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POSITION DESCRIPTION

Technical Officer

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|----------------------------|-------------------------------------------------|
| Faculty/Division | DVC-Research and Enterprise |
| Classification Level | Professional 6 |
| Hours & Span (Category) | E - Technical Officer, Senior Technical Officer |
| Position number | ADMIN ONLY |
| Shiftwork status | NOT SHIFTFORKER |
| Allowances | N/A |
| On call arrangements | N/A |
| Original document creation | 23 September 2024 |

Position Summary

The **Technical Officer** role will support collaboration between the Electron Microscope Unit (EMU) and Microscopy Australia as part of National Collaborative Research Infrastructure Strategy (NCRIS) funding, as part of their state-wide and national strategy. This role will provide best practice for the use of electron microscopy to the community in the area of new materials. The Technical Officer role will be based in the EMU and is a central research and research support unit within the Mark Wainwright Analytical Centre (MWAC) at UNSW Sydney. The resources of the EMU are available to the entire UNSW Sydney community as well as industry and other external clients. These resources include instruments for the study of structure and composition of biological, chemical and physical materials, as well as highly trained and experienced staff who provide technical and scientific support. The EMU is a founding node of Microscopy Australia, which is the peak body for nanostructural analysis in Australia.

The **Technical Officer** will support and provide training to users of the EMU to ensure that high quality data is acquired for internal and external stakeholders, including industry as part of a state-wide approach harmonising sample preparation and reporting protocols. The Technical Officer will be responsible for the day-to-day operation of transmission electron microscopes and related specimen preparation equipment.

The **Technical Officer** reports to Director, Electron Microscope Unit and has no direct reports.

Accountabilities

Specific accountabilities for this role include:

- Advise and assist users in specimen preparation for electron microscope imaging and analysis; provide guidance and assistance adapting novel techniques to suit the individual requirements of users, based on an understanding of current literature.
- Provide direction in complex data acquisition/advanced microscope operation and guidance in the analysis of non-standard microscopy data, as well as the preparation of data for publication, with guidance from EMU academic staff.
- Instruct and assist users of the EMU with standard operation of transmission electron microscopes and related specimen preparation instruments and in the use of advanced or specialised techniques such as x-ray microanalysis (EDX) or HRTEM.
- Actively engage with the expertise of the Mark Wainwright Analytical Centre and broader Microscopy Australia community to ensure best practice for the user base and stakeholder.
- Liaise with Microscopy Australia and the EM unit to report on progress with accountability and transparency as directed by The EM Unit Director of Microscopy Australia Head Office Staff.
- Attend national Microscopy Australia meetings where appropriate.
- Apply theoretical and technical knowledge and experience to diagnose and solve atypical instrument failures and liaise with service engineers and/or external colleagues to resolve issues.
- Monitor and maintain laboratory equipment to ensure their safe and reliable operation, including calibration testing and diagnosis and repair of minor faults.
- Maintain currency of laboratory documentation such as standard operating procedures and develop new operational manuals and other laboratory documentation, as directed and in line with Microscopy Australia state-wide strategy.
- Contribute to the delivery of short courses or other training activities, supporting EMU academic staff.
- Contribute to other EMU, MWAC, and Microscopy Australia initiatives as required.
- Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](#) and the [UNSW Code of Conduct](#).
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the psychosocial or physical health and safety of yourself or others.

Skills and Experience

- Relevant tertiary qualification in physical or material science or an equivalent combination of education, training and experience with light microscopy sample preparation, imaging and analysis.
- Significant demonstrated experience working with transmission electron microscopes and other advanced microscopy equipment.
- Demonstrated capacity to provide leadership and training to users within the laboratory environment.
- Demonstrated ability to adapt/develop techniques in response to changing technologies within electron microscopy.

- Demonstrated ability to take responsibility for maintenance and troubleshooting of selected instruments.
- High level organisation skills with a demonstrated ability to deal with multiple tasks and establish priorities.
- Demonstrated experience in transmission electron microscopy (TEM) and associated specimen preparation techniques.
- Demonstrated oral and written communication skills, including the ability to liaise with students and staff at all levels and with external users.
- Demonstrated aptitude in using scientific software packages and the ability to learn new systems.
- Demonstrated ability to work collaboratively and productively within a team.
- An understanding of and commitment to UNSW's aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health & safety (psychosocial and physical) responsibilities and commitment to attending relevant health and safety training.

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.