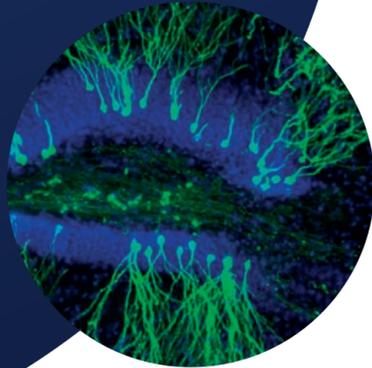


## Partnering with FutureNeuro

We conduct translational research projects across the themes of Diagnostics, Therapeutics and eHealth with Irish and international industry partners.

Our €13m research centre, funded by Science Foundation Ireland and hosted by RCSI (Royal College of Surgeons in Ireland), links innovative neurotherapeutics development with genomic and biomarker-based patient stratification, a national eHealth infrastructure and a research-active nationwide clinical network.

Our centre integrates complementary expertise in neuroscience and neurological disease from five leading academic institutions: RCSI, Trinity College Dublin, Dublin City University, NUI Galway and University College Dublin.



We invite partnerships with SMEs and multinational pharmaceutical and biomedical companies in sectors covering:

- digital and biological biomarkers
- diagnostic tools
- therapeutic discovery and development
- eHealth-enabled patient support platforms
- clinical trials.

Partnering opportunities with us can include research collaborations (fully- or co-funded) and joint applications for research funding (eg. H2020, NIH).

Benefits to industry partners include access to:

- integrated scientific expertise across neuroscience, clinical neurology, genetics, cell biology, materials chemistry and eHealth
- state-of-the-art infrastructure across 5 specialist research institutions
- national neurological clinical network and trial-ready environment
- genetically-stratified patient population
- favourable co-funding mechanisms
- inherent culture of commercialisation and collaboration with industry
- dedicated grant-writing expertise.

We have in-depth experience in industry engagement, technology transfer, IP management and commercialisation. We work closely with the relevant State Agencies and can support partners to obtain appropriate state funding mechanisms.

To discuss a research partnership with FutureNeuro, please contact:

**Bridget Doyle**  
Business Development and Centre Manager  
t: +353 1 402 5061  
m: +353 87 683 7203  
e: bridgetdoyle@rcsi.ie

[www.futureneurocentre.ie](http://www.futureneurocentre.ie)

RCSI, 123 St. Stephens Green, Dublin 2, Ireland.

Current partners include:



RCSI  
123 St. Stephen's Green,  
Dublin 2, Ireland.

[futureneurocentre.ie](http://futureneurocentre.ie)

@Futureneuro\_ie FutureNeuroCentre  
FutureNeuro Centre FutureNeuro



Faster diagnosis, personalised treatments and patient-centred care for people with neurological diseases

Based in Ireland, FutureNeuro is the internationally-focused SFI Research Centre for chronic and rare neurological diseases

We have established expertise in epilepsies and Motor Neurone Disease and expanding capabilities in Multiple Sclerosis, Parkinson's, Alzheimer's and psychosis

We provide molecular diagnostics and innovative neurotherapeutics enabled by electronic health infrastructure



A World Leading SFI Research Centre



## Excellent Research

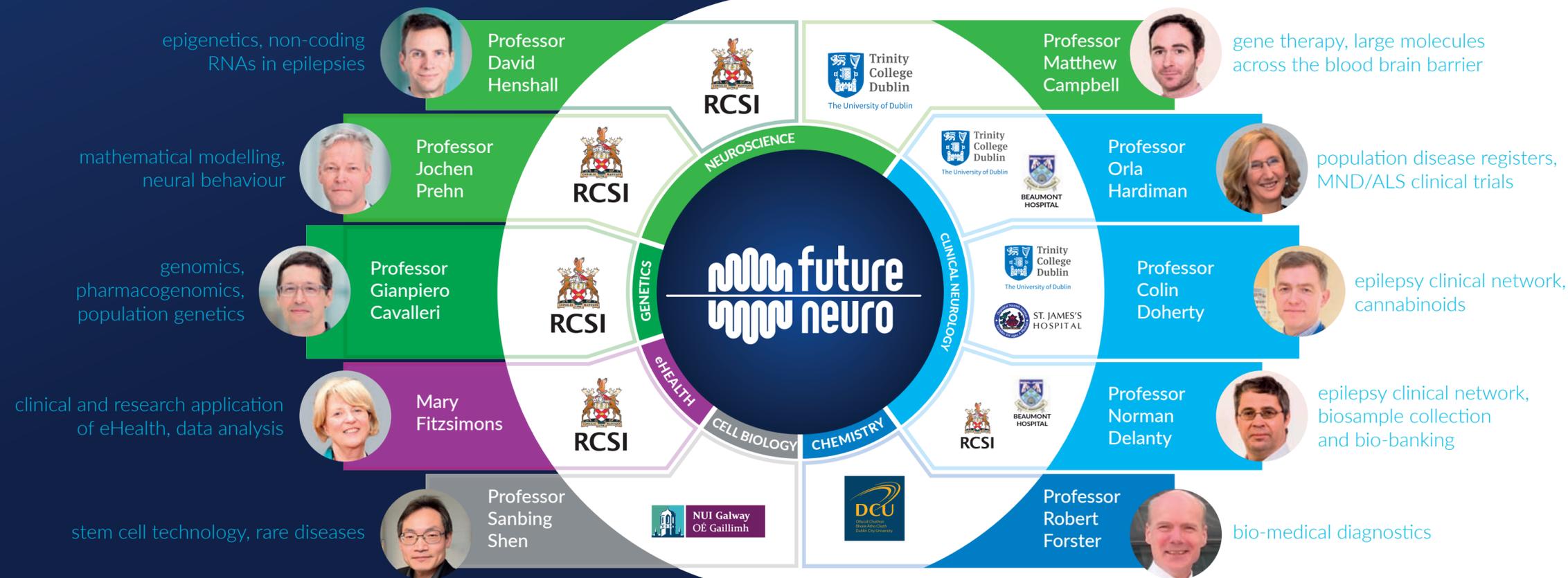
Our research expertise focuses on:

- Basic mechanisms of neurological disease
- Real-world data to inform molecular diagnostics and targeted therapeutics
- Genomic diagnostics
- Molecular biomarkers for acquired and rare, genetically-defined epilepsies and Motor Neurone Disease (MND/ALS)
- Technology for rapid point-of-care diagnostics
- Neuronal stem cell technology to discover drug treatments
- RNA-targeting therapeutics to restore normal brain excitability
- Novel screening models for disease-modifying treatments
- Immuno-neuroprotection
- Companion nanotechnology solutions for the delivery of therapies to affected brain region
- Precision medicines and infrastructure for translation to the clinic
- eHealth technology for improved care pathways

## World Leading Scientific Discovery

We attract the brightest research talent in neuroscience, clinical neurology, genetics, cell biology, materials chemistry and patient data analytics. Our scientists and clinicians engage with patients, healthcare providers, industry partners and policy makers to reduce the individual, societal and economic burden of neurological diseases.

Our principal researchers are thought leaders in neurological research. They chair international fora, have secured research funding in excess of €40m and hold a portfolio of patents in diagnostics and therapeutics.



## Clinical Research and Trials Network

FutureNeuro-affiliated clinical neurologists, spanning the main adult and paediatric hospitals across Ireland, represent the advanced clinical care of patients with neurological diseases. This gives us access to well-defined and stratified patient cohorts for clinical trials. Our patient registers provide granular data to inform diagnostic and therapeutic interventions and our biosample collection and curation programme facilitates genetic diagnosis, precision therapeutics and gene discovery. Our clinician scientists inform the potential for translation of research from laboratory to clinic to living room. Ultimately, this national clinical and patient network supports our researchers to develop personalised medicine and individualised care for people living with neurological diseases.

## Infrastructures and Technology Platforms

Through our academic partners, we have access to state-of-the-art research infrastructure. Our ability to combine and apply these technologies across our themes of Diagnosis, Therapeutics and eHealth makes us distinctive and excellent.

### Technology Platform I (Genomics, bioinformatics and computational biology)

- Next-generation sequencing platforms
  - DNA, WGS, exome
  - RNA and epigenetics (e.g. chromatin architecture)
- Proteomics core (Mass spectrometry)
- Bioinformatics and systems biology core
- Compute and storage facilities for datasets

### Technology Platform IV (eHealth enabled patient support)

- National electronic patient records system
- Integration of genomic and phenotypic information
- Patient portal infrastructure (Patient Reported Outcome Measurements)
- Integration of wearables
- Clinical analytics (e.g. disease risk, treatment response)

### Technology Platform II (Preclinical disease phenotyping)

- iPSC lines, in vitro modelling and gene editing
- Molecular and cellular imaging, including high content image analysis
- Electrophysiology (Slice and single cell analysis)
- Pre-clinical in vivo phenotyping
  - mouse models for MND/ALS and epilepsies
  - digital and telemetric quantitative EEG
  - behaviour assays and brain function monitoring
- Brain imaging (7T rodent MRI)
- Retinal imaging (Heidelberg OCT and Fundus Fluorescein angiography)

### Technology Platform V (Clinical research)

- Clinical infrastructure for trials
- Patient registers
- Biobanking and biosample collection (>2,500 DNA, brain tissue and biofluids)
- Advanced neurophysiology and brain function (fMRI, EEG)
- Dynamic contrast enhanced MRI (DCE-MRI)
- Transcranial magnetic stimulation
- Large patient datasets of structural MRI

### Technology Platform III (Sensor Development)

- Companion diagnostics
- High-speed electrochemistry
- Super resolution fluorescence microscopy
- Sensor system prototyping - screen printing, 3D printing and micromilling

