Hyperspectral Microscopy

Developing novel methods of biomedical diagnostics using hyperspectral microscopy to characterise natural colour and morphology of cells and tissues in the body, to determine whether they carry the early hallmarks of disease. This can yield early screening systems for detecting ill but pre-symptomatic individuals.

Competitive advantage

- The method is non-invasive, rapid and easily deployable in the clinic
- The first team to extract detailed biochemical-level information from cells and tissues
- The method is highly sensitive and provides subtle insights into biological processes
- Awarded the Eureka Prize for Innovative Use of Technology

Impact

This method is expected to impact a broad range of disease conditions, including:

- Improved therapies for regenerating cartilage injuries
- Improved diagnostics of cancer of ocular surface
- Early diagnostics of kidney disease
- Applications in fertility and IVF industry
- Veterinary applications

Successful outcomes

- Early diagnostics of motor neurone diseases (clinical trial under way)
- Related start-up company is in its 5th year of operation

Capabilities and facilities

- High-content, high-throughput imaging
- Big data analytics
- Bioimaging, biosensing and data analytics

Our partners

- Sydney Eye Hospital
- Fertility SA
- Royal North Shore Hospital
- Macquarie University Hospital

More Information

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- Quantitative Pty Ltd
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