

 **Position Title:** Associate Lecturer (Data management, analysis and visualisation)

 **Position Classification:** Level A

 **Position Number: 317319**

 **Faculty/Office:** Office of the Deputy Vice-Chancellor (Research)

 **School/Division:** Research Infrastructure Centre

 **Centre/Section:** Centre for Microscopy, Characterisation and Analysis

 **Supervisor Title:** Snr Lecturer (DMAV)

 **Supervisor Position Number: 313322**

**Your work area**

The Centre for Microscopy, Characterisation and Analysis (CMCA) is the University’s microscopy, characterisation and analysis core facility. Its goal is to facilitate and provide research excellence through a focus on world-class facilities matched with expertise. It does this by supporting its users along the User Pathway (see the figure below) from initial engagement through planning, registration, training, data collection, analysis and results.



The CMCA comprises ~40 academic, research, technical and administrative staff supporting a diverse range of instrument platforms across cytometry, optical microscopy, micro-magnetic resonance imaging, preclinical bioimaging, electron microscopy, X-ray micro-computed tomography, secondary ion mass spectrometry, bio-organic mass spectrometry, X-ray diffraction and nuclear magnetic resonance spectroscopy. The CMCA collaborates in and supports research across biological science, biomedical science, earth science and physical science. The CMCA operates on three main sites and several satellite sites. Nationally, the CMCA is the Western Australian node of the Australian Microscopy & Microanalysis Research Facility (AMMRF) and the National Imaging Facility (NIF). Internationally, CMCA is a member of the International Atomic Energy Agency’s Network of Analytical Laboratories and, via NIF and AMMRF, a partner in Euro-BioImaging.

The appointee will join the CMCA’s academic staff, who are organised by Technique Groups and Applications Groups, and contribute widely to activities within the CMCA.

**Reporting Structure**

Reports to:Snr Lecturer (DMAV), CMCA

Direct Reports: NIL

Teams: Data Management, Analysis and Visualisation

**Your role**

The appointee will support the Data Management, Analysis and Visualisation (DMAV) Group. DMAV works collaboratively with CMCA users and staff in providing data management, analysis and visualisation expertise to support the research projects making use of the CMCA’s facilities.

The engagement includes providing advice and developing collaborative research activities related to the analysis and visualisation of data acquired with the CMCA’s suite of instruments including significant support for its flagship Bruker BioSpec 9.4T MRI; supporting commercial and open-source software packages (including Avizo/Amira, FIJI/ImageJ, MATLAB and R); collaboration in developing and implementing custom image analysis algorithms and workflows; and designing and delivering training modules. The appointee will additionally: facilitate access by CMCA users to high-performance computational facilities, where appropriate; promote CMCA activities to the scientific community nationally, including engaging with the National Imaging Facility and the Australian Microscopy & Microanalysis Research Facility; be encouraged to develop their own research ideas along the lines and interests of the DMAV group.

**Key responsibilities**

* Develop and implement data management, analysis and visualisation tools for the CMCA’s range of microscopy, analysis and imaging facilities, including significant support for its Bruker BioSpec 9.4T MRI.
* Develop and deliver training modules and courses and train users in data management, analysis and visualisation according to demand and suited to a range of user levels of expertise.
* Develop collaborative projects with researchers by supplying relevant data management, analysis and visualisation expertise and tools.
* Contribute to the preparation of research reports and papers for publication as author/co-author, and present research findings at seminars and conferences.
* Supervise and mentor undergraduate and postgraduate student research projects if required.
* Other duties as directed.

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

* A PhD or equivalent experience in a field relevant to instrument data management, analysis and visualisation.
* Demonstrated competence and experience in the implementation of image processing and analysis workflows for 2D and volumetric image data (especially MRI but also, for example, optical microscopy, SEM/TEM and micro-CT) using open-source and/or commercial software packages and libraries (e.g., FIJI/ImageJ, Avizo/Amira, CellProfiler, ITK/VTK, MATLAB).
* Experience in C/C++, MATLAB and one or more scripting languages (e.g., Python, Perl, Tcl, shell-scripting).
* Ability to prioritise own workload, work independently, work as part of a team and meet deadlines.
* Excellent interpersonal skills including the ability to communicate effectively by telephone, email and in person.

**Special Requirements**

* Willingness to travel and work flexible hours

**Compliance**

**Workplace Health and 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>

**Equity and Diversity**

All staff members are required to comply with the University’s Code of Ethics and Code of Conduct and Equity and Diversity principles. Details of the University policies on these can be accessed at <http://www.hr.uwa.edu.au/publications/code_of_ethics>, <http://www.equity.uwa.edu.au>