

POSITION DESCRIPTION



Position	ANPC Mass Spectrometry Coordinator
Level/Classification	H0809
Reports to	ANPC Senior Operations Manager
Unit	Australian National Phenome Centre
Directorate	Health Futures Institute
Positions Supervised	NA

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 mass spectrometers (MS) and nuclear magnetic resonance (NMR) instruments dedicated to phenomics research.

The ANPC Mass Spectrometry Coordinator (MS Coordinator) is a highly-trained specialist scientist that will play a key role in the coordination and generation of high quality MS data, including the routine application of data QC measures, harmonisation of spectrometers, development of new methodologies and the management of resources relevant to MS operations including servicing and preventative maintenance requirements. The role requires a candidate with considerable experience in the coordination and management of multiple MS systems of various modalities for clinical and biomedical workflows. The MS Coordinator will coordinate MS specialists, academic researchers and other technical specialists (such as NMR Specialists) to ensure seamless operation of analytical workflows and data pipelines.

The MS Coordinator will have practical experience in the application of mass spectrometry (including modalities like UPLC-ESI-QTOF-MS, Tandem MS, timsTOF MS) for targeted and untargeted metabolic profiling of clinical biofluids, tissue extracts and other matrices of biological and medical significance. The candidate will have a PhD (or equivalent experience) in Mass Spectrometry and will also be experienced in data quality control as well as a range of statistical and bioinformatics expertise unique to metabolomics. The post will be concerned with all practical laboratory aspects required to acquire high-quality MS data, sample handling and preparation, instrument troubleshooting and maintenance as well as analytical method development.

Other duties of the post will include teaching and training of ANPC technical specialists and postgraduate students and managing the teaching and schedules of internal and external collaborators related to MS workflows. The position reports to the Laboratory Manager of the ANPC.

About Murdoch University

Murdoch University is a young and dynamic university with a foundational commitment to the environment, social justice and inclusion, and making education accessible to more people. Founded as Western Australia's second university in 1974, today, Murdoch has more than 21,000 students and 1,700 staff across campuses in Perth, Singapore and Dubai. With more than 90,000 Alumni, Murdoch graduates can be found all over the world, making a positive difference.

Our Strategy – Ngala Kwop Bididi. Building a brighter future, together – guides the University's direction and reaffirms our shared purpose to change lives and society for the better through accessible education and research.

The Strategy is focused on three key themes:

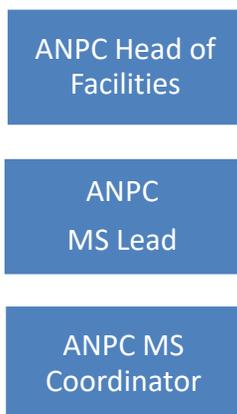
- Sustainability: Be a leading university in education, teaching and translational research in sustainability.
- Equity, Diversity, and Inclusion: Build a welcoming, diverse and inclusive community.
- First Nations: Become the University of first choice for First Nations peoples.

Murdoch is also committed to building engagement with our local community, State, nation, and global society with a track-record in creating strong partnerships with business, government and industry.

About the Work Area

The ANPC is a dedicated facility established for the purpose of performing "industrial-scale" phenotyping using an array of state-of-the-art analytical instruments including high-field Nuclear Magnetic Resonance and multiple Mass Spectrometer modalities, as well as a range of specialised technologies that will enable research and translation through a systems approach. The ANPC is located at the Harry Perkins Institute of Medical Research (South) and is a key platform within the Murdoch University Health Futures Institute.

Reporting Relationships



Key Responsibilities/Duties

1. Coordinating the routine acquisition/analysis of clinically and biologically relevant biofluids and tissue samples by Mass Spectrometry.
2. Coordination of MS Specialists to ensure seamless operation of MS instruments and workflows using in-house laboratory information management systems and SOPs.
3. Coordination of high-throughput samples across multiple modalities of MS.
4. Ensure that MS spectrometers are operating at peak efficiency and troubleshooting for maintenance and repair.
5. Perform data quality assurance and pre-processing for analyte and metabolite identification.
6. Build and maintain a database of spectra from relevant chemical standards.
7. Develop new MS methods and pipelines as part of a culture of continuous improvement.
8. To communicate and work with other ANPC Specialists, researchers and academics to fulfil Centre project objectives.
9. To prepare analytical reports for collaborators and dissemination via publications and presentations.
10. Participate in research meetings and internal seminars.
11. Provide MS training to staff and students as required.
12. Maintain an up-to-date knowledge of relevant informatics techniques (literature, conferences, workshops etc.).

Selection Criteria

Essential

1. PhD in MS spectroscopy, metabolomics relevant to the high-throughput analysis of samples of clinical relevance.
2. Experienced in the development and application of high-throughput metabolic phenotyping workflows by mass spectrometry.
3. Knowledge and practical experience in operations and troubleshooting of MS instrumentation.
4. Experience in bioinformatics and data pre-processing pipelines unique to metabolic phenotyping including data QC, correction and treatment, as well as metabolite annotation and identification.
5. Ability to draw biological inferences from spectroscopic data for biomarker identification, and to inform biologically and clinically relevant inquiries.
6. Knowledge of statistical analysis techniques and software's suitable for 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. Experience working within a quality framework for workflow and data traceability.

3. Evidence of a developing track record of publishing in national peer-reviewed journals.
4. Willingness to work as part of a team and be open-minded and cooperative.
5. Flexible attitude towards work and ability to work outside normal office hours if required.
6. Discipline and regard for confidentiality, security and personal safety at all times.
7. Good time management skills.

Work Requirements

1. Australian permanent residency or possession of a valid visa with work entitlement in Australia.
2. Some after hours work may be required.
3. Ability to work outside of normal office hours when required.

General Obligations

While at work, an employee must:

- take reasonable care for their own health and safety and ensure that their acts or omissions do not adversely affect the health and safety of other persons;
- report incidents, injuries and hazards;
- comply with any reasonable instruction that is given by Murdoch University; and
- comply with Murdoch University policies and procedures.

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

Our Values

- Authenticity
- Integrity
- Respect
- Inclusivity
- Openness

Our Principles

- Act with justice, respect and responsible care.
- Be collegiate and respectful of other points of view.
- Protect academic freedom.
- Be agile, flexible and resilient.
- Make decisions at the most appropriate level.
- Be transparent in decision-making and with information.
- Adopt common approaches to common tasks.
- Be careful stewards of our resources.

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 complete a Development Review Annually. A Commencing Development Review should be completed within 3 months of commencement.

We acknowledge that Murdoch University is situated on the lands of the Whadjuk and Binjareb Noongar people. We pay our respects to their enduring and dynamic culture and the leadership of Noongar elders past and present. The boodjar (country) on which Murdoch University is located has, for thousands of years, been a place of learning. We at Murdoch University are proud to continue this long tradition.