Topic: Flow Cytometry: An introduction and latest advances
Date: Friday, 11 June 2010 @ 11.00am
Speaker: Dr. Paul Edward Hutchinson

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Convener: Dr Wong Siew Heng

Abstract:
The ability to rapidly analyse multiple parameters of single cells, and to purify specific populations of cells on the basis of these measurements, has made flow cytometry an essential tool in life science research. In recent years there have been significant advances in machine technology and in the applications researchers use flow cytometry. For instrumentation the switch to nearly full digitised signal processing has increased the speed and accuracy of what can be measured. The rate at which cells can be sorted, and the number of populations that can be sorted, has also increased. The development of cheaper and smaller lasers has expanded the range and number of excitation wavelengths that can be used. Also new companies are on the market offering low cost and smaller alternatives for those who want to do routine analysis. In parallel to the hardware developments, there has been an increase in the number of fluorescent probes that can be used to investigate your cells of interest. These new fluorochromes include tandem-dyes, quantum dots, and a wide range of fluorescent reporter proteins. It is also possible now to easily and cheaply make your own custom fluorochrome antibody conjugations. The combination of these advances is expanding the boundaries of what can be done by flow cytometry. There has also been growth in non-traditional flow cytometry technology. These include the Amnis ImageStream which can record the image of the cell as it passes through the laser; and developments in microfluidics which offer the promise of doing flow cytometry on a chip, with very precise and specific manipulation and measurement of individual cells. This talk will present an overview of these advances and an insight into what flow cytometry can do for you now.

Venue
Seminar Room @ Level 3
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Admission is Free and All are Welcome

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