Time Gated Flow Cytometry
New rapid counting of cell pathogens by a simplified flow cytometry system

Business Opportunity
Flow Cytometry is a process in which scattering or fluorescence measurements are made of cells or particles as they pass, preferably in single file, through a measuring apparatus in a fluid stream. Flow cytometers identify and enumerate specified cells at a rate of 1000 to 40,000 cells per second continuously.

An inexpensive LED excited time gated flow cytometer was developed allowing for accurate and rapid counting of specified micro-organisms, like water pathogens, blood lymphocyte CD4/CD8 ratios for HIV monitoring, or bacteria. The invention combines the rapid counting capabilities of flow cytometry, compact solid-state UV LED excitation and the high signal to noise detection capabilities of the time-gated luminescence technique.

The Market
Applications
The relatively inexpensive components used in this flow cytometer make it suitable for point of care applications in pathology and pathogen detection in the food and water industry. The time gated luminescence platform used in this flow cytometer enables a high signal to noise ratio to be maintained for highly autofluorescent samples such as sputum, faeces and water samples.

Market information/competition
The flow cytometry market has an annual turnover of US$1 billion for both the hardware and consumables. BD and Beckman Coulter are the largest players in the market with Partec, Guava, Advance Analytical and DakoCytomation being the other significant players.

Benefits
This invention will benefit HIV patients, blood testing, public water testing applications and the following industries: beverage, milk, food processing (quality controls in real-time), pharmaceutical and cosmetics.

Invention Key Benefits:
• Low Cost
• Highly sensitive
• Potentially portable
• Simplified rapid cell counting

The Technology
IP protection territories and status. This invention has a provisional patent filed in Australia.

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