

POSITION DESCRIPTION

Position	ANPC NMR Specialist		
Position Number	3963A01	Level/ Classification:	HEW07/08
Reports to	ANPC Senior Operations Manager		
Unit	Australian National Phenome Centre		
Directorate	Health Futures Institute		
Positions Supervised	N/A		

Position Purpose

The ANPC is a world-class facility led by Murdoch University focused on high-throughput targeted and exploratory metabolic phenotyping. The ANPC is located on Level 3 of the Harry Perkins Institute of Medical Research adjacent to the Fiona Stanley Hospital, Western Australia, and is the largest dedicated facility for metabolic phenotyping in the world. The ANPC houses the largest collection of nuclear magnetic resonance (NMR) and mass spectrometers (MS) dedicated to metabolic phenotyping.

This role will require an experience scientist with considerable experience in the application of high-field Nuclear Magnetic Resonance (NMR) technologies for the metabolic phenotyping of clinical samples. The candidate must be experienced in the design, coordination and execution of NMR experiments using multiple biological sample matrices across a range of high-field Bruker NMRs. The candidate is preferably PhD-qualified (or near completion), specializing in small molecule metabolic phenotyping or NMR-metabolomics, with experience in high-throughput, population scale analysis.

In addition to routine sample processing and analytical activities, the Specialist will develop and apply new NMR methods and pipelines, perform data QC tasks and be involved in processing and integration of multi-modal NMR data and statistical modelling.

This position is funded as part of a recently awarded Medical Research Future Fund Grant entitled "Molecular phenomics approaches to improve understanding of Post-acute COVID-19 Syndrome - a biomarker augmented strategy for risk-based stratification and targeted intervention to improve clinical outcomes".

The position reports to the ANPC Senior Operations Manager. The Executive Director of the ANPC is Professor Jeremy Nicholson.

About Murdoch University

Murdoch University helps people discover how to make a difference, through education and research endeavor, and remains one of the most inclusive universities in the country, providing students with quality education and recognised academic standing within an engaging and caring environment. We are a university for all, irrespective of background and social standing with a focus on social equity, self-direction and freedom of thought and belief.

With strong links to government, business and the community, Murdoch University helps people discover how to make a difference. We are a young, innovative and enterprising university with more than 23,000 students and 1,700 staff across Perth, Singapore and Dubai. We are committed to high quality education, innovative research, and strong community engagement both locally and internationally.

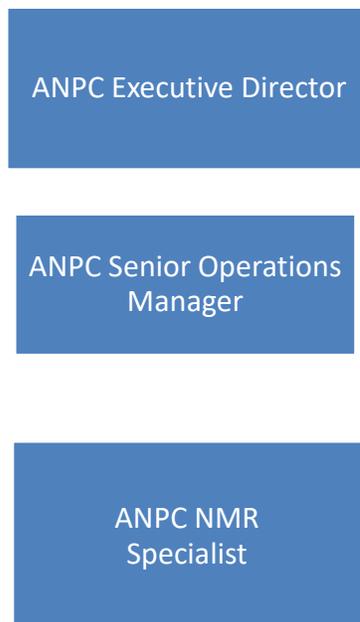
Our [Strategic Plan and Future Horizon 2017-2027](#) outlines an ambitious blueprint for development and growth, with a focus on one purpose: to be a creative force for current and future generations.

We are clear about our two core goals: to educate free thinkers who thrive in society and are sought after by employers; and, to provide life changing solutions for the world's big challenges through our outstanding translational research and innovative practice.

About the Work Area

The ANPC is a dedicated facility established for the purpose of performing “industrial-scale” metabolic phenotyping using an array of state-of-the-art analytical instruments including Nuclear Magnetic Resonance and Mass Spectrometers. This role will be responsible for the development and application of new NMR methods for the acquisition of metabolic data across ultra-high fields (800MHz NMRs) to benchtop instruments such as the F80 (80MHz) NMR. In particular, the Specialist will work closely with a dedicated team involved in a Medical Research Future Fund Project entitled “Molecular phenomic approaches to improve understanding of Post-Acute COVID-19 Syndrome”.

Reporting Relationships



Key Responsibilities / Duties

Operational

- Experimental design for large scale sample analysis by NMR,
- Routine acquisition/ analysis of clinically and biologically relevant samples using NMR spectroscopy and harmonized SOPs,
- Ensure NMR spectrometers are operational and troubleshooting for maintenance and repair,
- Perform data quality assurance and statistical modelling for acquired data
- Work collaboratively with other NMR, MS Specialists and bioinformaticians to ensure seamless operation,
- To prepare analytical reports for collaborators and dissemination via publications and presentations,
- Participate in research meetings and internal seminars,
- Maintain an up-to-date knowledge of relevant techniques (literature, conferences, workshops etc).
- Other duties as directed

Guiding Principles and Values / Code of Ethics and Code of Conduct

The founding principles upon which Murdoch University was established continue unabated today. We continue to be guided by the principles of:

- Equity and Social Justice
- Opportunity
- Sustainability
- Global Responsibility

These Murdoch principles come to life through our culture as evidenced by being an institution where the following are clear:

- Integrity
- Respect and Diversity
- Purpose
- Excellence and Future-focus

All staff will comply with the University's Code of Ethics and Code of Conduct and demonstrate a commitment to its Equity, Diversity and Safety principles and the general capabilities of personal effectiveness, working collaboratively and demonstrating a focus on results.

All Staff are to complete a Development Review Annually. Details of the University policies on Development Review can be accessed [here](#). A Commencing Development Review should be completed within 3 months of commencement.

Selection Criteria

Essential

1. PhD in NMR spectroscopy (or equivalent experience) of clinical and medical samples,
2. Experience in the application of NMR to metabolic phenotyping/ metabonomics,
3. Knowledge and practical experience in implementing and operating high-field NMRs,
4. Experience in data treatment/annotation as well as signal processing/annotation,
5. Experience in modelling spectroscopic data from complex mixtures,
6. Knowledge of chemometrics to understand and communicate scientific outcomes
7. Ability to draw biological inferences from spectroscopic data for biomarker identification, and to inform diagnostic and treatment decisions,
8. Knowledge of statistical analysis techniques relevant to spectroscopic data sets.

Desirable

1. Ability to communicate analytical strategies to researchers in other fields as well as general ability to communicate well, conveying ideas and concepts clearly and effectively in speech and in writing.
2. Evidence of a developing track record of publishing in national peer-reviewed journals,
3. Willingness to work as part of a team and be open-minded and cooperative,
4. Flexible attitude towards work and ability to work outside normal office hours if required,
5. Discipline and regard for confidentiality, security and personal safety at all times,
6. Good time management skills.

Work Requirements

1. Required to undertake a criminal record check in accordance with the University's Criminal Record Screening Procedure.
2. Be able to provide evidence of appropriate vaccination or immunity in accordance with the University's Immunization policy.