

<b>Position Title:</b>	Research Associate/Research Fellow (Microscope in a Needle)
<b>Position Classification:</b>	Academic Level A/B
<b>Position Number:</b>	314859
<b>Faculty/Office:</b>	Engineering Computing and Mathematics
<b>School/Division:</b>	Electrical, Electronic and Computer Engineering
<b>Centre/Section:</b>	Optical+Biomedical Engineering Laboratory
<b>Supervisor Title:</b>	Head, Optical+Biomedical Engineering Laboratory
<b>Supervisor Position Number:</b>	101299

### Your work area

The [Optical+Biomedical Engineering Laboratory](#) (OBEL) is a well-established group of engineers working at the interface of the disciplines of optics and photonics and medicine and biology. The group, led by Professor David Sampson, currently includes three research staff, two admin staff and two PhD students. OBEL occupies 225m<sup>2</sup> of state-of-the-art photonics/optics laboratories including six optical benches, and facilities for engineering portable instrumentation, fabricating micro-optics and a biological wet lab. Much of OBEL's research is conducted at local tertiary hospitals, including Sir Charles Gairdner Hospital, Royal Perth Hospital and Fiona Stanley Hospital. The group accesses core facilities in microscopy (CMCA), histology (CellCentral), and high performance computing (Pawsey Centre).

### Reporting Structure

*Reports to:* Head, Optical+Biomedical Engineering Laboratory

*If a leadership/ supervisory role:*

**Direct Reports:** Nil

**Teams:** OBEL Research Group

### Your role

You will form a key part of the team developing and applying the Microscope-in-a-Needle technology. You will help to design and build miniaturised fibre-optic imaging probes (and the back-end imaging systems) capable of performing state-of-the-art imaging. You will work as part of a multi-disciplinary team of hardware and software engineers, biochemists, surgeons, pathologists and biologists. As a pre-doctoral or postdoctoral researcher reporting to Prof. David Sampson, you will be expected to engage in the appropriate range of academic activities, which could include a subset or all of the following: project planning and carrying out research, publication and conference attendance, proposal writing, PhD and other student supervision, and commercialisation and outreach activities, where appropriate. You will be expected to engage with other projects within the lab and demonstrate effectiveness in collaboration.

### Key responsibilities

1. Work as a full-time researcher in the School of Electrical, Electronic and Computer Engineering, under the supervision Prof David Sampson.
2. Contribute in a major way to research connected to the Microscope-in-a-Needle project.
3. Participate in other research projects undertaken within the lab as appropriate and as agreed with Prof David Sampson.
4. Design and build optical hardware setups for biomedical imaging applications, in a laboratory setting or for deployment in hospitals.
5. Assist in acquiring experimental results in a laboratory or hospital setting.
6. Develops methods to process and analyse the data collected.
7. Conduct high-quality, high-impact research in biophotonics and biomedical optical

engineering and publish results in peer-reviewed journals and present the results at conferences and elsewhere as appropriate.

8. Present research activities and results in reports, research publications, and to visitors, potential sponsors and peers.
9. Contribute to grant writing.
10. Manage day-to-day activities such as ordering and commissioning equipment.
11. Assist in the supervision of undergraduate students and Masters and PhD students.
12. Perform other duties as directed.

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

1. Honours, Masters or PhD in engineering, physics, computer science, mathematics, physiology, biology, or similar; or equivalent industry experience.
2. Strong ability in at least one of: opto-mechanical systems, robotics, optical design, optics experimentation, optical coherence tomography, signal processing and modelling and project management.
3. Track record of research publication relative to opportunity.
4. Experience in working as a team player, preferably within a cross-disciplinary team.
5. Highly developed written and verbal communication skills in the preparation of high-quality reports, presentations and publications.
6. An ability and willingness to direct and supervise final year undergraduate students and PhD students, if appropriate, in the area of bioengineering.
7. Highly developed organisational skills and demonstrated ability to set priorities and to meet deadlines.

### **Special Requirements**

*There are no special requirements*

### **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.hr.uwa.edu.au/publications/code_of_ethics), <http://www.equity.uwa.edu.au>