Irish researcher wins global research award

An Irish researcher has been awarded a significant global grant to advance insight into how our gut bacteria affects medications for depression and anxiety.

Dr Niall Hyland at APC Microbiome Ireland SFI Research Centre, University College Cork was awarded the €100,000 global grant by Nature Research and Yakult, beating a field of nearly 200 international applicants.

Individuals respond to medications in different ways and it appears that each person’s microbiome may play a significant role in how drugs are absorbed and metabolized by the body. Recent research has shown that a person’s microbiome affects her/his response to chemotherapy and other medications e.g. for Parkinson’s Disease. As a pharmacologist, Dr Hyland is particularly interested in how the microbiome affects the ability of individuals to respond to anti-depressants and anti-psychotics.

“If depression has a knock-on effect on the microbiome and can generate gut-related disorders like Irritable Bowel Syndrome (IBS), how might depression affect the ability to process anti-depressant and anti-psychotic drugs?” said Dr Hyland, a senior lecturer in the Dept. of Physiology at UCC. “We will analyse the gut bacterial communities and enzymatic activities in patients with depression prior to treatment with medication and then analyse drug responses. We plan to use the pharmacokinetic results to build a computer model to predict how patients might respond to specific drugs based on the composition of their microbiomes. We hope that it will enhance the efficacy of treatment and increase patient compliance.”

Dr Hyland will work closely with colleagues at APC Microbiome Ireland, including Dr Gerard Clarke and Prof Ted Dinan in the Dept. of Psychiatry and Dr Brendan Griffin in the School of Pharmacy.

ENDS

For further information please contact: Dr Niall Hyland, tel 021 4205876; 0868358552 ; email n.hyland@ucc.ie; or Dr Catherine Buckley, Communications Manager, APC Microbiome Ireland tel +353 86 8554744; email: c.buckley@ucc.ie
About APC Microbiome Ireland SFI Research Centre

APC Microbiome Ireland (APC; http://apc.ucc.ie) is a world-leading SFI Research Centre based in University College Cork which was formed in 2003 with funding from Science Foundation Ireland and in conjunction with key industry partners. It represents a seamless collaboration between University College Cork and Teagasc (the Irish Agriculture and Food Development Authority). It is widely recognised that the gut microbiota plays an important role in human health and has become one of the most dynamic, complex and exciting areas of research in both food and pharmaceutical arenas. Over the last decade the APC has established itself as one of the leading global centres in gut microbiota research. The APC has made several landmark discoveries and has published over 2,700 research articles in peer-reviewed journals, generating many journal covers and associated editorials. Recent research areas being led by APC include the development of new diagnostics or biomarkers of health or risk of disease (e.g. colon cancer) based on analysis of the microbiota; exploring the mechanisms by which the microbiota may be favourably mobilised or manipulated (e.g. by bacteriophage) to promote health and ‘mining’ the microbiota for new drugs (e.g. smart antibiotics) and functional food ingredients. APC recently celebrated 15 years in operation, with the publication of a new report “Mining Microbes for Mankind - 15 years of Impact”, produced in tandem with Cork University Business School, which outlines the impact of APC research on society and on the Irish economy. The Executive Summary of the report “Mining Microbes for Mankind – 15 years of impact” is available to download at http://apc.ucc.ie/apc-15-years-impact/