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Technology Seminar

Optimizing Strategies for Reliable Multicolor Flow Data: Moving to 50 color flow cytometry

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2nd March 2018 (Fri), 4:00-5:00 pm

Seminar Room 4 (G/F, Room LG-S4, Laboratory Block, Faculty of Medicine Building)

Since the efforts associated with the sequencing of the human genome, biomedical research has continued to evolve in the measurement of the underlying molecular and physiological mechanisms of complex biological systems and networks. Tools for molecular and cell analysis have continued to evolve to address these new challenges and opportunities in many different biological fields. Flow cytometry, the tool of the trade of today's immunologists, is a highly multi-parametric platform, capable of high speed quantitative assessment of cells and other particles, at the single cell level. Today, as we continue to innovate on our flow cytometry platforms, which are capable of reaching up to 50 parameters, flow cytometry is opening a range of new applications stemming from opportunities presented by the advancements of genomics, proteomics, systems immunology and biology. The inevitable impact of these efforts, are in turn impacting decisions in clinical diagnosis and advancements in a deeper understanding of cancer biology, vaccine development and drug discovery.

Today, with the introduction of new high parameter flow cytometry platforms (BD FACSymphony A3 and A5), the development of a large array of new Sirigen polymer fluorochromes and the completion of a study of receptor density and expression, this year saw the demonstration of practical 27-color flow cytometry. In this presentation we will discuss a systematic strategy for successful panel design for high parameter multicolor assays. Factors to be consider for optimal results include affinity and avidity of the antibody, instrument performance and setup, level of receptor antigen expression and fluorochrome brightness.

All are Welcome!