

 Australian National University	Position Description
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College / Division:	ANU College of Science
Faculty / School / Centre:	Research School of Physics & Engineering
Department / Unit:	Nonlinear Physics Centre
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	
Responsible to:	Dragomir Neshev, Lan Fu, Patrick Kluth
Number of positions that report to this role:	0
Delegation(s) Assigned:	

PURPOSE STATEMENT:

The position is part of the inaugural ANU Grand Challenge: *Our Health in Our Hands (OHIOH): Future Personalised Medical Technologies for a Sustainable and Effective Healthcare*. The ANU investigator team is at the forefront of the development of miniaturized non-invasive and minimally invasive technologies that are key to enable the development of wearable and portable devices for measurement of different biomarkers. In a large collaborative effort, the Research Fellow will be responsible for the fabrication of nanowires, metasurfaces and nanopores, functionalisation of the structures with developed chemistry, and characterisation of their sensing performance.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The position is located in the Research School of Physics and Engineering (RSPE) and is funded centrally by the ANU Grand Challenge program. The appointee will be accountable to the project leader at RSPE. The project is highly interdisciplinary and will include working in a team across multiple areas at ANU.

Role Statement:

Under the broad direction of the project team leaders, the Research Fellow will:

1. Undertake independent research in the area of development and implementation of new sensing nanotechnology platforms for non-invasive and/or minimally-invasive measurement of biomarkers 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 the ANU Grand Challenge OHIOH, and at national and international level. This includes working as part of a team to achieve well defined milestones.
2. Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate
3. Subject to the requirements of the funding source and where an opportunity exists, the occupant may be encouraged/asked to contribute to the teaching activities of the School at the undergraduate and graduate levels
4. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students
5. Actively contribute to all aspects of the operation of the School
6. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public
7. Maintain high academic standards in all education, research and administrative endeavours
8. Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity
9. Undertake other duties as required, consistent with the classification of the position.

Skill Base

A **Level A/B Academic** will normally have completed a relevant doctoral qualification or have equivalent qualifications or research experience. In addition, he/she may be expected to have had post-doctoral research experience that has resulted in publications, conference papers, reports or professional or technical contributions that give evidence of research ability.

SELECTION CRITERIA:

1. A PhD degree in physics, chemistry, engineering, materials science or equivalent qualifications and related experience, or equivalent qualifications and experience in a related area, with a track record of independent research in the field of nano-materials, including metasurfaces, nanowires and nanopores and their application in optical bio-sensing.
2. Evidence of the ability to articulate and prosecute innovative research in fabrication and optical characterisation of bio-sensors based on nanostructured materials and surfaces, as evidenced by publications in peer-reviewed journals.
3. An ability and commitment to contribute to bids for competitive external funding to support individual and collaborate research activities.
4. Ability and willingness to contribute to teaching within the scope of the OHIOH project.
5. The ability to assist in the supervision of students working on research projects.
6. The ability to work as part of a cross-disciplinary environment team and to deadlines.
7. Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in and to foster respectful and productive working relationships.
8. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

Supervisor / Delegate Signature:**Date:**

Printed Name:

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



Australian
National
University

Pre-Employment Work Environment Report

Position Details

College / Div / Centre	COS	Dept / School / Section	RSPE
Position Title	Research Fellow	Classification	Academic Level B
Position No.		Reference No.	

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

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

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	☐	☐
catering / food preparation	☐	☐	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's Signature:		Print Name:		Date:	
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KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

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Under the broad direction of the project team leaders, the Research Fellow will:

1. Undertake independent research in the area of development and implementation of new sensing nanotechnology platforms for non-invasive and/or minimally-invasive measurement of biomarkers 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 the ANU Grand Challenge OHIOH, and at national and international level. This includes working as part of a team to achieve well defined milestones.
2. Actively seek and secure external funding including the preparation and submission of research proposals to external funding bodies.
3. Subject to the requirements of the funding source and where an opportunity exists, the occupant may be encouraged/asked 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.
4. Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students
5. Supervise less senior academic staff and research support staff in your research area
6. Actively contribute to all aspects of the operation of the School
7. Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public
8. Maintain high academic standards in all education, research and administrative endeavours

9. Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity
10. Undertake other duties as required, consistent with the classification of the position.

Skill Base

A **Level A/B Academic** will normally have completed a relevant doctoral qualification or have equivalent qualifications or research experience. In addition, he/she may be expected to have had post-doctoral research experience that has resulted in publications, conference papers, reports or professional or technical contributions that give evidence of research ability.

SELECTION CRITERIA:

1. A PhD degree in physics, chemistry, engineering, materials science or equivalent qualifications, with a track record of independent research in the field of nano-materials, including metasurfaces, nanowires and nanopores and their application in optical bio-sensing as evidenced by publications in peer-reviewed journals and presentations at conferences, a record of developing and maintaining collaborations and by other measures such as awards, invitations to give talks at leading conferences etc.
2. Evidence of the ability to articulate and prosecute innovative research in fabrication and optical characterisation of bio-sensors based on nanostructured materials and surfaces, as evidenced by publications in peer-reviewed journals and a vision for the activities they will undertake at the ANU.
3. An ability and commitment to contribute to bids for competitive external funding to support individual and collaborate research activities.
4. Ability and willingness to teach at all levels within the scope of the OHIOH project.
5. The ability to supervise and graduate high quality PhD/Masters research students
6. The ability to work as part of a team, meeting deadlines and being primarily responsible for delivery of the project in some areas
7. 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 environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels
8. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

Supervisor / Delegate Signature:

Date:

Printed Name:

Uni ID:

References:

[General Staff Classification Descriptors](#)

[Academic Minimum Standards](#)



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lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
catering / food preparation	☐	☐	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's Signature:		Print Name:		Date:	
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