

Neuroscience Institute Autumn Symposium 21.10.2022

Workshop 3: Neuroengineering 11.15am - 12pm

About the workshop:

A series of short presentations outlining work across the Neuroengineering theme of the Neuroscience Institute. This theme brings together researchers who are working to utilise their expertise in Neuroscience and Engineering to develop novel technologies and devices to improve monitoring and treatment of neurological conditions, advance understanding of neurobiology, and develop neuromorphic control systems to advance robotics.

Speakers:



Dr Mahnaz Arvaneh: Closed loop non-invasive neural interfaces.

Prof Ivan Minev: Integrated Implant for Focal Cooling in the Nervous System.

Prof Fred Claeysens: Bioengineered nerve guidance conduits

Dr James Alix: Development of novel spectroscopy devices for diagnosis and monitoring of neurological conditions in preclinical models and human patients.

Dr Michael Mangan: Opteran: Natural Intelligence for real-world robots

What will you learn?

- Non-invasive brain-computer interfaces, their technical challenges and potential clinical applications
- Novel developments in implantable hardware for multi-modal neuromodulation in pre-clinical models
- Current bioengineering approaches to develop biomaterials scaffolds to aid peripheral nerve repair
- Spectroscopy techniques to identify preclinical and clinical biomarkers for neuromuscular diseases and lessons learned trying to bridge the preclinical/clinical divide.
- The role of computer science and robotics in advancing neuroscience and AI