the Senior Mechanical Specialist will:

- Manage complex mechanical engineering assignments from concept through to implementation, entailing technical specifications, design, modelling, prototyping, alignment, testing, detailed planning and support documentation. The designer is expected to direct subsequent assembly, integration and test.
- Contribute to the development of budgets and schedules for assigned project tasks, within the requirements of contracts, and work closely with teams to manage and oversee financial budget to mitigate risks and ensure that mechanical systems are delivered in a cost-effective manner within schedule and to technical requirements.
- Contribute to mechanical project proposals, providing expert advice and assessment on feasibility, cost, resource implications and test needs.
- Provide a high level of engineering advice to the RSAA project managers, facilitate interdisciplinary design solutions, and provide guidance and mentoring to designers, developers and technical support staff.
- Lead the commissioning, enhancement, and optimizing of instrumentation.
- Develop technical documentation and descriptive articles for general publication.
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of Advanced Instrumentation and Technology Centre (AITC) operations management procedures
- Undertake other duties as required from time to time consistent with the classification level of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

- Progress towards post graduate qualifications in relevant Science, Engineering or related discipline and a minimum of four years relevant experience. Professional experience in the context of astronomical or physics research will be highly regarded and experience working in structured system engineering and project managed environments is highly desirable.
- Demonstrated experience in complex mechanical and opto-mechanical design, complex mechanism design, system validation techniques and maintenance of opto-mechanical systems, including the use of modern concepts and approaches for integrating electronic and optical designs with mechanical constructions, preferably in the context of forefront astronomical research
- Demonstrated proficiency and experience in computer assisted design and modelling, including integration of optical, thermal, and mechanical (including FEA) design approaches and proficiency with solid modelling and the ASME Y14.5 Standard or equivalent. Experience in vacuum cryogenic design is highly desired.
- Demonstrated proficiency in design, assembly and alignment of precision mechanical systems. Experience in successful test campaigns including; design, prototyping, assembly, alignment, integration, testing is highly valued.
- Demonstrated people management experience with an ability to coach and mentor staff, to prioritise workloads and to lead a team to deliver on challenging objectives timely and on budgets.
- High level of interpersonal, liaison and negotiation skills with demonstrated effective communication skills and experience with demonstrated experience working with customers, industry partners, suppliers and contractors.
- Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature
- A demonstrated high level of understanding of equal opportunity (EO) principles and a commitment to the application of EO policies in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	May 2022
Printed Name:	Gaston Gausachs	Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Senior Mechanical Specialist	Classification	ANU Officer 8 (Spec)
Position No.		Reference No.	

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Potential Hazards

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TASK	regular	occasional	TASK	regular	occasional
key boarding	☒	☐	laboratory work	☐	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		Gaston Gausachs	Date:	May 2022	



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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy & Astrophysics (RSAA)
Department/Unit:	Advanced Instrumentation & Technology Centre (AITC)
Position Title:	Instrumentation Specialist (Electronics)
Classification:	ANU Officer 6/7 (Specialist)
Position No:	TBC
Responsible to:	Detectors, Electronics & Control group supervisor
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation & Technology Centre (AITC) at the ANU Research School of Astronomy and Astrophysics (RSAA) requires scientific and engineering teams to develop innovative, state-of-the-art instrumentation for observing the distant universe from the ground and space, as well as to support existing RSAA telescope facilities at ANU's Siding Spring Observatory. The Instrumentation Specialist will provide technical expertise in support of the RSAA astronomical instrumentation program in the area of electronics and/or optical detector systems, but with scope for a broader cross-disciplinary role within the AITC, and/or an opportunity to work in specialist fields of electronics such as FPGA system design.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Instrumentation Specialist will report to the Detectors, Electronics and Controls group supervisor and will be responsible for the design and development of technologies and instrumentation as part of an AITC-wide team of specialist scientists and engineers. A close working relationship is required with technical staff across disciplines, including Optical, Mechanical, Software, and Systems Engineering. The Instrumentation Specialist will follow AITC technical management procedures, often within the framework of international consortia.

Role Statement:

Under general direction, the Instrumentation Specialist will:

- Apply knowledge, concepts and techniques to various technical projects in the field of astronomical and/or space instrumentation, including but not limited to: hardware design; hardware-software interfacing; experiment design; test automation; rapid prototyping; and data analysis.
- Contribute to the development of budgets, effort estimations and schedules for assigned project tasks, and manage tasks with consideration of risks to deliver results within agreed budgets and schedules.
- Comply with AITC technical management procedures to ensure optimum results for complex, multi-disciplinary instrumentation projects.
- Function in a matrix organisational structure, under the direction of project manager(s), project engineers and systems engineers across multiple projects.
- Apply training and experience to solve problems and undertake assembly integration and testing of prototype and deliverable hardware.
- Support the preparation of technical documentation and contribute to the preparation of descriptive articles for general publication, as required.
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC engineering.
- Undertake other duties as required from time to time consistent with the classification level of the position.

- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

- A degree in Science, Engineering, and/or related discipline.
- Demonstrated experience in a multi-disciplinary technical environment and/or working on multi-disciplinary technical projects.
- Demonstrated experience in two or more of the following technical areas: embedded electronics; signal processing; rapid prototyping; applied physics (optics and/or astronomy); space systems engineering; or numerical data analysis. Expertise in FPGA-based system development is considered a plus.
- Demonstrated coding skills in at least one of the following languages: Python, C, C++, MATLAB, HDL.
- Excellent oral and written skills and the ability to communicate and interact effectively with a range of staff members, stakeholders, customers, industry partners, suppliers and contractors.
- A proven ability to work flexibly, prioritise work to meet conflicting deadlines, and quickly adapt to new environments.
- A demonstrated ability to use initiative and work both separately and as part of a diverse team.
- A demonstrated understanding of equity and diversity principles and a commitment to their application in the context of the ANU community.

The successful candidate must have rights to live and work in this country

ANU Officer Levels 6 and 7 are broad banded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	May 2022
Printed Name:	Dr Roger Haynes	Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Instrumentation Engineer	Classification	ANU Officer 6/7 (Spec)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	☒	☐	laboratory work	☒	☐
lifting, manual handling	☐	☒	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☒
Organizing events	☐	☐	noise / vibration	☐	☒
fieldwork & travel	☐	☒	electricity	☐	☒
driving a vehicle	☐	☒			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☒	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/	☐	☐	clinical specimens, including blood	☐	☐
carcinogens			genetically-manipulated specimens	☐	☐
pesticides / herbicides	☐	☐	immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		Dr Roger Haynes	Date:	May 2022	



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy & Astrophysics (RSAA)
Department/Unit:	Advanced Instrumentation & Technology Centre (AITC)
Position Title:	Instrumentation Specialist (Electronics)
Classification:	ANU Officer 8 (Specialist)
Position No:	TBC
Responsible to:	Detectors, Electronics & Control group supervisor
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Advanced Instrumentation & Technology Centre (AITC) at the ANU Research School of Astronomy and Astrophysics (RSAA) requires scientific and engineering teams to develop innovative, state-of-the-art instrumentation for observing the distant universe from the ground and space, as well as to support existing RSAA telescope facilities at ANU's Siding Spring Observatory. The Senior Instrumentation Specialist will provide technical expertise in support of the RSAA astronomical instrumentation program in the area of electronics and/or optical detector systems, but with scope for a broader cross-disciplinary role within the AITC, and/or an opportunity to work in specialist fields of electronics such as FPGA system design.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Senior Instrumentation Specialist will report to the Detectors, Electronics and Controls group supervisor and will be responsible for the design and development of technologies and instrumentation as part of an AITC-wide team of specialist scientists and engineers. A close working relationship is required with technical staff across disciplines, including Optical, Mechanical, Software, and Systems Engineering. The Instrumentation Specialist will follow AITC technical management procedures, often within the framework of international consortia.

Role Statement:

Under general direction, the Instrumentation Specialist will:

- Lead and apply knowledge, concepts and techniques to various technical projects in the field of astronomical and/or space instrumentation, including but not limited to: hardware design; hardware-software interfacing; experiment design; test automation; rapid prototyping; and data analysis.
- Manage the development of budgets, effort estimations and schedules for assigned project tasks, and manage tasks with consideration of risks to deliver results within agreed budgets and schedules.
- Comply with AITC technical management procedures to ensure optimum results for complex, multi-disciplinary instrumentation projects.
- Function in a matrix organisational structure, under the direction of project manager(s), project engineers and systems engineers across multiple projects.
- Lead and apply training and experience to solve problems and undertake assembly integration and testing of prototype and deliverable hardware.
- Prepare and maintenance technical documentation and contribute to the preparation of descriptive articles for general publication, as required.
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC engineering.
- Undertake other duties as required from time to time consistent with the classification level of the position.

- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

- Progress towards postgraduate qualifications in Science, Engineering, and/or extensive experience in related discipline.
- Demonstrated experience in a multi-disciplinary technical environment and/or working on multi-disciplinary technical projects.
- Demonstrated proficiency in two or more of the following technical areas: embedded electronics; signal processing; rapid prototyping; applied physics (optics and/or astronomy); space systems engineering; or numerical data analysis. Expertise in FPGA-based system development is considered a plus.
- Demonstrated proficiency in coding skills in at least one of the following languages: Python, C, C++, MATLAB, HDL.
- Excellent oral and written skills and the ability to communicate and interact effectively with a range of staff members, stakeholders, customers, industry partners, suppliers and contractors.
- A proven ability to work flexibly, prioritise work to meet conflicting deadlines, and quickly adapt to new environments.
- A demonstrated ability to use initiative and work both separately and as part of a diverse team.
- A demonstrated understanding of equity and diversity principles and a commitment to their application in the context of the ANU community.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	May 2022
Printed Name:	Dr James Gilbert	Uni ID:	

References:[General Staff Classification Descriptors](#)[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Instrumentation Engineer	Classification	ANU Officer 6/7 (Spec)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☒	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☒	
driving a vehicle	☐	☒	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☐	
laser	☐	☐	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☒	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☒	☐	
work at heights	☐	☐	
work in confined spaces	☐	☒	
noise / vibration	☐	☒	
electricity	☐	☒	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:		<i>Dr James Gilbert</i>	Date: <i>May 2022</i>



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Systems Specialist
Classification:	ANU Officer Grade 6/7 (Specialist)
Position No:	TBC
Responsible to:	AITC Systems Engineer Discipline Lead
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program maintains a high-level specialist team to develop innovative state-of-the-art ground-based and space-based optical/infrared instrumentation and telescope systems, as well as for helping support existing telescope facilities at Siding Spring Observatory. The Systems Specialist oversees the system synthesis during the full project life-cycle: managing interfaces, requirements, system architecture, system validation and verification, system performance modelling. They are also expected to maintaining an up-to-date knowledge of awareness of state-of-the-art in the field.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Systems Specialist is supervised by the AITC Systems Discipline Lead, and enable the realisation of successful systems for approved RSAA technical projects and activities. A close working relationship is required with the Project Manager, Optical, Mechanical, Electronics, Software, Detector and Controls Specialists, as well as the science teams both within ANU and with external collaborators/consortia (National and International).

The Systems Specialist is deployed to work as part of project teams under the direction of the Project Manager on project related matters and has primary responsibility for oversight of the requirements definition, design synthesis and system validation during the full life-cycle. The AITC manages a large and diverse project portfolio and the Systems Specialist may be deployed on several projects simultaneously.

Role Statement:

Under broad direction, working with a degree of autonomy, the Systems Specialist focuses on requirements analysis, interface definition, compliance, design synthesis and system validation while considering the operational, cost and schedule, performance, training and support, test, manufacturing, and disposal constraints, i.e. ensuring delivery of a quality product that meets the user needs.

The Systems Specialist will:

- Collation, assessment, control of the system requirements, interfaces and system/subsystem specifications;
- Contribute to the management of system level architecture and engineering processes to ensure the full lifecycle requirements are met, including the design, development, manufacture, assembly, integration, testing, shipping, commissioning, operations, maintenance/repair and disposal phases;
- Manage the system function and performance verification and validation.
- Contribute to the development of an end-to-end system performance model, used to assist with technical trade-offs and performance expectation management;
- Applying systems engineering knowledge in contributing to new project proposals;

- Provide systems engineering advice to project managers and facilitate interdisciplinary design solutions;
- Develop knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC operations management procedures;
- Contribute to the preparation of technical documentation, presentations and contribute to publications;
- Comply with, maintain an awareness of and help promote all ANU policies and procedures and in particular those relating to work health and safety and equal opportunity, including a demonstrated high level of understanding of equal opportunity best practice and a commitment to their application in a university context;
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- Degree in Science, Engineering, or related discipline, OR an equivalent combination of relevant experience and/or education/training. Qualifications and experience working in structured systems engineering environments and/or the field of astronomical instrumentation would be favourably regarded.
- Demonstrated experience in instrument or aerospace systems design including; requirements development, prototyping, build/manufacture and system validation.
- Experience with Model Based Systems Engineering processes and software (such as MagicDraw) would be highly regarded.
- Excellent interpersonal and liaison skills with demonstrated effective communication skills. Experience working with customers, industry partners, suppliers and contractors.
- Proven good written communication skills with the ability to develop and contribute to material for publication.
- Proven ability to work flexibly, prioritise work to meet conflicting deadlines, and to quickly adapt to new environments including a demonstrated ability to use initiative, apply sound judgement and work with minimum supervision individually and within a team environment.
- A demonstrated high level of understanding of equal opportunity (EO) best practice and a commitment to the application of EO policies in a university context.

ANU Officer Levels 6 and 7 are broad banded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Systems Engineer	Classification	ANU Officer 6/7 (Specialist)
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

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	☒	☐	laboratory work	☐	☒
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:			Date:		



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Senior Systems Specialist
Classification:	ANU Officer Grade 8 (Specialist)
Position No:	TBC
Responsible to:	AITC Systems Engineer Discipline Lead
Number of positions that report to this role:	N/A
Delegation(s) Assigned:	N/A

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program maintains a high-level Specialist team to develop innovative state-of-the-art ground-based and space-based optical/infrared instrumentation and telescope systems, as well as for helping support existing telescope facilities at Siding Spring Observatory. The Senior Systems Specialist oversees the system synthesis during the full project life-cycle: managing interfaces, requirements, system architecture, system validation and verification, system performance modelling. They are also expected to maintaining an up-to-date knowledge of awareness of state-of-the-art in the field.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Senior Systems Specialist is supervised by the AITC Systems Discipline Lead, and enable the realisation of successful systems for approved RSAA technical projects and activities. A close working relationship is required with the Project Manager, Optical, Mechanical, Electronics, Software, Detector and Controls Specialists, as well as the science teams both within ANU and with external collaborators/consortia (National and International)

The Senior Systems Specialist is deployed to work as part of project teams coordinating closely with the Project Manager on project related matters and has primary responsibility for oversight of the requirements definition, design synthesis and system validation during the full life-cycle. The AITC manages a large and diverse project portfolio and the Senior Systems Specialist may be deployed on several projects simultaneously..

Role Statement:

Under broad direction, working with a degree of autonomy, the Senior Systems Specialist focuses on requirements analysis, interface definition, compliance, design synthesis and system validation while considering the operational, cost and schedule, performance, training and support, test, manufacturing, and disposal constraints, i.e. ensuring delivery of a quality product that meets the user needs.

The Senior Systems Engineering will:

- Manage complex technical development projects and tasks from concept through to implementation and be responsible for the subsequent assembly, integration and test;
- Development, assessment, oversight, control of the system requirements, interfaces and system/subsystem specifications;
- Manage the system level architecture, design, development and technical processes to ensure the full lifecycle requirements are met, including the design, development, manufacture, assembly, integration, testing, shipping, commissioning, operations, maintenance/repair and disposal phases;
- Manage the system function and performance verification and validation. Also contribute to the commissioning, enhancement, and optimisation of instrumentation;
- Oversee the development of an end-to-end system performance model, used to assist with technical trade-offs and performance expectation management;

- Contribute to the development of budgets and schedules for assigned project tasks, ensuring budget is met and risks are mitigated whilst ensuring that systems are delivered within cost, schedule and meeting technical requirements;
- Contribute to new project proposals, applying system engineering knowledge to develop work plans covering; cost, resource implications and test needs;
- Provide systems advice to project managers, facilitate interdisciplinary design solutions, and provide solutions guidance and mentoring to design specialists and technical support staff;
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC operations management procedures;
- Prepare technical documentation and contribute to the preparation of descriptive articles for general publication;
- Comply with, maintain an awareness of and help promote all ANU policies and procedures and in particular those relating to work health and safety and equal opportunity, including a demonstrated high level of understanding of equal opportunity best practice and a commitment to their application in a university context;
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- Progress towards postgraduate qualifications Science, Engineering or related discipline and a minimum of four years relevant experience OR an equivalent combination of relevant experience and/or education/training. Qualifications and experience working in structured systems engineering environments and/or the field of astronomical instrumentation would be favourably regarded.
- Demonstrated proficiency and experience in complex instrument or aerospace systems design including; requirements development, prototyping, build/manufacture and system validation. Experience in commissioning and maintenance of complex systems, preferably in the context of astronomical instrumentation is highly desirable.
- Experience with Model Based Systems Engineering processes and software (such as MagicDraw) would be highly regarded.
- High level of interpersonal, liaison and negotiation skills with demonstrated effective communication skills and experience with demonstrated experience working with customers, industry partners, suppliers and contractors.
- Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature
- Experience in project cost development including; resource estimation, project timelines and dependencies, and risk estimation and mitigation.
- Proven ability to work flexibly, prioritise work to meet conflicting deadlines, and to quickly adapt to new environments including a demonstrated ability to use initiative, apply sound judgement and work with minimum supervision individually and within a team environment.
- A demonstrated high level of understanding of equal opportunity (EO) best practice and a commitment to the application of EO policies in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Senior Systems Engineer	Classification	ANU Officer Level 8 (Specialist)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

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	☐	☐	laboratory work	☐	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:			Date:		



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Optical Specialist
Classification:	ANU Officer Grade 6/7 (Specialist)
Position No:	TBC
Responsible to:	Optical Discipline supervisor
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program requires a high-level engineering team to develop innovative state-of-the-art ground-based and space-based optical and infrared instrumentation and telescope systems, and to support existing telescope infrastructure at Siding Spring Observatory. The Optical Specialist is expected to undertake optical research and development activities within the optics discipline team environment and provide specialist technical support to RSAA research program in the area of Optics. The Optical Specialist will maintain an up-to-date knowledge and awareness of the state-of-the-art practice and technology in the field.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Optical Specialist reports to the Optical Discipline supervisor of the RSAA Advanced Instrumentation Technology Centre (AITC), providing design, development, validation, assembly, verification, and maintenance expertise for AITC technical projects and activities. A close working relationship is required with the ANU staff along with external partners and stakeholders. The Optical Specialist will follow AITC technical management procedures to ensure optimum results for complex, multi-disciplinary instrumentation projects, often within the framework of international consortia. The Optical Specialist in this role is responsible for ensuring that the necessary optics standards and technical facilities requirements are met for assigned projects.

Role Statement:

Under the broad direction of the Optical Discipline supervisor the Optical Specialist will:

- Manage complex optical assignments relating to astronomical systems from concept through to implementation, entailing technical specifications, design, modelling, alignment, testing, detailed planning, and delivery of support documentation.
- Operate and maintain high end optical/metrological test equipment under supervision of the Optics Discipline supervisor.
- Contribute to the development of budgets and schedules for assigned project tasks and work closely with teams to manage and oversee optical system budgets to mitigate risks and ensure that optical systems are delivered in a cost-effective manner within schedule while meeting technical requirements.
- Define optical specifications for drawings, optical materials, opto-mechanical constraints, and testing.
- Provide input for optical project proposals, providing expert advice and assessment on technical feasibility.
- Provide expert optical advice to projects, facilitate interdisciplinary design solutions.
- Develop technical documentation and input to articles for general publication.
- Maintain a working knowledge both of best-practice procedures in the context of prototype, one-off and small batch constructions, and an awareness of relevant state-of-the-art practice and technologies

that might be applied to astronomical or space research within the context of AITC operational constraints.

- Comply with, maintain an awareness of and help promote all ANU policies and procedures; in particular those relating to work health and safety and equal opportunity and diversity.
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- A University degree qualification in Optics or related discipline with a minimum of two years relevant optics development experience. Professional experience in the context of astronomical or space/physics research will be highly regarded, as would experience with complex optical systems operating in vacuum at cryogenic temperatures, but neither is a requirement.
- Proven experience in optical systems of complex instruments covering; requirements development, optical design with tolerancing, and direct involvement with prototyping, manufacture, assembly, testing, commissioning, maintenance, and troubleshooting of systems. Preferably in the context of optical, space, or astronomical instrumentation and research.
- Experience with optical design software as well as optical materials, properties, and coatings.
- Experience of optical and electro-optical system performance and analysis modelling including imaging and radiometric/photometric properties.
- Familiarity with the application and use of metrology equipment including: optical alignment equipment (e.g. alignment telescopes), interferometers, spectrometers, image analysis (MTF) tools, and radiometers.
- Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature.
- A demonstrated high level of understanding of equal opportunity (EO) and diversity best practice and a commitment to the application of EO policies in a university context.

ANU Officer Levels 6 and 7 are broad banded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Optical Specialist	Classification	ANU Officer Level 6/7 (Specialist)
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	
key boarding	☒	☐	
lifting, manual handling	☐	☐	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☐	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☐	
laser	☐	☐	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☐	☒	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☐	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:		Date:	



Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Senior Optical Specialist
Classification:	ANU Officer Grade 8 (Specialist)
Position No:	TBC
Responsible to:	Optical Discipline Supervisor
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program requires a high-level engineering team to develop innovative state-of-the-art ground-based and space-based optical and infrared instrumentation and telescope systems, and to support existing telescope infrastructure at Siding Spring Observatory. The Senior Optical Specialist is expected to undertake optical research and development activities within the optics discipline team environment and provide specialist technical support of the RSAA research program in the area of Optics. The Senior Optical Specialist will maintain an up-to-date knowledge and awareness of the state-of-the-art practice and technology in the field.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Senior Optical Specialist reports to the Optical Discipline supervisor of the RSAA Advanced Instrumentation Technology Centre (AITC), providing design, development, validation, assembly, verification, and maintenance expertise for approved AITC technical projects and activities. A close working relationship is required with the ANU staff along with external partners and stakeholders. The Senior Optical Specialist will follow AITC technical management procedures to ensure optimum results for complex, multi-disciplinary instrumentation projects, often within the framework of international consortia. The Senior Optical Specialist in this role is responsible for managing and ensuring that necessary optics standards and technical facilities requirements are met for assigned projects. This position will involve mentoring and development opportunities.

Role Statement:

Under the broad direction of the Optical Discipline supervisor and working with a considerable degree of autonomy the Senior Optical Specialist will:

- Manage complex optical assignments relating to space and astronomical systems from concept through to implementation, entailing technical specifications, design, modelling, alignment, testing, detailed planning and delivery of support documentation.
- Operate and maintain high end optical/metrological test equipment.
- Facilitate building required optical metrology capability under the supervision of the Optical Discipline supervisor.
- Develop budgets and schedules for assigned project tasks within the requirements of contracts, and work closely with teams to manage and oversee optical system budgets to mitigate risks and ensure that optical systems are delivered in a cost-effective manner within schedule while meeting technical requirements.
- Define optical specifications for drawings, optical materials, opto-mechanical constraints, and testing.
- Provide critical contributions to optical project proposals, providing expert advice and assessment on feasibility, cost, resource implications and test needs.
- Participate in and specify commissioning, enhancement, and optimising of optical systems and identifying new opportunities.

- Provide expert optical advice to projects, facilitate interdisciplinary design solutions.
- Develop technical documentation and descriptive articles for general publication.
- Maintain a working knowledge both of best-practice procedures in the context of prototype, one-off and small batch constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of AITC e operational management procedures.
- Comply with, maintain an awareness of and help promote all ANU policies and procedures; in particular those relating to work health and safety and equal opportunity.
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- Progress towards postgraduate qualifications in Optics or a related discipline with a minimum of four years relevant optics experience. Professional experience in the context of astronomical or space/physics research will be highly regarded, as would experience with complex optical systems operating in vacuum or space environments at cryogenic temperatures, but neither is a requirement. PhD qualifications in field of Optics will be highly regarded.
- Proven experience in optical systems of complex instruments covering; requirements development, optical design with tolerancing, and direct involvement with prototyping, manufacture, assembly, testing, commissioning, maintenance, and troubleshooting of systems. Preferably in the context of optical, space, or astronomical instrumentation and research.
- Experience in the management of optical systems design, manufacturing, integration, testing, and delivery.
- Experience with optical design software as well as optical materials, properties, and coatings.
- Experience of optical and electro-optical system performance and analysis modelling including imaging and radiometric/photometric properties.
- Familiarity with the application and use of metrology equipment including: optical alignment equipment (e.g. alignment telescopes), interferometers, spectrometers, image analysis (MTF) and radiometers.
- Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature.
- A demonstrated high level of understanding of equal opportunity (EO) and diversity best practice and a commitment to the application of EO and diversity policies in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Senior Optical Specialist	Classification	ANU Officer Level 8 (Specialist)
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	☐	☐	laboratory work	☐	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:			Date:		



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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Software Specialist
Classification:	ANU Officer Grade 6/7 (Specialist)
Position No:	TBC
Responsible to:	Software and IT Discipline Lead
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program maintains a high-level specialist team to develop innovative state-of-the-art ground-based and space-based optical/Infrared instrumentation and telescope systems, as well as for helping support existing telescope facilities at Siding Spring Observatory. This position provides software expertise in support of the program.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Software Specialist reports to the Software and IT Discipline Lead. The role is responsible for supporting the design, validation, and maintenance of software systems for approved RSAA technical programs and activities. The role also includes assisting in the development and maintenance of IT systems required for project activities. A close working relationship is required with other specialists within the AITC program, along with external partners and stakeholders. The Software Specialist follows best-practice procedures to ensure successful outcomes for complex multi-disciplinary instrumentation projects, often within the framework of international consortia. The occupant of the role is expected to maintain an awareness of the state-of-the-art technology in the field and will be required to work within a matrix project management structure under the general direction of project manager(s) or more senior engineers.

Role Statement:

Under general direction the Software Specialist will:

- Carry out software engineering tasks requiring individual judgment in the application of best-practice software engineering techniques and methods.
- Maintain an awareness of, and capability in, software engineering and the application of best-practice techniques and methods.
- Support studies and evaluation of systems and equipment designs and novel concepts, including assistance in project planning estimates.
- Participate in the manufacture and integration of instruments and systems.
- Provide specialist technical advice to stakeholders as appropriate.
- Maintain and support existing equipment, including instrumentation at remote sites such as international observatories and Siding Spring Observatory.
- Assist in the development and maintenance of IT systems and software used in project activities.
- Comply with, maintain an awareness of and help promote all ANU policies and procedures; in particular those relating to work health and safety and equal opportunity.
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- A relevant degree (such as Computer Science, Software Engineering, Physics, Mathematics) and relevant practical experience or an equivalent combination of training and relevant experience.
- Experience in the design, production, and testing of software systems in a scientific environment. Experience in the areas of Electronics, Detector Systems, or Control Systems would be highly regarded.
- Proven experience with modern software development methodologies including experience with languages such as C++ and Python. Application of these skills to software systems deployed in a multi-threaded distributed environment on Unix and real-time operating systems is considered essential.
- Experience with systems administration of networked Unix systems.
- Demonstrated capacity to work collaboratively within multi-disciplinary teams using best-practice engineering methods.
- An understanding of project management techniques is desirable.
- Well-developed oral and written communication skills. A proven ability to document work and prepare and deliver project review materials. Excellent interpersonal skills.
- A demonstrated high level of understanding of equal opportunity best practice and a commitment to the application of EO policies in a University context.

The successful candidate must have rights to live and work in this country.

ANU Officer Levels 6 and 7 are broad banded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Software Specialist	Classification	ANUO Level 6/7 (Specialist)
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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

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	☒	☐	laboratory work	☐	☒
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/	☐	☐	clinical specimens, including blood	☐	☐
carcinogens			genetically-manipulated specimens	☐	☐
pesticides / herbicides	☐	☐	immunisations	☐	☐
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:			Date:		



**Australian
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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Senior Software Specialist
Classification:	ANU Officer Grade 8 (Specialist)
Position No:	TBC
Responsible to:	Software and IT Discipline Lead
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The Research School of Astronomy and Astrophysics' (RSAA) research program maintains a high-level specialist team to develop innovative state-of-the-art ground-based and space-based optical/Infrared instrumentation and telescope systems, as well as for helping support existing telescope facilities at Siding Spring Observatory. This position provides software expertise in support of the program.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Senior Software Specialist reports to the Software and IT Discipline Lead. The role is responsible for supporting the design, validation, and maintenance of software systems for approved RSAA technical programs and activities. The role also includes assisting in the development and maintenance of IT systems required for project activities. A close working relationship is required with other specialist within the AITC program, along with external partners and stakeholders. The Senior Software Specialist follows best-practice procedures to ensure successful outcomes for complex multi-disciplinary instrumentation projects, often within the framework of international consortia. The occupant of the role is expected to maintain an aware of the state-of-the-art technology in the field and will be required to work within a matrix project management structure under the broad direction of project manager(s) or more senior engineers.

Role Statement:

Under broad direction and working with a considerable degree of autonomy the Senior Software Specialist will:

- Carry out software engineering tasks requiring individual judgment and initiative in the application of best-practice software engineering techniques and methods.
- Maintain an awareness of, and capability in, software engineering and the application of best-practice techniques and methods.
- Undertake studies and evaluation of systems and equipment designs and novel concepts, including development of financial and project planning estimates.
- Lead the manufacture and integration of instruments and systems. As required, lead software engineering aspects of instrumentation projects which could include project planning and tracking.
- Provide specialist technical advice to stakeholders as appropriate.
- Maintain and support existing equipment, including instrumentation at remote sites such as international observatories and Siding Spring Observatory.
- Lead in the development and maintenance of IT systems and software used in project activities.
- Comply with, maintain an awareness of and help promote all ANU policies and procedures; in particular those relating to work health and safety and equal opportunity.
- Perform other duties as requested, consistent with the classification level of the position and in line with the practice of multi-skilling.

SELECTION CRITERIA:

- Progress towards a relevant post-graduate degree (such as Computer Science, Software Engineering, Physics, Mathematics) and extensive relevant practical experience or an equivalent combination of training and relevant experience.
- Extensive experience in the design, production, and testing of software systems in a scientific environment. Experience in the areas of Electronics, Detector Systems, or Control Systems would be highly regarded.
- Extensive experience with modern software development methodologies including experience with languages such as C++ and Python. Application of these skills to software systems deployed in a multi-threaded distributed environment on Unix and real-time operating systems is considered essential.
- Experience with systems administration of networked Unix systems.
- Demonstrated ability to work collaboratively within multi-disciplinary teams using best-practice engineering methods. Experience in managing software projects, including an ability to supervise and mentor junior staff.
- An understanding of project management techniques.
- Well-developed oral and written communication skills. A proven ability to document work and prepare and deliver project review materials. Excellent interpersonal skills.
- A demonstrated high level of understanding of equal opportunity best practice and a commitment to the application of EO policies in a University context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	
Printed Name:		Uni ID:	

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	Dept/School/Section	RSAA, AITC
Position Title	Senior Software Specialist	Classification	ANU Officer Level 8 (Specialist)
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

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- '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

Potential Hazards

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TASK	regular	occasional	
key boarding	☐	☐	
lifting, manual handling	☐	☐	
repetitive manual tasks	☐	☐	
Organizing events	☐	☐	
fieldwork & travel	☐	☐	
driving a vehicle	☐	☐	
NON-IONIZING RADIATION			
solar	☐	☐	
ultraviolet	☐	☐	
infra red	☐	☐	
laser	☐	☐	
radio frequency	☐	☐	
CHEMICALS			
hazardous substances	☐	☐	
allergens	☐	☐	
cytotoxics	☐	☐	
mutagens/teratogens/	☐	☐	
carcinogens	☐	☐	
pesticides / herbicides	☐	☐	
TASK	regular	occasional	
laboratory work	☐	☐	
work at heights	☐	☐	
work in confined spaces	☐	☐	
noise / vibration	☐	☐	
electricity	☐	☐	
IONIZING RADIATION			
gamma, x-rays	☐	☐	
beta particles	☐	☐	
nuclear particles	☐	☐	
BIOLOGICAL MATERIALS			
microbiological materials	☐	☐	
potential biological allergens	☐	☐	
laboratory animals or insects	☐	☐	
clinical specimens, including blood	☐	☐	
genetically-manipulated specimens	☐	☐	
immunisations	☐	☐	
OTHER POTENTIAL HAZARDS (please specify):			
Supervisor/Delegate Name:		Date:	