



General Research Project Grants 2004

Grant Holder**Project Title**

Bio-materials and Bio-engineering

Dr Fergal O'Brien
Department of Anatomy
Royal College of Surgeons in Ireland

The Role of Microcracks in Targeted Bone Remodeling and Their Relationship with Bone Fragility and Osteoporosis

Dr John P. Lowry
Department of Chemistry
National University of Ireland, Maynooth

Real-time simultaneous monitoring in vivo of glutamate and H₂O₂ in brain tissue, using a novel implantable polymer-enzyme composite device.

Dr Jens Erik Nielsen
Department of Biochemistry
University College Dublin

Protein Kinase Activation

Cancer Biology and Hematological Diseases

Dr David Lloyd
Department of Biochemistry
Trinity College Dublin

Chemotype switching for the identification and mechanistic deconvolution of novel apoptotic agents

Dr Anthony Staines
Department of Public Health Medicine
and Epidemiology
University College Dublin

Multiple myeloma genetics : Aetiology to Therapeutic response

Professor Peter Dervan
Department of Pathology Conway
Institute
University College Dublin

Array CGH and Progression Tissue Micro Arrays in Malignant Melanoma

Dr Judith Harmey
Department of Surgery
Beaumont Hospital

Cochleates to deliver nucleic acid based cancer therapies

Grant Holder**Project Title**

Cardio-Respiratory and Renal Disease

Dr John Laffey
Department of Anaesthesia
National University of Ireland Galway

Preclinical investigation of the efficacy and mechanisms of action of Hypercapnic Acidosis in Acute Lung Injury

Professor Edward Johns
Department of Physiology
University College Cork

Impact of elevated dietary sodium intake during the growing phase on the neural control of the kidney: role of the brain renin-angiotensin system

Professor Shane O'Neill
Department of Medicine
Beaumont Hospital

Factors modulating expression of TLR2, TLR4 and HBD2 in respiratory epithelium in COPD

Professor Paul Cahill
Vascular Health Research Centre
Dublin City University

Hedgehog Signaling and Vascular Smooth Muscle Cell fate

Dental and Digestive Sciences

Dr Derek Sullivan
Dept. of Oral Surgery, Oral Medicine and
Oral Pathology
Trinity College, Dublin

Molecular analysis of adhesion of *Candida albicans* and *Candida dubliniensis* to human cells and extracellular matrix proteins.

Dr Catherine Greene
Department of Medicine
Beaumont Hospital

Gene-targetted inhibition of Z Alpha-1-antitrypsin

Dr Sandra Austin
Department of Clinical Pharmacology
Royal College of Surgeons in Ireland

DRAK2 as a Novel Effector of the Anti-neoplastic Effects of Cyclooxygenase Inhibition in Colorectal Cancer

Epidemiology, Health of the Population and Primary Care

Dr Saoirse Nic Gabhainn
Department of Health Promotion
National University of Ireland, Galway

Translating the Irish Health Behaviour in School aged Children Survey (HBSC) into policy and practice

Dr Mary McCarron
School of Nursing and Midwifery Studies
Trinity College Dublin

Cost effectiveness and Quality of Life in Service Delivery for Persons with the dual disability of Down syndrome and Alzheimer's Dementia

Grant Holder**Project Title**

Dr Evelyn Mahon
Department of Sociology
Trinity College

A Child of our own', addressing infertility: a longitudinal study of couples undergoing fertility treatment in Ireland focusing on their lived experience of treatment and its outcomes

Genomics, Proteomics and Human Disease

Dr David Cotter
Department of Psychiatry
Royal College of Surgeons in Ireland

Proteomic investigation of subcortical white matter in bipolar disorder and schizophrenia

Professor Desmond Higgins
Conway Institute
University College Dublin

Mining the Human Genome for Micro RNAs

Dr Charles Spillane
Department of Biochemistry
University College Cork

Dissection of the epigenetic mechanisms underlying non-coding trinucleotide expansion disorders using the *C. elegans* animal model system.

Dr Daniel Bradley
Department of Genetics
Trinity College Dublin

Genetic structure of the Irish population: the Milesian paradigm

Dr Achim Treumann
Clinical Pharmacology
Royal College of Surgeons in Ireland

GpIb beta signalling - a proteomics approach

Health Services Research and Practice Based Research

Dr Michael Barry
Department of Pharmacoeconomics
St James's Hospital

Pharmacoeconomic implications of statin prescribing based on the European guidelines on cardiovascular disease prevention.

Dr Kathleen Bennett
Dept Pharmacology and Therapeutics
St James's Hospital

Cluster-randomised trial of educational interventions to promote rational prescribing in primary care

Professor Andrew Murphy
Department of General Practice
National University of Ireland, Galway

Community cohort study of 1, 611 patients with a diagnosis of established heart disease

Grant Holder**Project Title**

Immunology, Pathology and Mechanisms of Disease

Dr John Baugh Department of Medicine and Therapeutics University College Dublin	Regulation of Macrophage Migration Inhibitory Factor (MIF) Expression
Dr Caroline Jefferies Department of Biochemistry Trinity College	Role of Bruton's tyrosine kinase in TLR9 signalling in B cells: implications for autoimmunity
Professor Michael P Ryan Department of Pharmacology University College Dublin	Mechanisms of Immune Mediated Epithelial-Mesenchymal Transdifferentiation (EMT) in Human Kidney Cells
Dr Liam O'Mahony Department of Medicine University College Cork	Molecular mechanisms underpinning probiotic attenuation of T cell mediated colitis
Dr Douglas Veale Department of Rheumatology St Vincent's University Hospital	Role of Angiopoietins in Inflammation
Professor Oliver FitzGerald Department of Rheumatology St. Vincents University Hospital	Differential expression of VEGF, PlGF and the VEGF receptors in inflammatory arthritis.

Mental Health and Clinical Neurology

Dr Peter Kelly Department of Medicine Medicine Mater Misericordiae Hospital	The North Dublin Population Stroke Study
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Metabolism, Endocrinology and Reproductive Medicine

Dr Philip Newsholme Department of Biochemistry University College Dublin	Importance of the malate-aspartate mitochondrial shuttle to pancreatic beta-cell amino acid metabolism
Professor Terry Smith National Centre for Biomedical Engineering Science National University of Ireland, Galway	Investigation of the modulation of Maxi-K channel activity by alternatively spliced alpha-subunit isoforms in human myometrium during pregnancy and labour

Grant Holder**Project Title**

Dr Maria Byrne
Department of Medicine
St James's Hospital

Signal transduction pathways leading to a reduction in beta-cell mass in MODY3, a monogenic form of diabetes mellitus

Microbiology, Mechanisms of Infectious Diseases and Host Defence

Dr Tim Foster
Department of Microbiology
Trinity College Dublin

Monoclonal antibodies to clumping factor of *Staphylococcus aureus*

Dr Gary Moran
School of Dental Science
Trinity College Dublin

Comparison of virulence gene expression in *Candida albicans* and *Candida dubliniensis*

Professor Hilary Humphreys
Department of Clinical Microbiology
RCSI Education and Research Centre

Biofilm and device-related meningitis caused by *Staphylococcus epidermidis*. Identifying potential targets for the prevention of infection

Professor Fergal O'Gara
Department of Microbiology
National University of Ireland, Cork

Mechanisms of how a bacterial pathogen develops resistance/tolerance to host cationic antimicrobial peptides

Molecular, Cell and Development Biology

Dr Gary Jones
Department of Biology
National University of Ireland, Maynooth

Hsp70's Role in Amyloid Propagation

Neurosciences

Dr Gethin McBean
Department of Biochemistry
University College Dublin

Do novel structural analogues of MDMA ('ecstasy') target monoamine transporters in the central nervous system?

Dr Aine Kelly
Department of Physiology
Trinity College Dublin

Neurotrophins, plasticity and neuroprotection

Dr Kevin Mitchell
Department of Genetics
Trinity College Dublin

Detailed characterisation of the prevalence, familiarity and nature of synaesthesia in the Irish population, using a multidisciplinary approach.