



New science funding for Lincoln Ventures could lead to electricity generation from wastewater

Press release: 15-July-2008: *The Foundation for Research Science and Technology (FRST) has awarded \$5.06M in funding to a Canterbury science and technology company for the development of microbial fuel cells using effluent and wastewater, and a biological system for measurement in the dairying industry.*

The funding for a six year research programme led by Dr Neil Pasco of Lincoln Ventures Ltd, will investigate processes that directly transfer electrons across cell walls, and how these may be exploited for use in fuel cells and for sensing.

The research team comprises Lincoln Ventures Ltd, University of Auckland, the Cawthron Institute, Christchurch Polytechnic Institute of Technology, Lund University in Sweden, and the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) in Germany.

The first application from the direct electron transfer (DET) research is the development of fuel cells using microorganisms that can generate electricity from wastewater (such as effluent from a milking shed or wastewater treatment plant). Lincoln Ventures is already working with Integy LLC on the commercialisation of a new toxicity sensor for wastewater treatment plants, based on Lincoln Ventures' earlier research.

The sensing applications of the technology include on-line measurement of the properties of milk that impact on milk production and processing. Lincoln Ventures is working on specific applications for the Livestock Improvement Corporation and Fonterra.

Three PhD students will also be supported by the programme.

Chief Executive of Lincoln Ventures, **Graeme Robertson**, said:

"This very important science is expected to lead to the development of practical fuel cells that generate electricity using wastewater. We also want to achieve a low-cost solution for difficult

measurement problems in the dairy industry. We are thrilled to be working closely with our industry partners on this exciting research.”

The funding grant is one of two successful applications by the company – it has also been announced that Lincoln Ventures will receive \$5.16M over six years for its Tomographic Sensors Programme (see separate press release).

About Lincoln Ventures

Lincoln Ventures is a wholly owned subsidiary of Lincoln University. It was established in 1994 combining a number of business interests. Our research subjects cover: measurement and instrumentation; image processing; frost protection; groundwater quality; irrigation; spray application and tracking; sustainable land and water use; biotechnology and waste treatment. We have expertise in groundwater modelling, moisture measurement, biosensors, image analysis applications, and agrichemical application management.

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