

In recognition of Ireland's contemporary medical scientists—Ted Dinan, Timothy O'Brien, Michael Hutchinson, Desmond FitzGerald, Michael Gibney, Mary Cannon and Fergal O'Gara

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The *Irish Journal of Medical Science (IJMS)* is the premier medical journal in Ireland from its establishment in 1832. Medical historians often write in a fog of sepia retrospection. Detailed histories of past glories in Irish medicine have been published (1, 2, 3).

This *IJMS* series aims to salute excellence in medical science in contemporary Ireland. The use of Google Scholar as a major source of identification of achievement adds a degree of objectivity to the *IJMS* listings, but not all high-impact authors are listed there. There is an inherent bias against youth as citations take time to appear.

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Honours' list for Autumn 2017

Professor Ted Dinan

Professor Ted Dinan is a professor of Psychiatry and a principal investigator in the Alimentary Pharmabiotic Centre at University College Cork. Earlier, he was a professor of Psychological Medicine at St. Bartholomew's Hospital, London. In 1985, he was awarded an MD; in 1992, a PhD in Pharmacology from the University of London; and in 1995, a DSc (NUI). He has a fellowship of Royal Colleges of Physicians and Psychiatrists in London and of the American College of Physicians. He has published over 580 papers and numerous books on the pharmacology and neurobiology of affective disorders. His primary research focus is on immune and endocrine aspects of depression and irritable bowel syndrome. He also published extensively on the regulation of the hypothalamic-pituitary-adrenal axis in stress. In 1995, he was awarded the Melvin Ramsey Prize for this research into the biology of stress.

He receives funding from Science Foundation Ireland, Health Research Board and the EU.

His h-index is 80, i10-index is 368 and 27,424 citations on Google Scholar.

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Professor Tim O'Brien

Tim O'Brien graduated MB, BCh from University College Cork in 1984. MRCP followed in 1986 and MRCP (UK) in 1987. In 1990, he completed a two-year internal medicine residency at the Medical College of Wisconsin and moved to the Mayo Clinic in Rochester for a fellowship in endocrinology and metabolism. In 1993, he was awarded an MD and PhD in 1997. He is a fellow of the American College of Physicians (1995) and the American College of Endocrinology since 1996. He has the American Boards in Internal Medicine and in Endocrinology and Metabolism.

He returned to Ireland in 2001 when appointed as Professor and Chairman of Medicine and of Endocrinology and Metabolism at the University College Hospital, Galway in Republic of Ireland. Prof O'Brien is head of the Department of Medicine, director of the Centre for Cell Manufacturing Ireland (CCMI) and the Regenerative Medicine Institute (REMEDI) and dean of the college of Medicine, Nursing and Health Sciences at NUI Galway. Dr O'Brien is a founder of a stem cell company, Orbsen Therapeutics, which has novel and patented stem cell isolation technologies.

He was instrumental in the establishment of the Clinical Research Facility at National University of Ireland, Galway, and is a director of the Regenerative Medicine Institute funded by Science Foundation Ireland. His productivity and quality is reflected in grant funding of more than €60 million with Dr O'Brien as the principal or co-applicant. He has served as an associate editor of *Endocrine Practice* from 1999 to 2006 and of *Translational Medicine*. He is a reviewer for the Wellcome Trust and the Finnish Academy of Science. He is an international authority on vascular gene transfer with patent applications and invention disclosures as indices of his originality.

As well as supervising PhD students, he is the Director of the MSc course in regenerative medicine. On Google Scholar, his h-index is 72 and i10-index is 297 with 16,752 citations (September 2017).

The NUI Galway website (<https://www.nuigalway.ie/our-research/researcher-profiles/tim-obrien.html>) provides information on the extent of his industry—"membership of the Advisory Science Council; chairing the Advisory Science Council's task force on health research in Ireland; membership of Irish Medical Device Association task force on clinical trials; founding member and President of the Irish Society of Gene and Cell Therapy; membership of the Health Research Board; the evolution of the Dublin Molecular Medicine Centre to Molecular Medicine Ireland; establishment of the Irish Clinical Research Infrastructure Network (ICRIN); joint governance structures between NUI Galway and Galway University Hospitals including the development of a Memorandum of Understanding between the institutions; leading co-applicant on the Galway bid for a Clinical Research Facility; establishment of a Good

Manufacturing Practice (GMP) facility for cell and vector production; development of a clinician scientist training programme in Ireland; drafting the College of Medicine research strategy with a major goal of recruiting future faculty with relevance to regenerative medicine; leveraging of faculty appointments to support the development of regenerative medicine; establishment of robust industrial partnerships based on strong interactions with the Industrial Development Agency and Enterprise Ireland; and the formal recognition of the importance of research to Galway University Hospital. In addition, Prof O'Brien has played a major role in the outreach and education activities of REMEDI including primary and secondary school programmes, public outreach and interaction with policy makers."

Prof. O'Brien has published 155 original papers in peer-reviewed journals, 40 of these being review articles. He has contributed chapters to nine books on topics relating to vascular gene transfer and has been invited to present his research at 118 national and international scientific conferences. He is an author on three patent applications and five invention disclosures. He is the Director of the new MSc in regenerative medicine at NUI Galway with 15 students in the inaugural year and has supervised 4 of the 6 students who have graduated with PhD degrees from REMEDI in the past 18 months. He is a co-founder of a spin out company, Procure Laboratories.

Professor O'Brien is currently working on the use of mesenchymal stem cells and repaired endothelial progenitor cells in diabetic complications such as critical limb ischemia.

References:

1. O'Brien T, Creane M, Windebank AJ, Terzic A, Dietz AB. (2015) Translating stem cell research to the clinic: a primer on translational considerations for your first stem cell protocol. *Stem Cell Res Ther.* Aug 22;6:146. <https://doi.org/10.1186/s13287-015-0145-7>.
2. Gleeson BM, Martin K, Ali MT et al. (2015) Bone Marrow-Derived Mesenchymal Stem Cells Have Innate Procoagulant Activity and Cause Microvascular Obstruction Following Intracoronary Delivery: Amelioration by Antithrombin Therapy. *Stem Cells.* Sep;33(9):2726-37. <https://doi.org/10.1002/stem.2050>. Epub 2015 Jun 4.

Professor Michael Hutchinson

Professor Hutchinson is Consultant Neurologist at St Vincent's University Hospital, Dublin, from 1978. From 2002, he is Newman Clinical Research Professor at the University College Dublin.

Following graduation from Ballymena Academy, he graduated MB from Queens University Belfast in 1969, having

taken an intercalated BSc in 1966. He was conferred FRCP (London) in 1985 and FRCPI in 1996. His list of distinctions speak for themselves—Conway Medal 1968 & Milroy Medal 1969, Graves Medal and Lecture (RCPI) 1985, Pringle Lecture (MS Society Ireland) 2010, Association of British Neurologists Medal Lecture May 2014 and David Marsden Prize 2009 (David Bradley) <https://dystonia-europe.org/2011/10/the-david-marsden-award-winner-2011/>. From 2011 to 2016, he was an associate editor of *Multiple Sclerosis Journal*.

From 2012, he and his co-investigators have been awarded more than €1million in the area of dystonia, testament to his ability. His research interests include multiple sclerosis, hereditary spastic paraplegia and dystonia.

He has 280 peer-reviewed publications with an h-index of 47, i10-index of 122 and 11,345 citations in Google Scholar.

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Professor Desmond Joseph Fitzgerald

Professor Des Fitzgerald was appointed as President of University of Limerick in 2017. He graduated MB from University College Dublin in 1977, MD (NUI) in 1994 and diploma in mathematical statistics (TCD) in 1982. In 1983, he completed a fellowship in Clinical Pharmacology and Cardiology in Vanderbilt University and worked at the leading edge of research in eicosanoids and aspirin in human disease. Following training as a cardiologist at Vanderbilt, he was a director of the Coronary Care Unit at the Veterans Administration Hospital and was a faculty member of the Department of Clinical Pharmacology for 5 years. He was awarded Fellowship of the Royal College of Physicians of Ireland in 1989. He was a consultant cardiologist at National Maternity Hospital and at Mater Private Hospital for 12 years. In 1994, he was appointed as the Professor of Clinical Pharmacology at the Royal College of Surgeons in Ireland and Beaumont Hospital and in 2004, Professor of Molecular Medicine at UCD.

His role in medical leadership is outstanding. He was the Director of the Institute of Biopharmaceutical Sciences at

RCSI from 2002 to 2004 and from 2004 to 2014 as Vice-President for Research at UCD. In 2014, he became the Principal, College of Health Sciences at UCD and Chief Academic Officer for Dublin Academic Medical Centre. From 2015, he was the Vice-President for Health Affairs at UCD and Chief Academic Officer at the Ireland East Hospital Group.

While at UCD, he was responsible for the University's seven research institutes. UCD international standing rose to 89th in the QS World Ranking in 2009. By 2015, UCD Health Sciences entered the world top 100 in the Times Higher Education subject rankings.

He has been a member of the editorial boards of *Journal of Cardiovascular Pharmacology*, *Journal of Thrombosis and Haemostasis*, *Circulation*, *European Heart Journal*, *Cardiovascular Research*, *Journal of the American College of Cardiology* and *Biochemical Pharmacology*. He has received €millions in research grants as part of the groups from VA Merit Awards, and National Institutes of Health Grants in USA and in Ireland Higher Education Authority, Science Foundation Ireland, IDA Ireland, European Union Framework, Enterprise Ireland

His h-index is 57 on Google Scholar.

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1. Desmond J. Fitzgerald, M.B., Louis Roy, M.D., Francesca Catella, M.D., and Garret A. FitzGerald, M.D. (1986) Platelet Activation in Unstable Coronary Disease *N Engl J Med* 315:983–989 October 16, 1986 <https://doi.org/10.1056/NEJM198610163151602>
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Professor Michael Gibney

Professor Michael Gibney is the Emeritus Professor of Food and Health in UCD's School of Agriculture and Food Science, Director of the UCD Institute of Food and Health and Chairman of the Food Safety Authority of Ireland.

Following schooling at Marian College Dublin, Professor Gibney graduated with a Bachelor of Agricultural Science and in 1971, a Masters in Agricultural Chemistry from UCD. He completed PhD in Sydney University Veterinary School. He was appointed as lecturer in human nutrition at the University of Southampton Medical School. For two decades, he was the Professor of Nutrition at Trinity College Dublin and served as Dean of Research.

In 2006, he was appointed as the Director of the Institute of Food and Health at UCD. He was the President of the Nutrition Society from 1995 to 1998. For a decade from 1999, Professor Gibney was a board member of the Food Safety Authority of Ireland. He has served on the EU Scientific Committee for Food from 1985 to 1997 and on the EU Scientific Steering Committee where he was a chairman of the working group on Bovine Spongiform Encephalopathy.

In 2010, he was appointed to the Scientific Advisory Board of the European Joint Programme Initiative on Food and Health Research and has also served with the United Nations on nutrition. He is a member of the Sackler Institute of Nutrition at the New York Academy of Sciences. He has published in excess of 400 peer-reviewed scientific papers in Public Health Nutrition and Molecular Nutrition. His h-index is 58, i10-index is 249 and 14,865 citations on Google Scholar in 2017.

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2. A O’Sullivan, MJ Gibney, AO Connor et al. (2011) Biochemical and metabolomic phenotyping in the identification of a vitamin D responsive metabotype for markers of the metabolic syndrome. *Molecular nutrition & food research* 55 (5), 679–690

Professor Mary Cannon

Dr Cannon is the Professor of Psychiatry at the Royal College of Surgeons Medical School. Thomson Reuters listed her in “The World’s Most Influential Scientific Minds 2014”. She is a 1988 UCD graduate who trained initially at St. John of Gods in Dublin. In 1992, she was conferred with MRCPsych. From 1996 to 2000, she worked at the Maudsley and Bethlem Royal Hospitals in London, England. In 2001, she was appointed to Kings College Hospital in London before returning to Dublin at Beaumont Hospital in 2004.

The Health Research Board in Ireland funded work on psychotic-like experiences in adolescence detailing epidemiology, neurocognitive, neuroimaging and electrophysiology changes. Professor Cannon is also working on prenatal and perinatal complications and early developmental delay as risk factors for later psychosis.

She established the Psychiatric Epidemiology Research across the Lifespan (PERL) Group. Her research pursuits commenced in the field of Schizophrenia and now involve the prevalence and determinants of mental illness across the lifespan.

PERL has been conducting a longitudinal study known as the Adolescent Brain Development Study for almost a decade. The results and those from the challenging times, studies are published in *The Mental Health of Young People in Ireland Report* in October 2013.

She was honoured by an award for Psychiatry from the Royal Academy of Medicine in Ireland (RAMI) in 2013.

The Psychiatric Epidemiology Research across the Lifespan (PERL) Group was established by Professor Mary Cannon, a world-renowned leader in the field of psychiatric and mental health research. Prof. Cannon, who was listed as one of the most influential researchers in the world in the Thomson Reuters “The World’s Most Influential Scientific Minds 2014 Report”, began her research career in the field of schizophrenia research, but the focus of her current research is on the prevalence and determinants of mental ill-health across the lifespan. In recognition of Professor Cannon’s excellence in clinical research, she also received the 2013 Royal Academy of Medicine in Ireland (RAMI) Doctors Award for Psychiatry. Dr Cannon also won a plethora of investigator awards and a Wellcome Trust Advanced Training Fellowship.

Prof. Mary Cannon is involved in youth mental health both nationally and internationally and is a member of the ACAMH National Special Interest Group in Youth Mental Health since it was founded. This group was instrumental in the development of the International Declaration on Youth Mental Health.

She has served on the editorial boards of *Schizophrenia Bulletin* and the *British Journal of Psychiatry*.

Professor Cannon has 520 publications with an h-index of 52, i-10 index of 100 and 13,807 citations in Google Scholar (September 2017).

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Professor Fergal O’Gara

Professor O’Gara is a professor (emeritus) of Microbiology at the University College Cork. He has a BSc, PhD and DSc. He is the Director of the Biomerit Research Centre at UCC and was funded by Science Foundation Ireland. He is also the Director of the West Australia Human Microbiome

Collaborating Centre and Distinguished Research Fellow at Curtin University in Perth.

He has many honours, including the 2014 Aramark Alumni Award for Science at NUI Galway.

Professor O’Gara focused on the molecular basis of microbe host interactions using functional genomic and molecular-microbial ecology techniques to tease out the pathogen host interactions in medical microbiology. Research into molecular and functional genomic approaches are also being applied to understand the role of marine microorganisms in ecosystem function. Additionally, his group are exploiting marine-derived bioactive components for biotechnological application.

His group have discovered a bioblocker to block the formation of biofilms guarding microorganisms and allow antibiotics to be more effective. This process is being patented.

Professor O’Gara has an h-index of 57 and an i10-index of 193 with 11,793 citations in Google Scholar (September 2017).

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1. Tian Z-X, Yi X-X, Cho A, O’Gara F, Wang Y-P (2016) CpxR Activates MexAB-OprM Efflux Pump Expression and Enhances Antibiotic Resistance in Both Laboratory and Clinical nalB-Type Isolates of *Pseudomonas aeruginosa*. *PLoS Pathog* 12(10): e1005932. <https://doi.org/10.1371/journal.ppat.1005932>
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