BioPharmica Limited

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SERS PROBE IN COMMERCIAL DEVELOPMENT AGREEMENT

Swinburne University of Technology, experienced laser systems manufacturer OptoTech Pty Ltd and Nanotechnology Victoria Ltd have completed a Surface Enhanced Raman Scattering (SERS) Commercial Development Agreement.

The Commercial Development Agreement provides a total investment of $355,000 in cash and personnel resources for development of a portable high-sensitivity device for the rapid detection of contaminants in water. The product to be developed would supply a currently un-met demand for field instrumentation.

BioPharmica has been collaborating with Swinburne University to commercialise proprietary nanostructured fibre tips (SERS Probe) to be used in biological and chemical analysis across a range of applications and has an approx 52% interest in the technology.

In a further boost for the SERS probe technology, it will also receive $295,765 in grant funding from the National Health Medical Research Council to develop a prototype of a portable, low-cost SERS spectrometer for use as part of a continuous, *in-vivo* glucose biosensor. The research will evaluate and test the performance of the device as a step towards achieving a minimally invasive controlled insulin delivery system.

The main obstacle in the development of SERS based instrumentation is the limited availability of SERS probes (disposable optical elements selectively coated for generating a SERS response). Dr Paul Stoddart from Swinburne University of Technology, a Research Fellow at the Centre for Atoms Optics and Ultrafast Spectroscopy, has developed proprietary nanostructured fibre tips able to be used for SERS analysis. The optical fibres provide an inexpensive solid-state solution of enhanced sensitivity. Dr Stoddart was awarded a prestigious Victoria Fellowship in 2006 for his work in this area.

Raman Spectroscopy utilises an intense laser light source to illuminate a sample in which a small portion of the light is shifted in a characteristic manner. This provides a spectrum (a signature), which can then be compared against spectral libraries to provide a chemical identification. No sample preparation is required, and the Raman signal is unaffected by glass containers or water content.

Surface Enhanced Raman Scattering (SERS) exploits an effect whereby chemicals in close proximity to a roughened metal surface (usually gold or silver) have a greatly increased Raman response (typically by a factor of 106). The significantly increased sensitivity of the SERS technique opens an opportunity for the development of new instrumentation.

MORE INFORMATION: Mr Charles Murphy, Executive Director, Tel +61 8 9328 8366.

Yours faithfully

David Breeze
Chairman

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