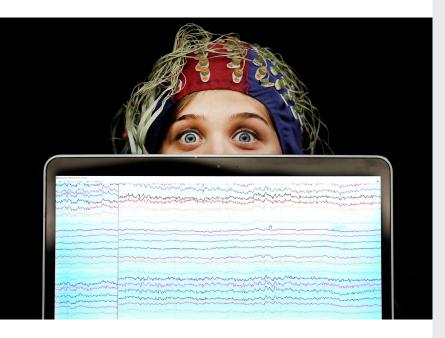
# FutureNeuro, the SFI Research Centre for Chronic and Rare Neurological Diseases

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.







#### **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.





















# **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 dhenshall@rcsi.ie

Prof David Henshall is Professor of Molecular Physiology & Neuroscience and has been working at the RCSI University of Medicine and Health Sciences 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 180 papers and 9 book chapters.

#### Prof. Gianpiero Cavalleri

Deputy Director gcavalleri@rcsi.ie

# **Bridget Doyle**

Business Development and Centre Manager bridgetdoyle@rcsi.ie

#### **Karina Carey**

Reporting and Funding Officer karinacarey@rcsi.ie

#### **Ciara Courtney**

Communications, Education and Public Engagement Lead ciaracourtney@rcsi.ie

#### **Dr Alice Coughlan**

Research Funding Officer alicecoughlan@rcsi.ie

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

RCSI University of Medicine and Health Sciences 123 St. Stephen's Green Dublin 2 Ireland Tel: + 353 1 402 5069 www.futureneurocentre.ie

Futureneuro\_ie

FutureNeuroCentre

in futureneuro

■ FutureNeuro Centre

FUNDED BY:









Tel: +353 (0)1 6073200 Email: info@sfi.ie www.sfi.ie



in @ScienceFoundationIreland

@ScienceFoundationIreland

(iii) @scienceireland

ScienceFoundationIreland#BelieveInScience