

A simple 'coating' on a bionic implant could hold the key to better treatments for hearing loss, Parkinson's, and other central nervous system diseases

The Discovery

Central Nervous System diseases impact millions of people worldwide. They can affect the brain or spinal cord resulting in disorders ranging from Alzheimer's and Parkinson's diseases to hearing loss.

The bionic implant has dramatically altered the landscape for people suffering profound hearing loss and more broadly has fostered developments in the field of implantable bionic interfaces.

By modifying a bionic device to enable delivery of non-viral DNA, UNSW researchers have proved the neural nerves can be regenerated.

Nerve regeneration can potentially restore hearing and our researchers are also investigating the potential of this invention for applications in deep-brain stimulation, with the aim of replacing current chronic techniques with improved treatments for central nervous system diseases.

Key Benefits

- Regeneration of nerves facilitated by use of a bionic implant with coating
- Less treatments required due to nerve regeneration
- New avenues for improved neural interfaces
- Molecular medicine applications including spinal cord injury, Parkinson's disease and brain disorders



The Opportunity

UNSW is seeking a commercial partner to licence and/or to work collaboratively with the inventor Professor Gary Housley in the development of this ground-breaking technology.

<https://research.unsw.edu.au/people/professor-gary-david-housley>

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