

**CROSS-BORDER RESEARCH & DEVELOPMENT FUNDING PROGRAMME –
LIST OF SUCCESSFUL PROJECTS**

QUEEN'S UNIVERSITY BELFAST

QUB 02

Title

Mobile Wireless Futures: A Programme of Excellence for Ultra-high Speed Mobile Wireless Systems

Objective

To amalgamate complementary and interdisciplinary research expertise and skills sets across the three major centres of excellence within Ireland with the mission to challenge theoretical, conceptual and technological issues, and to derive innovations and enabling technologies, for the advancement of wireless communications for broadband mobile ubiquitous applications at Gigabit data rates for the benefit of the economy.

Partners

High Frequency Wireless Group, Queen's University Belfast

Microwave Research Laboratory, University College Dublin

Microsystems Centre, Tyndall National Institute, University College Cork

QUB 04

Title

Improving the Sustainability of Transport Using Advanced Composites and Digital Manufacturing

Objective

To build an internationally recognised all-Island Research Centre with leading research capability and capacity in computational science for sustainable design, manufacture and materials, with the leadership to develop all-Island collaborative research which will reinforce the Island's advanced engineering and manufacturing capacity. This will enable industry to take advantage of the performance and sustainable attributes of advanced composite materials in transport engineering and other applications, and a key element of this proposal will be to engage with industry and facilitate knowledge and capability transfer.

Partners

School of Mechanical and Aerospace Engineering, Queen's University Belfast

Composites Research Centre, University of Limerick
Enterprise Process Research Centre, Dublin City University
Mechanical Engineering, Trinity College Dublin

QUB 05

Title

Centre for Food: ASsured, SafE and Traceable food (ASSET)

Objective

To harness scientific knowledge and know-how which exists on the island of Ireland and translate this into opportunities for improving the economic development of the agri-food sector.

Partners

Institute of Agri-Food and Land Use, Queen's University Belfast

National Centre for Sensor Research, Dublin City University
Conway Institute and Earth Institute, University College Dublin
Prepared Food Department, Ashtown Food Research Centre

QUB 06

Title

Cancer Medicinal Chemistry Initiative (CMCI)

Objective

To strengthen significantly the Island's capacity and capability to address the bottleneck in the drug discovery pipeline. The CMCI will bring complementary all-Island research strengths together to identify chemical entities that have desirable biological, physical and pharmacological properties. As a result, essential new treatment options in cancers with high incidence and poor prognosis will be developed.

Partners

Centre for Cancer Research and Cell Biology, Queen's University Belfast

Schools of Biochemistry and Immunology, and of Chemistry, Trinity College Dublin.

QUB 07

Title

Diet, Obesity and Diabetes

Objective

To bring together the leading research groups on the island of Ireland to provide a comprehensive all-island research centre to improve the primary and secondary prevention of obesity and diabetes.

Partners

School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast

Institute of Public Health in Ireland

The National Research Centre for Diet, Obesity and Diabetes, University College Cork

QUB 08

Title

Novel Therapeutics for Infections and Major Chronic Diseases

Objective

To help create an internationally competitive biomedical research consortium with maximum complementarity of scientific expertise, infrastructure and facilities, which will be used to develop and test novel therapies and vaccines for major diseases with obvious direct benefit to human health and the economy.

Partners

Centre for Infection and Immunity, Queen's University Belfast

School of Biochemistry and Immunology and Moyne Institute of Preventative Medicine, Trinity College Dublin

School of Biomolecular and Biomedical Science, University College Dublin

Regenerative Medicine Institute and Department of Anesthesia, National University of Ireland, Galway

QUB 10

Title

Centre for Biomedical Informatics

Objective

To establish an *All-Island Centre for Biomedical Informatics* which will generate the critical mass essential for realising the era of "predictive medicine" and "personalised medicine" - potentially the most significant developments now emerging for future healthcare, with far reaching benefits for patients, doctors and the economy.

Partners

**Centre for Cancer Research and Cell Biology and School of Medicine,
Queen's University Belfast**

Gastrointestinal Research Unit and Conway Institute, University College Dublin

Molecular Genetics and Leukaemia Research Groups, Trinity College Dublin

Genome Informatics Research Group, University College Galway

Spatial Statistics and Statistical Image Analysis Research Groups, Dublin City
University

Mathematical Modelling Group, National University of Ireland, Maynooth

Thoracic Oncology Group, St James' Hospital, Dublin

Tissue Pathology and Biobanking, and Human Factors and Thoracic Oncology
Groups, Beaumont Hospital, Dublin

Human Factors and Medical Training Group, Royal College of Surgeons in
Ireland

Institute for Biomedical Informatics

UNIVERSITY OF ULSTER

UU 02

Title

Energy Storage

Objective

To assess the extent to which the existing and future built environment can provide local energy storage and virtual bulk thermal and electrical energy storage for non-dispatchable small and large scale renewable energy in providing technology solutions as part of a holistic response to future energy systems in Ireland. A distinctive feature of this research proposal is that it is trans-disciplinary through the integration of a scientific study with the regulatory and planning frameworks to facilitate the development of a viable energy storage system and to develop potential new commercialisation opportunities.

Partners

Built Environment Research Institute, University of Ulster

Dublin Energy Laboratory, Dublin Institute of Technology

Energy Conversion Research Group, University College Dublin

National Institute for Regional and Spatial Analysis, National University of
Ireland, Maynooth

UU 03

Title

Cross-Border Centre for Intelligent Point of Care Sensors

Objective

To bring together critical expertise from a range of scientific disciplines to enable the transformation of sensors, nanofabrication and computing science into improved healthcare solutions and world class Intellectual Property. The centre will work closely with a range of industrial partners, including Randox and Almac, to translate collaborative science into clinical and market-led innovative products and systems for enhanced healthcare applications.

Partners

Nanotechnology and Integrated Bioengineering Centre, University of Ulster

Computer Science Research Institute, University of Ulster

Biomedical Diagnostics Institute, Dublin City University

UU 05

Title

Functional Biomaterials

Objective

To develop a critical mass of research capacity and capability to address the clinical, commercial and academic challenges/opportunities of the global healthcare market, particularly in the key areas of medical devices, tissue engineering and regenerative medicine.

Partners

Nanotechnology and Integrated Bioengineering Centre, University of Ulster

National Centre for Biomedical Engineering Science, National University of Ireland, Galway

UU 06

Title

Computational Neuroscience Research Team

Objective

To create sustainable mechanisms for strong, effective research collaboration involving the development of computational models for improved understanding of the brain and brain diseases, including Alzheimer's Disease, the most

common cause of dementia. There will be a focus on the development of significant Intellectual Property to benefit the biomedical and pharmaceutical industries, and other nascent industries including neuroinformatics and neurorobotics.

Partners

Intelligent Systems Research Centre, University of Ulster

Institute of Neuroscience, Trinity College Dublin

Centre for Bioengineering, Trinity College Dublin

UU 08

Title

Irish Universities Nutrition Alliance Project: Building Additional and Sustainable Research Capacity in Nutrition and Bone Health at the University of Ulster

Objective

To establish an expert research capability for the study of nutrition and bone health aimed at identifying strategies to prevent osteoporosis, the crippling bone disease with major health, social and economic consequences currently costing European health services €30 billion. There will also be a focus on knowledge transfer to the local food industry and promoting innovation/creativity with respect to novel functional foods targeted at people with specific genotypes who are at risk of impaired bone health.

Partners

Northern Ireland Centre for Food and Health, University of Ulster

Department of Food and Nutritional Sciences, University College Cork

School of Biochemistry and Immunology, Trinity College Dublin

Institute of Food and Health, University College Dublin