



News release

23 April 09

Biotechnology combats offending odours

A smart combination of engineering and modern biotechnology has been harnessed to combat offending odours produced by many industries including wastewater treatment and secondary waste processing. The new technology will provide a cost effective and environmentally friendly solution for industries that produce odours that can disturb nearby communities.

Environmental Biotechnology CRC (EBCRC) researchers at Macquarie University in Sydney, and Murdoch University in Perth, have developed a novel way to harness bacteria to biodegrade odour causing substances.

“This is a designer system for odour control. We are able to cope with the difficult emissions that others can only tackle with guess work. This is a breakthrough in an application of biotechnology to large scale industrial use” said Dr David Garman, EBCRC Executive Director.

“While bacteria can deal with a wide range of odours, their unreliability, poor viability and poor performance in normal biofilter systems mean that often operators prefer to use simpler chemical systems, said Dr David Garman. “Some of these systems are effective at masking the odours but do not remove or break them down.”

“Our new technology is based on the immobilisation of odours onto adsorbing particles, such as modified zeolites, where they are broken down using either enzymes or bacteria.” “The particles are part of a self-contained, self-regenerating odour adsorption and destruction system that can be customised to suit different users. Commercial applications can include both enzyme-carrier particles, and particles that contain single and multiple organisms, to target recalcitrant odours. Our breakthrough is being able to capture and maintain these active biological systems on a stable substrate.”

“Our novel odour control process has the capacity to replace currently used biofilters, which although effective in removing many odours deteriorate over time, eventually fail, and thus require overdesign and regular media replacement. Similarly, currently available chemical systems also require regular renewal or refills.”

The technology is currently being developed for municipal scale composting facilities and sewage treatment plants.

The project has recently been boosted with additional funding from Water Corporation in Western Australia. They will lead the project to the next phase of controlling wastewater treatment plant emissions. Other EBCRC Odour Control Project participants include Southern Metropolitan Regional Council (SMRC), Zeolite Australia and Odour Control Systems Pty Ltd.

EBCRC is sponsoring a stream on Clean Futures with Biotechnology at EcoForum 2009 on Tuesday 28 April 09 at the Australian Technology Park. The session includes a presentation on the odour control technology. For more information, please visit www.ecoforum.net.au/2009.

--- End of Release---

To arrange an interview with Dr David Garman or to find out more, please contact:
Dr Ana Maria Moreno, Marketing and Communications Manager, EBCRC
T: (02) 9209 4969 **M:** 0417 260 603 **E:** a.moreno@ebcrc.com.au