

**Job Description**

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| Job Title: | Postdoctoral Research Assistant |
| Faculty/Professional Directorate: | Faculty of Science & Engineering |
| Subject Group/Team: | School of Engineering |
| Reporting to: | Jiangbo Zhao |
| Duration: | Fixed Term |
| Job Family: | Academic |
| Pay Band: | 7 |
| Benchmark Profile: | Research Band 7 |
| DBS Disclosure requirement: | N/A |
| Vacancy Reference: | TBC |

**Details Specific to the Post**

**Background and Context**

This project aims to develop a new sensing platform to resolve a long-standing puzzle: how extracellular Ca2+ coordinates pancreatic islet beta-cells for pulsatile insulin secretion. The latter is key to maintain the blood glucose homeostasis.

Free ionic Ca2+ is now recognised as an indispensable messenger in mediating cellular activities in nearly every aspect of cellular life for almost all mammalian cells. Although the roles of intracellular Ca2+ in relation to different biological functions have been well characterised, insights into extracellular Ca2+ are constrained by the lack of appropriate sensing methodology capable of distinguishing the subtle changes of Ca2+ over the high basal level. To overcome this limit, this cross-disciplinary research will devote to developing a new analytical methodology in this regard.

This one-year full-time (negotiable for part time) post is funded by EPSRC International Collaboration Grants, 6 months at the University of Hull and the remaining time at University of Adelaide, Australia. Locally, the project will be conducted collaboratively with partner at Hull York Medical School; internationally, this project will be supported by partners based at the Adelaide Medical School.

Throughout the time in Australia, the PDRA will be provided with allowance to cover the cost of airfares, accommodation, etc., equivalent to approximate a large surplus salary over the half-year time.

### Specific Duties and Responsibilities of the post

The successful candidate will have a background in biosensing and bioimaging practice, and possess techniques in optical microscopy, optics-based microchips sensor, physiological measurement, in addition to the general biomedical knowledge and skills.

**GENERIC JOB DESCRIPTION**

The job duties and responsibilities listed below are intended to describe the general nature of the role. The duties and responsibilities and the balance between the elements in the role may change or vary over time depending on the specific needs at a specific point in time or due to changing needs in the department. Candidates should note that there may not be an immediate requirement to carry out all the activities listed below.

### Overall Purpose of the Role

The researcher at this level will be:

* An experienced and professional researcher and will be a subject specialist, drawing upon knowledge gained from postgraduate research and/or working within a Research Band 6 role.
* Associated with a particular project (or projects) and will contribute ideas, and/or enhancement of techniques or methodologies and be expected to take significant initiatives in their work and consult with the Principal Investigator over the details of the project. They will work under supervision and receive academic, pastoral support and guidance which may include specific training, career opportunities and mentoring.

They may contribute to the Department’s teaching, through supervision of projects, overseeing practical classes, or taking small group tutorial classes.

The main focus of the work will involve conducting individual and collaborative research projects under the general guidance of a senior academic or Principal Investigator using new research techniques and methods, analysing and interpreting data and writing up research for publication.

**Main Work Activities**

1. Conduct individual and collaborative research projects to include:

* Using expertise to carry out projects they are working on.
* Contribute to the preparing proposals and applications for external bodies, e.g. for funding and contractual purposes with appropriate support or contribute to the writing of collective bids.
* Use new research techniques and methods.
* Analyse and interpret research data.
* Write up research work of the project and its dissemination through seminar and conferences presentations and publications.

1. Responsible for the management of projects to include:

* Plan and manage own research activity in collaboration with others.
* Manage administrative activities with guidance if required.
* Plan and monitor the work of the project or projects if applicable.

1. Assist with teaching and learning support in own area of study to include:

* Assist in the development of student research skills.
* Assess student knowledge and supervision of projects.
* Supervise and guide final year students.

1. Develop and initiate collaborative working internally and externally to include:

* Build internal contacts and participate in internal networks for exchange of information and to form relationships for future collaboration and to progress their research.
* Develop links and join external networks to share information and identify future potential sources of funding.
* Work with colleagues on joint projects as required.
* Attend and contribute to relevant meetings.

1. Demonstrate evidence of own personal and professional development to include:

* Continually update knowledge and understanding in field or specialism.
* Appraisal, induction and performance reviews.
* Participate in training and development activity.
* Maintain links with professional institutions and other related bodies.
* Collaborate with academic colleagues on areas of shared research interest.

### Additionally the post holder will be required to:

* Fulfil the employees’ duties described in the University’s health and safety policies and co-operate with the health and safety arrangements in place within the department. May be required to undertake specific health and safety roles on request e.g. Display screen equipment assessor, departmental safety officer, fire warden etc.
* Show a commitment to diversity, equal opportunities and anti-discriminatory practices this includes undertaking mandatory equality and diversity training.
* Comply with University regulations, policies and procedures.

**PERSON SPECIFICATION – Research Band 7**

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| **Specification** | **Essential** | **Desirable** | **Examples Measured by** |
| **Education and Training**  Formal qualifications and relevant training | * A PhD in a relevant discipline |  | Application  Interview  Other |
| **Work Experience**  Ability to undertake duties of the post | **Evidence of:**   * An emerging track record in an appropriate research field, including scientific publications, presentations at scientific conferences and contributing to grant applications |  | Application  Interview  Other |
| **Skills and Knowledge**  Includes abilities and intellect | **Evidence of:**   * Participation in networks that seek to promote research collaboration * Effective management of resources Contribution to the supervision of undergraduate project, masters or PhD students |  | Application  Interview  Other |
| **Personal Qualities**  Includes any specific physical requirements of the post – (subject to the provisions of the Equality Act 2010) | * An expectation to positively contribute to University activities and initiatives which may include open days, graduation ceremonies, etc., and have a willingness to undertake administrative activities * Show evidence of collaborative working, particularly on interdisciplinary activities * Evidence of working in an open and transparent way, providing information and communicating effectively with colleagues * Evidence of Continuous Professional Development |  | Application  Interview  Other |