

Paul Hutchinson began working in flow cytometry in 1983 at the Peter MacCallum Cancer Institute in Melbourne while completing his Applied Physics degree at RMIT. In this lab, flow cytometry was used for clinical and research work, including the diagnosis of AIDS patients at the beginning of the HIV epidemic and early research on the isolation of haemopoietic stem cells. In 1986 he moved to Prince Henry's Hospital to be in charge of the Cell Sorter in the Department of Nephrology. During his time in this lab he completed his Master of Science degree (Monash University) on macrophage function. In 1992 Paul joined the Clinical Immunology department at Monash Medical Centre and was in charge of the core flow cytometry facility, which had 3 Mo-Flo cell sorters along with one analyser. The lab was used for clinical tests and research, and it was here that he did his PhD (Monash University) on the use of flow cytometry to quantify the level of immune function in renal transplant recipients. In February 2008 he was appointed the head of the Unidade de Citometria de Fluxo at the Instituto de Medicina Molecular in Lisbon, Portugal. This flow cytometry lab serviced more than 250 researchers, and had a 11 color FACSAria cell sorter, and three analysers. Since July 2009 Paul has been in charge of the core flow cytometry facility at the Immunology Programme of the National University of Singapore which has 4 analysers (5 laser Aurora spectral analyser, 5 laser X-20, 4 laser Fortessa, and 4 laser Attune), plus a Mo-Flo XDP cell sorter, Sony Sy3200 sorter, and a 5 laser 20 parameter BD FACSFusion cell sorter. Besides running this busy lab, Paul has pursued his research interests in using flow cytometry to develop diagnostic tests for tuberculosis and investigating new technologies for doing single cell measurements.



Talk – Spectral Flow Cytometry: In this talk I will introduce Spectral Flow Cytometry. This will include the principals of spectral fluorescence measurement, basic spectral deconvolution/unmixing, and some examples of spectral flow cytometry data.

Relevant Literature:

1. Niewold P, Ashhurst TM, Smith AL, King NJC. Evaluating spectral cytometry for immune profiling in viral disease. *Cytometry Part A : the journal of the International Society for Analytical Cytology* 2020; 97: 1165-1179.
2. Kharraz Y, Lukesova V, Serrano AL, Davison A, Munoz-Canoves P. Full spectrum cytometry improves the resolution of highly autofluorescent biological samples: Identification of myeloid cells in regenerating skeletal muscles. *Cytometry Part A : the journal of the International Society for Analytical Cytology* 2022.