**ROLE PROFILE**

**Job Title:** Research Associate/Fellow in Radio Frequency Design

**School/Department:** Faculty of Engineering

**Job Family and Level:** Research and Teaching Level 4CTG/4

**Contract Status:** Fixed term of 12 months

**Hours of Work:** Full time, 36.25 per week

**Location:** University Park, Tower Building

**Reporting to:** Prof T M Benson, Prof P Sewell, Dr A Vuko

**Purpose of the Role:**

The purpose of this role is to use existing simulation codes to study electromagnetic fields within the complex structures for gyroscope apparatus based on Sagnac interferometry. These simulations will be used to analyse and optimise the performance of atom trapping and atom manipulation. Innovating simulation methodologies and substantive coding is not part of the remit. The Research Fellow will provide input to further apparatus design. Responsibilities will include the collection and analysis of simulation data, and preparation of scientific reports, publications and other documentation.

**Main Responsibilities**

1. To use existing code executables to undertake a full and systematic simulation sweep of electromagnetic fields within the complex structures for gyroscope apparatus. Code development is not required or expected.

2. To analyse data obtained and produce monthly reports for supervisors and external project partners.

3. To bring new insights to research area, iterating new designs with experimental collaborators in the School of Physics and Astronomy.

4. To write up research work for journal publication and contribute to any dissemination of the work at national/international conferences.

**Knowledge, Skills, Qualifications & Experience**

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<th>Essential</th>
<th>Desirable</th>
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<td><strong>Qualifications/Education</strong></td>
<td>PhD or near completion in relevant subject area or the equivalent in professional qualifications and experience in research area.</td>
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<td><strong>Skills/Training</strong></td>
<td>Excellent oral and written communication skills, including the ability to communicate with clarity on complex information.</td>
<td>Ability to foster a research culture and commitment to learn in others.</td>
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| **High analytical ability to analyse and illuminate data, write and interpret reports, evaluate and criticise texts and bring new insights.**  
| **Ability to critically apply existing simulation tools.**  
| **Ability to build relationships and collaborate with others, both internally and externally.**  

| **Experience**  
| Experience of radio frequency (rf) electromagnetics, particularly pertaining to antenna design.  
| Experience of electromagnetic simulation.  
| Experience of handling and interpreting large datasets  

| **Previous success in gaining support for externally funded research projects.**  
| Evidence of significant first hand authorship of journal publications.  

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