



**UNSW**  
SYDNEY



## Nerve Repair and Re-innervation via BaDGE® Naked DNA Therapeutics

**Bionic array Directed Gene Electrotransfer (BaDGE®) is a platform technology for targeted delivery of naked DNA. The first clinical application uses DNA encoding neurotrophins to drive regrowth of the auditory nerve.**

### Competitive advantage

- First-in-class DNA electro-transfer technology for targeted DNA payload delivery to a broad range of tissue targets. It is:
  - Safe (naked DNA)
  - Regulatory permissive (non-viral)
  - Not limited by gene size packaging constraints
  - The highest level of control of the delivery of genes to target tissues
  - High efficiency gene augmentation therapeutics
- Multi-disciplinary team working at the interface of biology, engineering and clinical translation
- A patent portfolio covering all aspects of the BaDGE® platform

### Impact

- BaDGE® is broadly transferrable to nerve/ brain injury and muscle re-innervation.
- Validated for nerve repair and directed nerve regrowth, CNS neuromodulation, control of muscle contraction
- Broad application potential based on this novel gene electrotransfer technology for discrete targeting of DNA therapeutics in tissues, brain injury, DNA vaccines, oncology, cardiovascular disease, hearing loss, and vision

### Successful applications

- BaDGE® cochlear implant neurotrophin gene therapy clinical trial to regenerate the auditory nerve
- Licensing agreements with industry partners reflect due diligence on BaDGE® capabilities

### Capabilities and facilities

- DNA therapeutics - models, including cell, tissue and behavioural models, focusing on translational neuroscience applications, including nerve injury, brain injury, hearing and vision, pain, stroke, and traumatic brain injury
- Biomedical Engineering Faculty allows application-specific modelling, design and DNA delivery probe production

### Our partners

### More Information

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- National and international medical device companies
- DNA Therapeutics Licensees