SCIENCEWERKE

CompuCyte

TECHNOLOGY SEMINAR ON QUANTITATIVE IMAGING CYTOMETRY:

Introduction to Laser Scanning Cytometry (LSC) and Applications in High Content Cellular & Tissue Analysis

ABSTRACT

Laser scanning cytometry (LSC) provides accurate cellular and tissue constituent quantification, combined with spatially based image analysis for comprehensive specimen investigation. The superior quantitative ability of laser scanning cytometry results from the unique characteristics of the scan and data acquisition hardware, differentiating it from traditional, microscopy-based imaging systems, producing richly detailed images and quantifying highly intricate cellular patterns and functions.

The seminar will cover general aspects of LSC technology's combination of quantitative measurement of cellular constituents (adherent cells, tissues and tissue microarrays) with comprehensive imaaging at various degrees of resolution. The technology's applications in cell-based analysis (cell cycle, apoptosis, multi-parameter cell surface and cytoplasmic analysis, high-content pre-clinical safety and toxicology assays, rare cell analysis, and immunophenotyping) and automated quantitative tissue analysis (FISH, immunohistochemistry) will be reviewed. Research applications include systems biology, early-stage drug discovery (target identification, lead optimization), predictive and investigative toxicology, and biomarker discovery and validation with application in phase II and III clinical trials and clinical research.

SPEAKERS

Prof Shazib Pervaiz (MD, PhD) (Professor at Yong Loo Lin School of Medicine, NUS Graduate School for Integrative Sciences and Engineering, Duke-NUS Graduate Medical School, Singapore-MIT Alliance) has research interests in elucidating mechanisms of cell death, regulation of oncogenic signaling, free radical biology, and drug discovery. Prof Shazib has published extensively in the area of apoptosis; a recent publication "Automated laser scanning cytometry: A powerful tool for multi-parameter analysis of drug-induced apoptosis" was recognized as the best paper published during 2007 in the journal Cytometry, Part A".

Ed Luther has been active in analytical cytology for more than thirty years, managing core laboratory facilities and working on instrumentation and sotware development at the University of California at Berkeley, Pathology Department (Boston, MA), the Jackson Laboratories (Bar Harbor, ME), the Lahey Clinic (Burlington, MA), Howard M. Shapiro, M.D., P.C. Laboratory (Newton, MA), and The Center for Blood Research (now the Immune Disease Institute), Harvard Medical School (Boston, MA). Since 1994, Luther has been a scientist at CompuCyte Corporation, manufacturers of laser scanning cytometry instrumentation, where he has been involved in research and scientific application development, and the design of instruments for high-content cellular and tissue analysis.

19 Jan 2009
National Cancer Centre
Level 4, Function Room
1.30 pm - 2.30 pm

19 Jan 2009
National University of Singapore
MD11, CRC Auditorium
4.00 pm - 5.00 pm

20 Jan 2009
Biopolis, Matrix
Level 4, Breakthrough Theatrette
3.00 pm - 4.00 pm

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