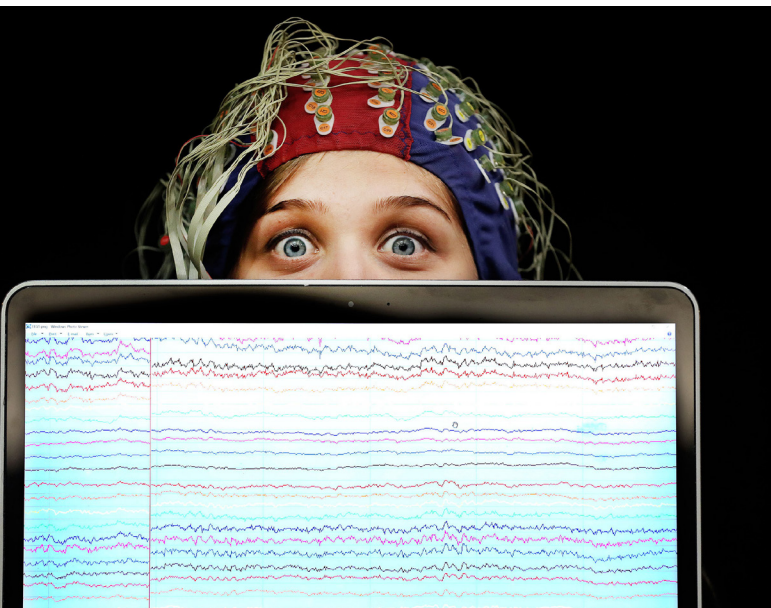


# FutureNeuro, the SFI Research Centre for Chronic and Rare Neurological Diseases

The FutureNeuro Vision is to enable people with neurological diseases to live independently. We aim to realise this vision by providing Faster Diagnosis, Personalised Treatments and Patient-Centred Care.



## Research Areas

- Connected Health
- Diagnostics/Biomarkers
- Electronic Patient Records
- Epigenetics
- Human Genetics
- Neurology
- Neuroscience and Behaviour
- Pharmacogenomics
- Precision Medicine
- Sensors and Monitoring
- Therapeutics

## Research Programmes

FutureNeuro uniquely combines three thematic areas of Diagnostics, Therapeutics and E-Health, mapped closely to targeted projects with our industry partners to leverage and create exceptionally strong synergy between basic, clinical and applied (industry-focused) research capacity. We have established expertise in epilepsies, Motor Neurone Disease, Multiple Sclerosis, Parkinson's and Alzheimer's.

A World  
Leading SFI  
Research  
Centre

Science  
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Ireland **sfi**  
For what's next



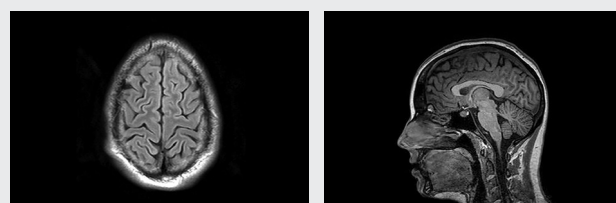
## Facilities

- Genomics, bioinformatics and computational biology
  - Next-generation sequencing platforms
  - Proteomics core
  - Bioinformatics and systems biology core
- Preclinical disease phenotyping
  - iPSC lines, in vitro modelling and gene editing
  - Molecular, cellular and brain imaging
  - Electrophysiology
  - Pre-clinical in vivo phenotyping
- Sensor Development
  - Companion diagnostics
  - High-speed electrochemistry
  - Super resolution fluorescence microscopy
- eHealth enabled patient support
  - National electronic patient records system and patient portal infrastructure
  - Integration of genomic and phenotypic information
  - Integration of wearables
- Clinical research
  - Clinical infrastructure for trials
  - Biobanking and biosample collection
  - Large patient datasets of structural MRI

## Industry and Commercialisation

FutureNeuro connects national and multinational industry with key academics and clinicians based in our leading hospitals to provide diagnostic, therapeutic and E-Health solutions.

FutureNeuro's target projects with industry partners will bring diagnostic supports to market, a pipeline of new drugs, and connected health solutions that enable patients to monitor and report their health better than ever before.



HOST INSTITUTION



PARTNER INSTITUTIONS



Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin



NUI Galway  
OÉ Gaillimh



UCC  
University College Cork, Ireland  
Coláiste na Tríonóide, Corcaigh



Waterford Institute of Technology

## Education and Public Engagement:

“A society that is informed about the impact of neurological disease and supports research to address the challenge” is the vision of the FutureNeuro Education and Public Engagement Programme. Working with policy makers, civil society organisations, research and education communities and industry, FutureNeuro’s ambitious programme highlights that neurological disorders are a challenge that impacts everyone; research is vital to address these challenges; and that we need more people supporting research to make this happen.



## Key Contacts

### Prof David Henshall

Director

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*Prof David Henshall is Professor of Molecular Physiology & Neuroscience and has been working at the Royal College of Surgeons in Ireland since 2004. His main interests lie in the causes and treatment of the neurological disorder epilepsy. Some of his major research projects are looking at the patho-mechanisms underlying epilepsy development following brain injury, neonatal seizures, developing new medications for epilepsy and exploring the role of epigenetics and non-coding RNA in this disease.*

*He is the co-ordinator of EPI-Cluster, a pan-european research and advocacy network, which was recently funded by European Brain Research Area (EBRA) He is also the chair of the International League Against Epilepsy (ILAE) Genetics/Epigenetics Taskforce. Prof Henshall has authored over 175 papers and 9 book chapters.*

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