



## Position Description

<b>Position Title:</b>	Research Fellow (CryoTEM)
<b>Position Classification:</b>	Level B
<b>Position Number:</b>	319049
<b>Faculty/Office:</b>	Office of Deputy Vice-Chancellor (Research)
<b>School/Division:</b>	
<b>Centre/Section:</b>	Centre for Microscopy, Characterisation and Analysis
<b>Supervisor Title:</b>	Associate Professor
<b>Supervisor Position Number:</b>	301412

### Your work area

The Centre for Microscopy, Characterisation and Analysis (CMCA) comprises ~30 academic, research, technical and administrative staff supporting a diverse range of instrument platforms from electron and optical microscopy to ion probes and MRI. The CMCA's mission is to enable research excellence by providing access to world-class scientific infrastructure and expertise in characterisation to researchers and industry.

The Centre is home to the WA node of Microscopy Australia, a national consortium of advanced microscopy facilities that receives funding through the Federal Government's National Collaborative Research Infrastructure Strategy (NCRIS). The node incorporates electron microscopy and microanalysis, optical microscopy (including super-resolution optical platforms), secondary ion mass spectrometry (SIMS), X-ray microscopy, scanned probe microscopy, X-ray diffraction, and nuclear magnetic resonance. New investment will shortly see the node expand to include a cryo electron microscopy suite including both cryo scanning electron microscopy (cryoSEM) and cryo transmission electron microscopy (cryoTEM), which will be the first and only cryoTEM facility in WA.

### Reporting structure

Reports to: Associate Professor

### Your role

You will join an experienced, multi-disciplinary electron microscopy team of academic and research support staff who underpin the activities of a large local community of physical, bioscience, and geoscience researchers. The electron microscopy facilities include 3 TEMs, 5 SEMs, 2 electron microprobes, a dualbeam FIB-SEM, and associated sample preparation capabilities.

As an expert in TEM with experience in cryoTEM and its applications, the appointee will contribute to the establishment of the first cryoTEM facility in Western Australia, which is scheduled for commissioning in early 2021. The facility comprises two JEOL F200 TEMs, one optimised for cryo applications and equipped with a Gatan K3 camera, and the other optimised for sample screening and room temperature applications. It is supported by a full suite of cryo and room temperature sample preparation instrumentation, including Leica GP2 plunge freezer, high pressure freezer, freeze substitution, cryo and room temperature microtomes, and microwave tissue processor.

You will be responsible for the day-to-day operation of the two TEMs and related sample preparation instrumentation, overseeing the coordination of user training and maintenance of the facility, and taking responsibility for the quality of data produced by the facility. You will support a broad and diverse user community, including biological and physical scientists, in imaging and diffraction techniques, including routine room temperature and cryo imaging, single particle analysis, tomography, STEM, and micro-electron diffraction. You will provide expert advice, training and support in all aspects of the cryoTEM workflow, from sample preparation through to data acquisition and analysis. You will initiate and engage in collaborative research with the local user community leading to high quality research outcomes and publications. You will also be expected to contribute more broadly to research support within the electron microscopy group.

## **Your key responsibilities**

Provide academic and technical expertise to users in all aspects of cryoTEM, including experiment design, sample preparation, data acquisition, data analysis, and interpretation

Initiate and engage in collaborative research projects within the University and across the wider research community

Under limited supervision, take responsibility for management of the cryoTEM facility as an open-access, multidisciplinary user facility, including coordination of routine maintenance, troubleshooting and repair, and monitoring the scientific quality, outputs and usage of the facility

Direct and supervise postgraduate research projects

Contribute to the Centre's training programs for researchers wishing to access the cryoTEM facility and more broadly within the electron microscopy group

Take responsibility for the quality of data produced in the facility, and oversee quality control procedures in the acquisition, processing and interpretation of data by researchers

Contribute to the management of the CMCA by advising the management team on aspects of cryoTEM, including strategic planning, future upgrades and acquisitions

Coordinate or contribute to competitive funding applications, including applications for new instrumentation and ancillary equipment

Other duties as directed

## **Your specific work capabilities (selection criteria)**

PhD in Bioscience or Physical Science or related field

Knowledge and experience in cryoTEM sample preparation and cryoTEM techniques, and their applications in a research setting

Understanding of the challenges and opportunities associated with working in a multi-user cryoTEM facility

Ability to train users and support ongoing research activities

Demonstrated ability to engage in and support diverse research programs utilising cryoTEM techniques

Excellent written and verbal communication skills

Demonstrated ability to work both independently and effectively as part of a dynamic and multidisciplinary team

Excellent organisational skills and demonstrated ability to set priorities to meet deadlines

## **Special Requirements (selection criteria)**

Occasional interstate and overseas travel may be required

After hours and weekend work may be required

## **Compliance**

Workplace Health & Safety

All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).

All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements. Details of the safety obligations can be accessed at <http://www.safety.uwa.edu.au>

Inclusion & Diversity

All staff members are required to comply with the University's Code of Ethics, Code of Conduct and Inclusion and Diversity principles. Details of the University policies on these can be accessed at <http://www.hr.uwa.edu.au/policies/policies/conduct/code>, <http://www.web.uwa.edu.au/inclusion-diversity>.