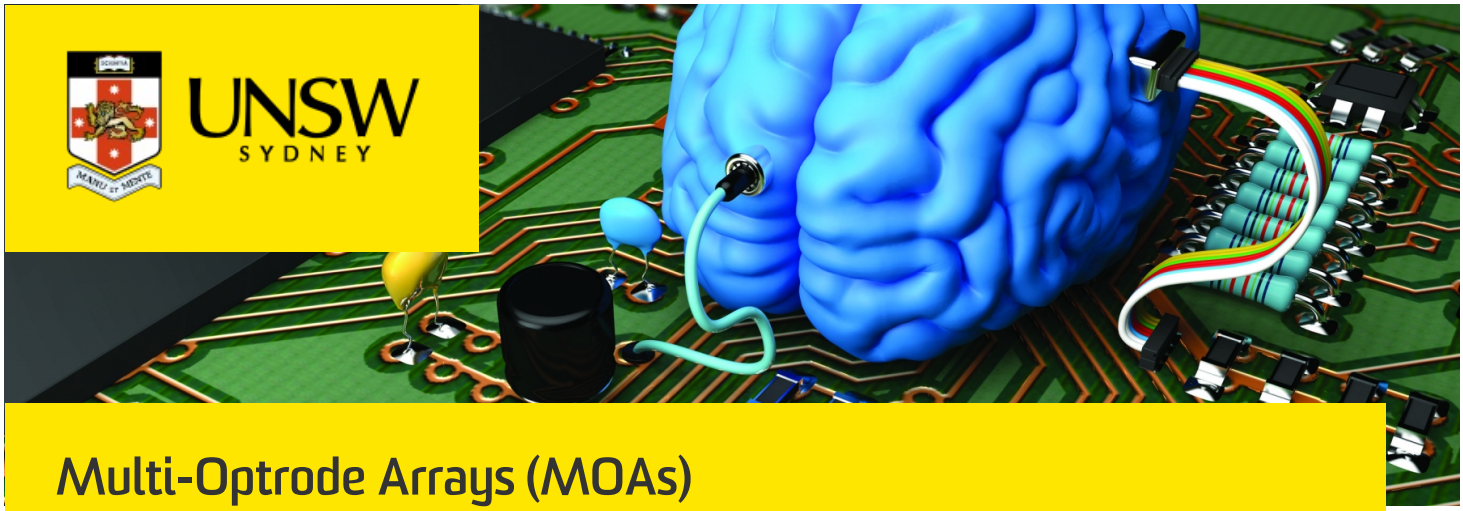

Multi-Optrode Arrays (MOAs)

Development and biological assessment of optical-electrode ‘optrode’ transducers for recording electrical activity in the body.

Competitive advantage

- Multi-disciplinary team working at the interface of biology and engineering
- A patent portfolio covering industrial and biomedical aspects of technology

Impact

- MOAs overcome the limitation of current recording systems by using light to carry bioelectric signals. This work will lead to the next generation of brain-computer interfaces.
- It enables high-density, high channel count recording from neural and cardiac tissue
- Application for brain-machine interfacing and prostheses
- Application for cardiac diagnostic systems
- The underlying technology of MOAs can also be applied in acoustic sensing networks to have many applications including:
- Ocean monitoring (distributed sonars)
- Mineral prospection (geoseismic exploration)
- Environmental protection (leak detection in water distribution networks)

Successful applications

- Demonstrated ability to map electrical activation in hearts in animal models
- Demonstrated ability to record peripheral nerve responses in animal models

More Information

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Capabilities and facilities

- Biomedical microfabrication facility
- A range of electrophysiology, animal surgery, and microscopy setups for biological assessment of technology
- Access to engineers and infrastructure at the Australian National Fabrication Facility

Our partners

- Zedelef Ltd