

# 2025 MIPS Seminar Program



12 Nov 2025



12:00 to 1:00 pm



LT1

## Nadine Watson Lecture: TARGETING CLASS B1 GPCRS FOR METABOLIC DISEASES

### Professor Denise Wootten



Denise Wootten is a Professor in the Faculty of Pharmacy and Pharmaceutical Sciences at Monash University and an NHMRC Senior Research Fellow. She serves as the node leader at Monash and co-leads the Metabolic Receptor Biology Group. Denise completed her PhD in 2008 at the University of Birmingham, UK, before joining the Monash Institute of Pharmaceutical Sciences (MIPS) in 2009.

Her research expertise lies in G protein-coupled receptors (GPCRs) - the largest family of receptors in the human genome and the most prominent class of current drug targets. Denise's laboratory focuses on class B GPCRs, which play a central role in regulating peptide hormones involved in key physiological processes. These receptors, including the glucagon and calcitonin families, are critical therapeutic targets for metabolic diseases such as diabetes, obesity, and osteoporosis.

Denise leads a multidisciplinary research program that integrates structural and computational biology, molecular and mathematical modelling, biochemistry, cellular signal transduction, native tissue bioassays, and preclinical animal models. Her work aims to unravel the mechanisms of receptor activation and signalling, with a particular emphasis on two cutting-edge paradigms in GPCR pharmacology: allosteric modulation and biased agonism. These approaches are considered pivotal for advancing next-generation drug discovery and development.