



ELECTRON MICROSCOPIST

DEPARTMENT/UNIT	Monash Centre for Electron Microscopy
FACULTY/DIVISION	Pro Vice-Chancellor (Research and Research Infrastructure)
CLASSIFICATION	HEW Level 9
WORK LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu.

The **Office of the Pro Vice-Chancellor (Research and Research Infrastructure)** is responsible for Managing the development and implementation of infrastructure strategy, which is aligned with the University's grand challenges as well as the needs of industry. This places Monash in the best position to address the major scientific, technical and social challenges and opportunities facing Australia now and in the future. Investing in leading-edge infrastructure and equipment is essential to support the University's research aspirations. As part of this, the University operates core research platforms, comprising cutting-edge capabilities and promoting cross discipline/organisational collaborative research. The office of the PVC (Research & Research Infrastructure) also has responsibility for managing alliances (eg CSIRO, ANSTO, DSTO etc.) as well as the relationships across the Clayton precinct. To learn more about the Office, please visit our website: <http://www.monash.edu.au/research/infrastructure>.

The **Monash Centre for Electron Microscopy (MCEM)** is a central university research platform. Its mission is to enable and advance research excellence at Monash University and beyond through the provision of a world-class research capability in electron microscopy for the determination of the structure of matter down to the atomic scale.

MCEM achieves this via its dual academic and research support role, namely:

- the execution of world class research in the field of electron microscopy, and
- the provision of advanced instrumentation, expertise and training in electron microscopy to researchers across all fields of science and engineering (except biology)

The Centre provides a research capability to several hundred registered researchers from Monash University, other universities, government research agencies and industry. It plays an important role in educating postgraduate students in electron microscopy, as well as providing a key complementary facility to the adjacent Ramaciotti Centre for Cryo-Electron Microscopy and the Australian Synchrotron and Melbourne Centre for Nanofabrication (MCN), which are within walking distance. To learn more about MCEM please visit our website: <https://www.monash.edu/researchinfrastructure/mcem>.

POSITION PURPOSE

The role of the Electron Microscopist within the Monash Centre for Electron Microscopy (MCEM) is to provide high level expertise and training in electron microscopy to support and enable the research and teaching activities of the University and other registered users of the MCEM. The Electron Microscopist is responsible for management of a focused ion beam/scanning electron microscope and associated analytical and specimen preparation equipment (hereafter called “the instruments”).

Reporting Line: The position reports to the MCEM Manager under broad supervision

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

1. Maintain and develop an extensive, expert and up-to-date knowledge and understanding of the theory, instrumentation and application of advanced scanning electron microscopy (SEM) and focused ion beam (FIB) microscopy, including areas such as FIB sectioning and lift-out, variable pressure/environmental SEM (VP/ESEM) operation, Energy Dispersive X-ray Spectroscopy (EDXS) and Electron Backscattered Diffraction (EBSD)
2. Lead the development of teaching, training and assessment programs in electron microscopy for researchers using the instruments. Manage these teaching and assessment programs and the issuing of user licences based on competency testing. Manage and coordinate effective and equitable access to the instruments
3. Lead the development of standard operating policies and procedures, along with supporting technical, operational, training and OHS documentation, to ensure the safe, effective and efficient use of the instruments, in consultation with other relevant MCEM staff members
4. Develop, implement and oversee maintenance programs to ensure the longevity and optimum performance of the instruments and oversee the servicing of the instruments in consultation with other relevant MCEM staff members
5. Lead the development of new and improved methodologies for using the instruments to meet the needs of researchers using MCEM
6. Apply specialist technical expertise in a range of ways, including, delivering high-level expert advice and assistance to MCEM users
7. Acquire and analyse complex data at an advanced level for University and other research projects, as required
8. Play a leading role in the review and recommendation for upgrades to the instruments or for purchase of new instruments and supervise their installation
9. Actively contribute to strategic planning for future research needs and SEM-based operational matters
10. Contribute to broader administrative and operational tasks to support MCEM operations, as required
11. Build and sustain high-level relationships with an extensive network of colleagues, clients and stakeholders both internal and external and use these to facilitate cooperation and deliver services aligned with the needs of MCEM clients
12. Responsible for the performance of equipment with replacement cost of over 4 million dollars and makes expenditure recommendations with regard to maintenance, upgrade and development of this equipment

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - Postgraduate qualifications and extensive, relevant experience; or
 - extensive management experience and proven management expertise; or
 - an equivalent combination of relevant experience and/or education/training

Knowledge and Skills

2. Advanced understanding of scanning electron microscope instrumentation, its operation, maintenance and optimisation
3. Extensive expertise in the application of scanning electron microscopy to the solution of complex research
4. Ability to teach and train researchers across the full range of electron microscopy techniques available on the instruments
5. Superior planning, organisational and management skills, with the ability to prioritise and delegate tasks to achieve a substantial agenda within agreed timeframes and to required standards
6. High-level communications skills, both written and verbal, with the ability to liaise effectively with academic/research staff, research students, general/technical staff and external clients
7. High level expertise in at least one specialist area of FIB/scanning electron microscopy, for example, low damage ion milling, nanoscale fabrication, serial sectioning, EBSD, EDXS, VP/ESEM, in-situ testing (mechanical or heating)
8. High-level analytical, problem-solving and reporting skills
9. Demonstrated ability to work autonomously and collaboratively in a complex matrix environment whilst fostering a culture of focused customer service and continuous improvement

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

LEGAL COMPLIANCE

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.