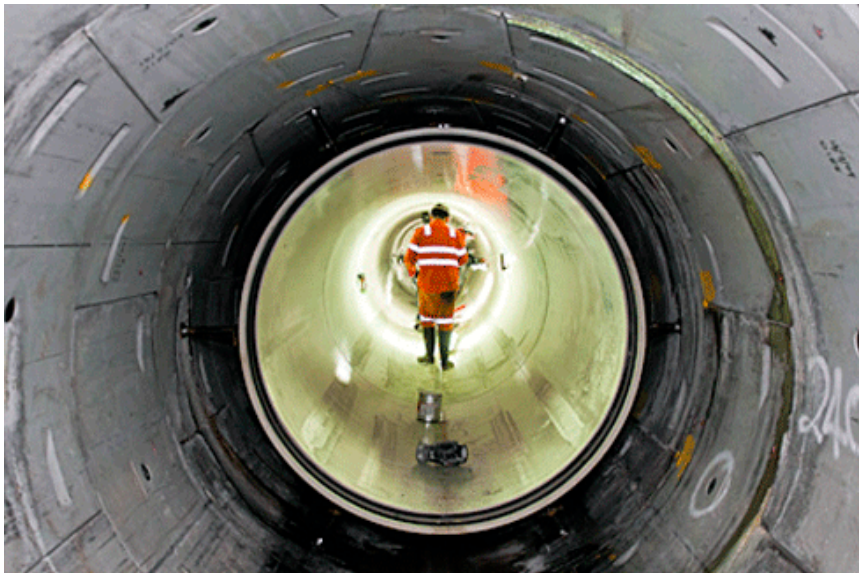


The trick to making sewage smell sweeter

By treating sewage pipes with an inexpensive and biodegradable compound, Queensland scientists have found a way to curb the cost – and odour – of sewage transportation.



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Bad smells are only one cost of transporting sewage, according to Professor Zhiguo Yuan from the University of Queensland's Advanced Water Management Centre.

'Bad pipes caused by hydrogen sulfide corrosion are another more noxious side-effect that costs the Australian water industry around \$100 million a year,' Professor Yuan said.

'Our plan is to change all that by applying to the pipes a once-a-week dose of environmentally friendly free nitrous acid (FNA).'

Expensive chemicals are currently used to deal with the inevitable smells and corrosion caused by unwanted biofilms that grow on the surfaces of wastewater infrastructure.

Apart from their cost, these chemicals create further problems in the sewage treatment and reclaiming process, as they must then be neutralised.

'Our challenge was to find an affordable chemical that didn't harm the environment,' Professor Yuan said.

FNA kills the organisms that create the smells and corrosion, and is then removed itself by the microbial community living within the sewage pipes.

'The pipes won't rot, nor will they smell, and should actually last the 100 years they were designed for, instead of the sometimes only 10 years they currently do,' Professor Yuan said.

Building on work conducted over the past decade, Professor Yuan and his team of engineers and microbiologists recently made the ground-breaking discovery that, at the parts-per-million level, FNA is a strong biocidal agent, causing cell death and biofilm disintegration.

‘This was a very exciting breakthrough and allows us to turn our technology into a valuable business,’ he said.

The FNA technology is now being commercialised by UniQuest under the start-up company, Cloevis Pty Ltd.

Cloevis and the research team have recently demonstrated the technology in a sewer line in southern Queensland and are now looking towards further commercial trials of the technology in both Australia and the USA. The research team is also looking at how FNA can be adapted for the control of other types of biofilms.

Source: University of Queensland

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