ACAN Alumni Symposia
22 February 2021 4:00-5:30pm AEDT

Log into the members area for registration details.

James Daniel, Max Planck Institute of Experimental Medicine, Göttingen

Seeing dopamine by the light of AndromeDA - Using optical nanosensors to image dopamine release with high resolution

I grew up and did my undergraduate studies at the University of Newcastle, where I first worked on dopamine neurochemistry with Phil Dickson and Peter Dunkley. I then moved to Sydney to undertake my PhD in the lab of Bryce Vissel, where I used live cell imaging to investigate the functional properties of dopaminergic synapses, resulting in two papers in the Journal of Neuroscience. In 2009 I moved across the city to the lab of Phil Robinson at the Children's Medical Research Institute. In Phil's lab I worked on the discovery of new small molecule dynamin inhibitors and developed a novel high throughput assay for the analysis of synaptic vesicle endocytosis, which yielded a number of publications. Importantly, in 2011 I attended ACAN where I learned the basics of electrophysiology, skills which proved invaluable as I moved further into the synaptic neurobiology field. I then moved to the in the Department of Molecular Neurobiology, headed by Nils Brose, at the Max Planck Institute of Experimental Medicine in Göttingen in 2013. There, I undertook a second postdoc investigating the potential role of protein SUMOylation in synaptic function. In 2016 I was given the opportunity to return to working primarily on dopamine release as a project group leader. Since then I have run a small group focused on the interdisciplinary development of a new method of optical dopamine detection using nanosensors. I am currently writing this work up for submission early next month, and the outcome of the project has been a validated method that can detect dopamine release at the level of individual presynaptic boutons. I also have a couple of unrelated electrophisiology-focused papers on molecular neurobiology in the pipeline. I am currently interested in returning to Australia to continue my research career.

Lee Fletcher, Trustee, Biodiversity and Environmental Education Society

Determining what a neuron ACAN and can't do.

Lee grew up in Perth, Western Australia, enjoying perfect sandy beaches and sunsets over the ocean. After studying neuroscience and pharmacology at the University of Western Australia, Lee moved to Brisbane to carry out his PhD at the Queensland Brain Institute with renowned neurophysiologist Prof. Stephen Williams. Together, they worked to understand how principal neurons of the neocortex differentially process information through spatiotemporal shaping of dendrite electrical structure. During this time, he and Prof. Williams also ran the annual Australian Course in Advanced Neuroscience. Lee then moved to the UK to take up a research position at the Sainsbury Wellcome Centre for Neural Circuits and Behaviour at University College London. After reflecting upon life Lee decided to take a break from neuroscience research to spend some time working in other areas close to his heart, including heading the charity Biodiversity and Environmental Education Society as trustee and working with the Brilliant Club charity to teach students from disadvantaged backgrounds and help them respond to Covid-19.

Wendy Imlach, Monash University

Targeting changes in spinal signalling to treat chronic pain.

Wendy Imlach is an NHMRC career development fellow and head of the Pain Mechanisms lab at

Monash University in the Department of Physiology and Monash Biomedicine Discovery Institute. Her research is focused on neural circuits in the spinal cord that are activated in chronic pain, in an effort to identify new therapeutic targets. She obtained her PhD in Pharmacology in New Zealand from the University of Otago and held postdoctoral positions at Columbia University in New York, and in Australia at the University of Queensland and University of Sydney. Wendy has a background in neuropharmacology, synaptic physiology and neural circuitry and her laboratory investigates spinal dorsal horn circuitry and nociceptive signalling.

Louise Parr-Brownlie, University of Otago

Stimulating the brain to recover movements

Associate Professor Louise Parr-Brownlie (Ngāti Maniapoto me Te Arawa) joined the Department of Anatomy at the University of Otago in 2010. Louise completed her undergraduate and doctoral training at the University of Otago, and was a Postdoctoral Fellow (2003-2007) at the National Institutes of Health in the United States. Her expertise is understanding how brain cell activity controls movement and characterising changes associated with Parkinson's disease. She has been working with bioengineers to develop a light-based brain stimulation technology that may be used in the future to treat Parkinson's disease and other neurological disorders. Louise has recently extended her research programme to examine Māori community perspectives of neurosurgical approaches to treat neurological disorders and traumatic brain injury. Louise has been an invited speaker at prestigious conferences in the United States, such as the Howard Hughes Medical Institute (Janelia) and Gordon Research Conferences. She is the Director of the Ageing Well National Science Challenge, on the Māori Advisory Board for Brain Research New Zealand Centre of Research Excellence, and is the Secretary of the International Basal Ganglia Society Council.