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SEMINAR SERIES 2025

11 March, 10:00 AM AEDT

Prof. Isabelle Lucet

Laboratory Head, Kinase Structural Biology & Drug Discovery,
New Medicines & Diagnostics, WEHI
CCeMMP Node leader, WEHI

Prof. Isabelle Lucet is an expert structural biologist and currently heads the Kinase Structural Biology and Drug Discovery lab within the New Medicines and Diagnostics Division at the Walter and Eliza Hall Institute. With a strong expertise in structure-based discovery programs, she has made significant contributions to advancing the discovery of therapeutic drugs targeting oncogenic kinases. After completing her graduate studies in France and postdoctoral studies in Oxford (UK), she joined the Department of Biochemistry and Molecular Biology at Monash University in 2003, where she established with CYTOPIA a groundbreaking structure-based drug discovery project targeting the JAK kinases. This research program led to the discovery of Momelotinib, a drug recently approved by the FDA for combating human haematopoietic malignancies.

Since joining the Walter and Eliza Hall Institute in 2014, she has continued to make seminal contributions in the field of protein kinase research, successfully driving both academic and translational programs. Her multidisciplinary approach, integrating Structural Biology, Chemical Biology, Imaging and Proteomics has contributed to many advancements in these areas.

Ephrin Receptor Pseudokinases Communication: Translating Cellular Imaging and Structural Insights into Novel Therapies.

Transmembrane Ephrin Receptors (EphRs) and their membrane-bound ligands play a crucial role in cell-cell communication, orchestrating a wide array of cellular processes. While their involvement in cancer is well-established, the complexity of their regulatory mechanisms presents significant challenges in developing targeted therapies. This seminar focuses on EphRs' unique reliance on non-catalytic mechanisms for signal transduction, highlighting the intriguing pseudokinases EphA10 and EphB6. These pseudokinases, with their contrasting oncogenic and tumor suppressive functions, exemplify the importance of non-catalytic signalling in the EphR family. We will explore how cutting-edge cellular imaging and structural biology approaches are advancing our understanding of EphR pseudokinase communication. By unravelling these complex signalling mechanisms, we aim to establish a framework for developing novel therapeutic strategies targeting EphR pseudokinases.