## Position Summary

TheResearchEngineerwill support the research in the area of biomedical fabrication. They will support a multidisciplinary team within the Graduate School of Biomedical Engineering, Faculty of Engineering working on the development of optical-electrode ‘optrode’ array devices for electrophysiology and brain-machine interfaces.

The role reports to Dr Dorna Esrafilzadeh and Dr Amr Al Abed, Graduate School of Biomedical Engineering and has no direct reports.

## Accountabilities

Specific accountabilities for this role include:

**Level 5:**

* Fabricate microelectrode and mutli-optrode arrays using 3D printing and biomedical microfabrication techniques;
* Draft designs for microelectrode and mutli-optrode arrays using CAD software (e.g., Solidworks, AutoDesk) based on set specifications;
* Contributes to the development of 3D printing inks and characterise their rheological, chemical and electrical properties for fabrication of multi-optrode arrays;
* Participates in the evaluation of printed devices at the lab bench including mechanical, physical, chemical, optical and electrical testing;
* Assist with the design and building of special hardware projects as required for research or exhibition purposes;
* Assist in the purchase of suitable and relevant equipment and consumables to ensure the Laboratory is fully functional and may be optimally used at all times;
* Engage with co-workers to learn new techniques and processes;
* Assist with the supervision of research students in the research area where required;
* Participate in and/or present at conferences and/or workshops relevant to the project as required;
* Implement good laboratory practice and high standards of experimental design including documentation and archiving in line with project requirements;
* Adhere to the University of New South Wales Intellectual Property policy;
* Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](https://unsw.sharepoint.com/sites/values-in-action) and the [UNSW Code of Conduct](https://www.gs.unsw.edu.au/policy/documents/codeofconduct.pdf);
* Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health & safety of yourself or others.

Level 6 (in addition to the above)

* Designs microelectrode and mutli-optrode arrays using CAD software (e.g., Solidworks, AutoDesk);
* Develops 3D printing inks and characterise their rheological, chemical and electrical properties for fabrication of multi-optrode arrays;
* Independently evaluates printed devices at the lab bench including mechanical, physical, chemical, optical and electrical testing;

Skills and Experience

**Level 5:**

* Tertiary degree in materials, chemicals, manufacturing, or mechanical engineering
* Relevant experience in device design and fabrication
* Relevant experience in material characterisation;
* Demonstrated experience with computer aided design software and 3D printing;
* Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and work effectively within interdisciplinary teams;
* Demonstrated ability to work collaboratively and productively within a team, but also to take initiative and work independently while managing competing demands;
* An understanding of and commitment to UNSW’s aims, objectives and values in action, together with relevant policies and guidelines;
* Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

**Level 6 (in addition to the above):**

* Post-graduate experience (at least two years) in material development or the design and fabrication of devices for biomedical applications;
* Extensive working knowledge of 3D printing;
* Extensive working knowledge of methods used to assess printed devices;
* A track record for the synthesis and evaluation of novel materials for biomedical applications, or
* A track record for the design, fabrication and testing of novel biomedical devices for electrophysiology or brain-machine interfaces.

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.