



## Position Description

<b>Position Title:</b>	Senior Research Fellow (NIF Facility Fellow - MRI)
<b>Position Classification:</b>	Level C
<b>Position Number:</b>	318269
<b>Faculty/Office:</b>	Research Infrastructure Centres
<b>School/Division:</b>	Centre for Microscopy, Characterisation and Analysis
<b>Centre/Section:</b>	
<b>Supervisor Title:</b>	Associate Professor
<b>Supervisor Position Number:</b>	317891

## Your work area

The Centre for Microscopy, Characterisation and Analysis (CMCA) comprises ~35 academic, research, technical and administrative staff supporting a diverse range of instrument platforms including preclinical MRI, small animal imaging, micro-CT, super resolution, confocal, and multiphoton optical microscopy, NMR spectroscopy, biological and molecular mass spectrometry for proteomics and metabolomics, secondary ion mass spectrometry (SIMS), electron microscopy and microanalysis, flow cytometry, X-ray diffraction, and scanning probe microscopy. 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's Bioimaging Facility comprises a range of imaging capabilities including a 9.4T 30cm bore preclinical MRI, small-animal CT, fluorescence and luminescence imaging, high-frequency ultrasound and photoacoustic imaging, along with a suite of super resolution and optical microscopy facilities. The facility is located in the CMCA laboratories in the Perkins North Building on the Queen Elizabeth II (QEII) medical campus, a short distance from the UWA Crawley campus. The CMCA is the Western Australian node of the National Imaging Facility (NIF), a national collaborative network of imaging infrastructure ([anif.org.au](http://anif.org.au)), which is currently overseeing expansion to provide researchers with access to human MRI and PET-CT imaging within the state.

## Reporting structure

Reports to: Associate Professor

## Your role

As an expert in MRI imaging, the appointee will provide academic leadership and management of the CMCA's 9.4T preclinical MRI to enable high-impact biomedical, bioscience and other academic research. You will be responsible for the day-to-day operation of the MRI scanner and other related 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 be one of a network of NIF Facility Fellows supporting the activities of NIF at the local and national level. As a UWA academic, you will perform a range of academic activities, including independent and collaborative research, teaching and training, and student supervision.

## Your key responsibilities

Take responsibility for the management of UWA's 9.4T MRI as an open-access user facility, including establishment of project-specific imaging protocols, coordination of routine maintenance, troubleshooting and repair, and monitoring the scientific quality, outputs and usage of the facility;

As a NIF Facility Fellow, provide academic and technical expertise to researchers in the area of MRI, including experiment design, sample prep, data acquisition and analysis, statistical evaluation and interpretation;

Engage in collaborative MRI research projects within the University and across the wider research community;

Direct and supervise postgraduate research projects, and contribute to the Centre's training programs for researchers wishing to access the facility;

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 and support staff in your team;

Contribute to the management of the CMCA by advising the management team on aspects of imaging, and engage in strategic planning, future upgrades and acquisitions;

As a NIF Facility Fellow, represent the WA node of NIF locally, nationally and internationally, and be the main point of contact for researchers and stakeholders accessing the 9.4T MRI facility;

Adhere to the NIF key performance indicators, and oversee the reporting of research activity to NIF Central;

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)**

### Essential

PhD in a relevant subject area – Physics, Chemistry, Life Sciences or related field;

Advanced knowledge and extensive experience in the operation of high-field MRI systems, in a preclinical or biomedical research setting;

Significant experience with pulse sequence programming, image reconstruction and signal processing, and in the use of open-source software packages commonly used for MRI data analyses, e.g., FSL, MRtrix, MINC, SPM;

Demonstrated experience working with small animals (eg, recovery anaesthesia and physiological monitoring) in a physical containment level 2 (PC2) environment under animal ethics codes of practice;

Ability and willingness to maintain a multi-user MRI facility, train users and supervise staff;

Demonstrated ability to engage in and support diverse research programs utilising MRI and other imaging techniques;

Excellent written and verbal communication skills, and the ability to work effectively as part of a dynamic, multidisciplinary team;

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

### Desirable:

Experience with one or more programming languages such as Matlab, Python, C++;

Experience with machine learning as applied to image segmentation and/or analyses;

Experience with Bruker MRI hardware and software;

Experience maintaining Linux workstations in a multiuser environment.

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

Willingness to travel intrastate, interstate and/or overseas

## **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>.