Australian National University

Position Description

College/Division:	College of Science
Faculty/School/Centre:	Centre for Advanced Microscopy
Department/Unit:	Centre for Advanced Microscopy
Position Title:	Life Science Electron Microscopy Specialist
Classification:	ANU Officer 8 (Specialist)
Position No:	TBA
Responsible to:	Director – Centre for Advanced Microscopy
Number of positions that report to this role:	1-2
Delegation(s) Assigned:	0

PURPOSE STATEMENT:

The Centre for Advanced Microscopy (CAM) is the ANU's core microscopy and analytical facility, covering a wide range of applications related to biological and materials characterisation and imaging. The Centre's goal is to facilitate and provide research excellence through a focus on world-class capabilities matched with staff expertise relevant to a wide range of manufacturing, environmental and biological processes. It achieves this through consultation, training, teaching, data collection and their analysis to meet the characterisation requirements of local, national and international researchers and industry. CAM is also part of a national grid of Microscopy Australia (MA) facilities, further enabling shared access to an even wider range of unique equipment, and technical staff experience.

Microscopy Australia (MA) is a national grid of university-based microscopy and microanalysis laboratories, providing open access to world-class instrumentation and expert knowledge to researchers across disciplines and to industry clients. Funded by the Commonwealth government under the National Collaborative Research Infrastructure Strategy (NCRIS), relevant state governments and with co-investment by the institutional partners, Microscopy Australia's mission is to enable world-class outcomes from Australian research. Consequently, MA provides essential infrastructure for the characterisation of materials at the micro, nano and atomic scales in the material and life sciences. Comprising nine core institutions with linkages to another nine laboratories, Microscopy Australia is a large collaborative research infrastructure facility governed as an unincorporated joint venture that develops and implements a business plan annually in accordance with the overall Microscopy Australia project plan.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Life Sciences EM Specialist will be part of the CAM team and is expected to work collegially, leading by example to develop and maintain effective working relationships with a broad range of ANU staff and students as well as clients from other organisations accessing CAM. This position includes a training and research support role for CAM users, particularly in the use of Life Science transmission and scanning electron Microscopy and related instrumentation and preparation techniques in the life sciences, and aid clients in experimental design and highest quality data capture and analyses. The role also involves working closely with CAM's leadership team to deliver efficient operation of the EM and specimen preparation labs and also to assist in the strategic planning of the Centre's operations.

Role Statement:

Under the broad direction of the CAM leadership team, the Life Sciences EM Specialist will:

1. Manage efficient operation, maintenance and development of the Life Sciences EM Labs at CAM, including overall coordination of technical resources, equipment bookings, reporting, and development and implementation of research procedures including user training and data management.

2. Apply specialist knowledge and provide expert technical advice on development, design, testing and implementation of research experiments and equipment and develop new workflows for EM related experiments.
3. Provide high level experimental support to internal and external facility users, including user training and guidance, supervision and mentorship to student users, provision of service work and devising or adapting methods to meet user end goals.
4. Take a prominent role in collaborative projects, leading to presentations at national conferences and workshops.
5. Be actively involved in managing outreach and promotion of CAM capabilities, e.g. engagement with visiting groups including to a nontechnical audience.
6. Undertake research and development activities to develop innovative methods for advanced electron microscopy techniques in the life sciences, for example cryo-EM methods, such as-cryo electron tomography, volume imaging and/or single particle analysis (SPA). Initiate and foster new research collaborations and assume a significant role in collaborative activities.
7. Maintain technical knowledge to identify and troubleshoot relevant scientific equipment within CAM.
8. Supervise junior technical staff in the efficient operation of the EM life science labs in a professional, collaborative and respectful manner as outlined in the ANU Code of Conduct.
9. Take responsibility in the management of Work Health & Safety, including incident reports. Develop and review WHS protocols, ensuring compliance with university and legislated requirements.
10. Demonstrate understanding of equal opportunity principles and policies and a commitment to their application in a university context.
11. Perform other duties as consistent with the classification of the position.

Note: The EM Specialist/Lab Manger may be required to attend to CAM facility duties outside the span of work hours to resolve issues and provide emergency technical support to research operations.

SELECTION CRITERIA:

- PhD in biology or related discipline plus experience in life science research, including expertise in multiple electron microscopical sample preparation techniques, data collection and analysis techniques (for both routine and advanced EM).
- Demonstrated experience in scientific laboratory management including expert operation, and routine maintenance of EM instrumentation (e.g., SEM, TEM).
- Extensive experience in training and supervision of students and other facility users working on research projects, including those of external users.
- Demonstrated best practice knowledge of computational processing and analysis of EM data.
- Demonstrated ability to work efficiently, establish priorities, meet deadlines and deliver projects in accordance with policies and agreements.
- Proven ability to exercise sound technical (including understanding physical principles of electron microscopy) and analytical judgement for data quality assessment.
- Effective communication and interpersonal skills with a flexible approach and capacity to work both independently and as an effective team member (including conference and research publication contributions).
- Proven ability to direct, coordinate and mentor other staff as a leader and member of a small team.
- A demonstrated ability to communicate and interact effectively with stakeholders, external users, technical support staff and students in a cross-disciplinary environment, fostering respectful and productive working relationships with staff, students and colleagues at all levels.
- Demonstrated experience in multiple areas (especially EM related areas), proven ability in problem solving and the capacity and willingness to seek, acquire and apply new knowledge and skills.
- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

Desirable

- Experience in teaching undergraduate courses.
- Experience in Volume Imaging using FIB-SEM and Tomography techniques.
- Experience in cryo-EM techniques, including sample prep and data processing.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		**Date:**	August 2024

Printed Name:	A/Prof Melanie Rug	**Uni ID:**	U5139009

References:
General Staff Classification Descriptors
Academic Minimum Standards

Australian National University

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	College of Science	**Dept/School/Section**	Centre for Advanced Microscopy
Position Title	Life Sciences EM Specialist	**Classification**	ANU Officer 8 (Specialist)
Position No.	TBC	**Reference No.**	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- '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	☐	x	work in confined spaces	☐	☐
Organizing events	☐	x	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	x			
NON-IONIZING RADIATION			**IONIZING RADIATION**		
solar	☐	☐	gamma, x-rays	☐	x
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☒	☐			
radio frequency	☐	☐			
CHEMICALS			**BIOLOGICAL MATERIALS**		
hazardous substances	☒	☐	microbiological materials	x	☐
allergens	☐	x	potential biological allergens	☐	x
cytotoxics	☐	x	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	x	clinical specimens, including blood	☐	x
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	x
			immunisations	☐	☐

OTHER POTENTIAL HAZARDS (please specify):

Supervisor/Delegate Name:	A/Prof Melanie Rug	Date:	August 2024