Position Description

Title: Development and Operations’ Specialist, Magnetoencephalography (MEG) Systems
HEW Level: 7

Faculty/Office: Faculty of Human Sciences
Position Number: 

Department/Team: Cognitive Science
Date: March 2018

Position Purpose: To develop and deliver a new MEG data management program to aggregate neuroimaging data for the Magnetoencephalography (MEG) systems at the KIT/Macquarie University Brain Research Laboratory.

ORGANISATIONAL CONTEXT
The Faculty of Human Sciences offers both undergraduate and postgraduate degree programs and contains a number of internationally recognised research centres and several clinical groups. The faculty has close links to the Macquarie University Hospital and the Australian Hearing Hub.

The Department of Cognitive Science is a research department which carries out research and PhD supervision across a wide range of domains of cognitive science, including memory, language, belief formation, perception in action, and reading. The Department hosts the ARC Centre of Excellence in Cognition and its Disorders, which brings together researchers from the Departments of Cognitive Science, Psychology and Linguistics at Macquarie University and thirteen other national and international institutions.

The ARC Centre of Excellence and the Department of Cognitive Science rely on the KIT-Macquarie Brain Research Laboratory and the Magnetoencephalography (MEG) laboratory to provide services to fulfil research projects.

ORGANISATION CHART
### KEY ACCOUNTABILITIES

- Design, develop and deliver a user-friendly program for the Magnetoencephalography (MEG) facility to integrate data and standardise data formats with the aim of ensuring optimal efficiency and effectiveness of research data management and analysis.
- Integrate research data protocols to be used in the MEG Laboratory – in particular the MEG data format.
- Research and develop plans for the implementation of a shared platform i.e. – Extensible Neuroimaging Archive Toolkit (XNAT) as a standardised data hosting interface for MEG, fMRI, EEG.
- Implement data integration across multiple devices, sites and studies.
- Design and deliver practical training and or demonstrations on MEG data management tools with the aim of building the knowledge and capability of University staff, students and external stakeholders.
- Maintain detailed logs of work flow, generated codes and scripts, and documentation of processes.
- Develop, document, implement and maintain policies and procedures for MEG data management, including ‘standard operating protocol’ (SOP) documents.
- Identify, critically evaluate and develop proposed solutions to address potential areas of risk and or identified technical issues and advise and gain approval from the laboratory’s Executive Committee to implement recommended solutions.
- Build and manage relationships with internal and external stakeholders.
- Comply with relevant EEO and WHS regulations.
- Perform any other duties as required and appropriate for this classification.

### POSITION CONTEXT

| Reports to: | Deputy Head, Department of Cognitive Science |
| Positioens Reporting to: | Direct: nil | Indirect: nil |
| Key Direct Clients: | Staff and Students at Macquarie University | External referrals and partner Laboratories |
| Other Key Relationships: | Staff and Students in Department of Cognitive Science | Senior Scientific Advisor, MEG |
| | Technical Officer, MEG | Data Science and research, DVC(R) |
| | Macquarie Medical Imaging (MMI) | |
| Budget Accountability: | Nil |
| Role-specific Conditions: | Nil |
| Scope and autonomy: | Develops and modifies processes, procedures, systems and/or techniques for the work area and/or contributes to the development of University-wide systems, processes and procedures. |
| Problem solving: | Draws on own knowledge, experience and expertise to identify, develop and implement new initiatives, processes and programs. |
## CAPABILITY FRAMEWORK

Capability Frameworks describe the behaviours, skills, attributes and experience required to successfully perform a position or group of similar positions.

<table>
<thead>
<tr>
<th>COMPETENCIES Clusters of behaviours required for successful performance.</th>
<th>ATTRIBUTES Personal qualities related to successful performance.</th>
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<tbody>
<tr>
<td><strong>Planning and Execution</strong>: Managing time and resources to complete tasks and achieve objectives.</td>
<td><strong>Perseverance</strong>: Persevering despite obstacles to ensure tasks are completed.</td>
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<td><strong>Quality Focus</strong>: Ensuring accuracy and quality when completing tasks.</td>
<td><strong>Flexibility</strong>: Responding effectively to unexpected or changing circumstances.</td>
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<td><strong>Communication</strong>: Effectively grasping and conveying ideas and concepts to others.</td>
<td><strong>Reliability</strong>: Meeting commitments and responsibilities.</td>
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<td><strong>Service Focus</strong>: Making students, staff, key contacts and their needs a priority.</td>
<td><strong>Interpersonal Impact</strong>: Making a positive impression on others in a range of interpersonal contexts.</td>
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<td><strong>Relationship Management</strong>: Establishing effective working relationships with others.</td>
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**REQUIRED KNOWLEDGE**
Qualifications, technical and/or professional skills and information needed from day one for successful performance.

- Degree in software engineering, engineering, computer science, statistics, physics, and/or neuroscience or equivalent.
- Strong programming skills and comfort with diverse computing environments required (e.g. Matlab, Java, Python, UNIX/BASH language).
- Understanding of research environments in a tertiary institution.
- Understanding of privacy and confidentiality principles.

**ACQUIRED KNOWLEDGE**
Organisational and/or professional skills and information to be developed within the first 3 to 6 months in the role for successful performance.

- Knowledge of University policies, systems, processes and procedures and how to adapt these at the faculty level.
- Knowledge of what other areas of the University do and how they interact with the faculty.

**KEY EXPERIENCES**
Practical experiences and exposure to specific environments or activities related to successful performance.

- Experience developing software in one or more of the following areas: bioengineering engineering, computer science, statistics, physics, and/or neuroscience
- Managing and delivering complex projects to internal and external project deadlines.
- Experience in technical writing and drafting policies and SOPs

**DESIRABLE:**
Experience with neuroimaging, biological, and behavioural databases is an advantage.

- Knowledge of multiple neuroimaging analysis platforms (e.g. Fieldtrip, Brainstorm, HCP Pipeline, FreeSurfer, SPM, FSL, AFNI, GIFT, TrackVis, etc.).
- Knowledge of signal processing methods and techniques.
- Delivering training workshops and or demonstrations to staff and students.
- Developing and implementing data management 'standard operating protocols in a laboratory or research environment is desirable.