Position Description

College/Division: ANU College of Science
Faculty/School/Centre: Centre for Advanced Microscopy
Department/Unit: Centre for Advanced Microscopy
Position Title: Life Science Microscopy Specialist (Technical Officer)
Classification: ANU Officer Grade 6 (Technical)
Position No:
Responsible to: Director, Centre for Advanced Microscopy
Number of positions that report to this role: Nil
Delegation(s) Assigned: Nil

PURPOSE STATEMENT:

About the centre
The Centre for Advanced Microscopy (CAM) is the ANU’s core microscopy, characterisation and analysis 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 facility capabilities matched with wide array of staff expertise in the life and material sciences. The goal is achieved through consultation, training and teaching, data collection and analysis to meet the characterisation requirements of local, national and international researchers and industry.

CAM is a purpose-built facility which comprises 8 research professional and administrative staff supporting a diverse range of state-of-the-art instrument platforms and techniques in basic and advanced light, electron and X-ray microscopy and analysis.

The Life Science instrument suite ranges from live cell imaging, high-throughput slide scanning and two confocals (ZEISS LSM780 and ZEISS LSM800/Airyucan) on the light microscopy (LM) side, two newly acquired 200kV Life Science TEMs (JEOL F200 and JEOL cryoARM200) to several high resolution FESEMs including a recently installed ZEISS Crossbeam 550 (FIB-SEM). We also provide and support a correlative approach of LM and EM for both room and cryo temperature research projects. The cryo suite is supported by a host of available cryo sample preparation instrumentation and procedures, which includes a Leica EM GP2 plunge freezer, a Leica EM ICE high pressure freezer, a Leica AFS freeze substitution and a Leica UC7 cryo-microtome. These tools, combined with the cryoEM instrumentation enables CAM to provide single particle analysis (SPA), cellular architecture of molecular machines and complex 3D volume imaging of tissue samples (cryo tomography and cryo volume imaging).

Further information about CAM may be accessed on the ANU’s web site at microscopy.anu.edu.au.

About Microscopy Australia
CAM is part of Microscopy Australia (formerly known as the Australian Microscopy and Microanalysis Research Facility), a national grid of university-based microscopy and microanalysis laboratories, providing shared access to an even wider range of unique world-class equipment and expert knowledge to all Australian researchers.

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 by providing 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.

Information about Microscopy Australia may be accessed on the web site at www.micro.org.au
KEY ACCOUNTABILITY AREAS:
Position Dimension & Relationships:
Scientists at CAM conduct innovative research leading to scientific achievements that are aligned with the ANU’s strategies. Within the broad framework of the delivery of life science microscopy research, teaching and training and service support at the Centre for Advanced Microscopy, the position will provide an expert in the preparation and analysis of samples for light and transmission/scanning electron microscopy (life sciences). The life science microscopy specialist will have extensive experience in sample preparation and imaging techniques to provide support to a large community of researchers of soft matter (including biologists, chemists, medical scientists) in either or both of the relevant areas (LM and EM). The position is part of a multi-disciplinary team and the successful candidate will report to the Director of CAM.

Role Statement:
Under the broad direction of the Director (CAM) and working with a degree of autonomy, the Life Sciences Microscopy Specialist will:

- Provide coaching, on-the-job training and instruction to CAM clients in using relevant light and electron microscopes (with a focus on/but not limited to confocal microscopes and TEM and SEM instruments) and correlative life science workflows for room temperature and cryo applications.
- Conduct relevant technical procedures, including tissue and culture preparation, staining and labelling for LM analysis, microtomy and cryo-microtomy (planing), high pressure freezing and freeze substitution for light and electron microscopic examination and interpretation. Communicate acquired research results, to clients and the scientific community as required.
- Provide scientific and technical expertise and assistance to stakeholders and demonstrate originality and creativity in experimental design, implementation, development of new and optimisation of existing workflows and data analysis for LM/EM and CLEM workflows as required.
- Ensure all users have undergone the required OH&S-induction and have been provided the required training to work safely in the BIO sample prep lab and in the relevant LM and EM labs.
- Assist other LM and EM CAM staff in the daily operation and maintenance of the Life Science facility within CAM including developing and updating risk assessments/SOPs and training material and the proper and efficient use of the instrumentation.
- Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CAM’s reputation.
- Liaise with internal and external networks (Microscopy Australia facilities, external Universities, Government agencies, industry clients, as required) to foster collaborative partnerships and engage in committees within the national and international Microscopy community. Through client liaison and networking, be aware of global innovation trends and industry uptake of new technology.
- Regularly attend and present at workshops/conferences related to discipline area within the Microscopy Australia network and beyond and incorporate those learnings into practice.
- Actively participate in teaching and outreach programs, including CAM workshops, high school outreach courses and undergraduate/postgraduate courses as required.
- Work collaboratively as part of a multi-disciplinary research team to carry out tasks in support of safe working practices and WHS requirements and ensure that compliance protocols for regulatory requirements are met.
- Other duties as required, consistent with the classification of this position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity.

SELECTION CRITERIA:

- Progress towards or completion of a postgraduate qualification plus extensive experience or equivalent combination of relevant experience and education/training in at least one of the required areas (LM or EM) in a life science context.
- Demonstrated experience in training clients (staff or students) in relevant sample preparation techniques and using specialised knowledge to adapt methodologies to achieve research objectives.
- Demonstrated advanced skills in providing expert advice to key stakeholders and technical services for the operations of complex LM and/or EM equipment.
- Demonstrated planning and customer service skills including the ability to work effectively and collaboratively in a multi-disciplinary team, establish priorities and meet competing deadlines to deliver high-quality outcomes.
- Demonstrated effective verbal and written communication skills with demonstrated ability to liaise and negotiate effectively with a wide and diverse range of people, including the ability to draft standard business correspondence and various research related papers.
- Demonstrated experience in designing and delivering lectures/workshops in the relevant areas.

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A demonstrated high-level understanding of equal opportunity principles and a commitment to the application of EO policies in a University context.

Desirable:
- Experience in the development of new techniques in relation to light and/or electron microscopy experiments, either through the development of new methodologies and/or instrumentation and/or software associated with the above.
- Experience in advanced confocal techniques (e.g. FRAP, FRET, FCS) and/or cryo EM techniques or correlative techniques.
- Experience with post-processing software (e.g. 3D imaging software, FIJI etc.).
- Experience in the maintenance of laboratory equipment; LM, TEM or sample preparation equipment.

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 Name: | Melanie Rug | Date:         | 21/10/2021 |

References:
- Professional Staff Classification Descriptors
- Academic Minimum Standards

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Position Details

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<td>Classification</td>
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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.

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.

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OTHER POTENTIAL HAZARDS (please specify):

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