



Position Description

College/Division:	ANU College of Science
Faculty/School/Centre:	Research School of Physics
Department/Unit:	Quantum Science
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	TBC
Responsible to:	Associate Professor Jong Chow, Research School of Physics
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The ANU College of Science (CoS) comprises: the Research School of Astronomy and Astrophysics, the Research School of Biology, the Research School of Chemistry, the Research School of Earth Science, the Fenner School of Environment and Society, the Mathematical Sciences Institute, the Research School of Physics, and the Centre for the Public Awareness of Science. Staff and students within the ANU College of Science conduct research and delivers a research-led education program that encompasses the entire breadth of the sciences, supported by extensive international networks and by world-class facilities. The College has a strong tradition of research excellence that has fostered distinguished Nobel Laureates and Kyoto Prize winners and that trains scientific leaders in disciplines in which the ANU is consistently ranked in the top twenty in the world.

The Research School of Physics is a leading centre of physics research in Australia. Our researchers have a tradition of excellence in both fundamental and applied physics, including innovations to address the needs of industry and commercialisation.

The Postdoctoral Fellow will be a key member of a fast paced, tightly knit multi-disciplinary team to research and develop next-generation automatic three-dimensional volumetric imaging instruments in collaboration with an industry partner. This is to map the features embedded within inorganic and organic materials to improve inspection precision, mapping accuracy and speed. The Postdoctoral Fellow will innovate optical imaging, tomographic and metrology techniques for integration as part of a multimodal approach to scientific instrumentation. The exciting and highly rewarding project will in addition involve scientific computing, digital signal processing and mechatronic control as part of the development work.

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 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.

POSITION DIMENSION AND RELATIONSHIPS:

The Postdoctoral Fellow will be a member of Research School of Physics, and reports to Associate Professor Jong Chow, the Leader of the Applied Metrology Group. The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with 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:

1. Undertake independent research in the area of optical instrumentation science 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 level.
2. Experimental design, implementation and operation of advanced laboratory and technical equipment or conduct of advanced research procedures.

3. Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
4. 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.
5. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
6. Assist to supervise research support staff in your research area.
7. Actively contribute to all aspects of the operation of the School.
8. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
9. Maintain high academic standards in all education, research and administration endeavours.
10. Take responsibility for their own workplace health and safety and not willfully place at risk the health and safety of another person in the workplace.
11. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
12. Other duties as required that are consistent with the classification of the position.

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 research and teaching 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:

1. A PhD (or awarding of a PhD within six months of appointment commencement) in Physics or Engineering, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of precision optical instrumentation or mechatronic control as evidenced by publications in peer-reviewed journals and conferences.
2. Evidence of the ability to articulate and prosecute innovative research in the field of precision optical instrumentation or optical imaging systems or mechatronic control.
3. Expertise in the design and implementation of optical coherence tomography instruments would be especially desirable.
4. The ability to work as part of a team and to meet tight deadlines.
5. Demonstrated evidence of achieving client focused research and development.
6. An ability and commitment to contribute to bids for competitive external funding to support individual and collaborative research activities.
7. Evidence of an ability and willingness to teach at all levels.
8. The ability to assist in the supervision of students working on research projects.
9. 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.
10. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

Delegate Signature:		Date:	19 th Dec 2019
Printed Name:	Jong H Chow	Position:	

References:

[Academic Minimum Standards](#)



Position Description

College/Division:	ANU College of Science
Faculty/School/Centre:	Research School of Physics
Department/Unit:	Quantum Science
Position Title:	Research Fellow
Classification:	Academic Level B
Position No:	TBC
Responsible to:	Associate Professor Jong Chow, Research School of Physics
Number of positions that report to this role:	
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The ANU College of Science (CoS) comprises: the Research School of Astronomy and Astrophysics, the Research School of Biology, the Research School of Chemistry, the Research School of Earth Science, the Fenner School of Environment and Society, the Mathematical Sciences Institute, the Research School of Physics, and the Centre for the Public Awareness of Science. Staff and students within the ANU College of Science conduct research and delivers a research-led education program that encompasses the entire breadth of the sciences, supported by extensive international networks and by world-class facilities. The College has a strong tradition of research excellence that has fostered distinguished Nobel Laureates and Kyoto Prize winners and that trains scientific leaders in disciplines in which the ANU is consistently ranked in the top twenty in the world.

The Research School of Physics is a leading centre of physics research in Australia. Our researchers have a tradition of excellence in both fundamental and applied physics, including innovations to address the needs of industry and commercialisation.

The Research Fellow will be a key member of a fast paced, tightly knit multi-disciplinary team to research and develop next-generation automatic three-dimensional volumetric imaging instruments in collaboration with an industry partner. This is to map the features embedded within inorganic and organic materials to improve inspection precision, mapping accuracy and speed. The Research Fellow will innovate optical imaging, tomographic and metrology techniques for integration as part of a multimodal approach to scientific instrumentation. The exciting and highly rewarding project will in addition involve scientific computing, digital signal processing and mechatronic control as part of the development work.

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 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 assist in the supervision of students, and contribute cooperatively to the overall intellectual life of the School, College and University.

POSITION DIMENSION AND RELATIONSHIPS:

The Research Fellow will be a member of Research School of Physics, and reports to Associate Professor Jong Chow, the Leader of the Applied Metrology Group. The Research Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with 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 B the Research Fellow is expected to:

1. Undertake independent research in the area of optical instrumentation science 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 level.

2. Experimental design, implementation and operation of advanced laboratory and technical equipment or conduct of advanced research procedures.
3. Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
4. 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.
5. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Supervision of research students.
6. Supervise Postdoctoral Fellows and research support staff in your research area.
7. Actively contribute to all aspects of the operation of the School. This may include representation through committee memberships.
8. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.
9. Maintain high academic standards in all education, research and administration endeavours.
10. Take responsibility for their own workplace health and safety and not willfully place at risk the health and safety of another person in the workplace.
11. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.
12. Other duties as required that are consistent with the classification of the position.

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:

1. A PhD (or awarding of a PhD within six months of appointment commencement) in Physics or Engineering, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of precision optical instrumentation or mechatronic control as evidenced by publications in peer-reviewed journals and conferences.
2. Evidence of the ability to articulate and prosecute innovative research in the field of precision optical instrumentation or optical imaging systems or mechatronic control.
3. Expertise in the design and implementation of optical coherence tomography instruments would be especially desirable.
4. A demonstrated ability and commitment to apply for competitive external funding to support individual and collaborative research activities.
5. Evidence of an ability and willingness to teach at all levels.
6. An ability to supervise and graduate high quality PhD/Masters research students.
7. The demonstrated ability to work as part of a team, contributing to team management and a demonstrated ability to meet deadlines.
8. 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.
9. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

Supervisor Signature:		Date:	19 th Dec 2019
Printed Name:	Jong H. Chow	Uni ID:	

References:

[Academic Minimum Standards](#)