

Young researcher takes top prize

The best researchers reach across borders. They leave their doors and minds open to new ideas and opportunities. They display an evident passion for their discipline. Donal Brennan talks to Peter McGuire (BA, MLitt).

At just 31 years old, Dr Donal Brennan's talent and quiet determination stand out. Last July, his pioneering work on cancer treatment — conducted as a part of a research team from UCD, overseas universities, and partner companies — was recognised when he became the first Irish winner of the coveted European Young Researcher Award.

Dr Brennan picked up his award at the Euroscience Open Forum (ESOF) in Turin, where physicists rubbed shoulders with economists, climate change scientists meet food science experts, and nanotechnologists collaborate with geneticists. It was an enlightening experience.

"It's always good to open yourself to new perspectives and there's always something new to learn," he says. "In the current economic climate, funding can be difficult to find, but international collaborations will always open new avenues."

The interdisciplinary science forum — which Dublin will host in 2012 — brought together thousands of scientists, tourists and members of the general public to see a range of educational talks, displays, and discussions in the vibrant and cosmopolitan north Italian city.

The judges were impressed with Dr Brennan's innovative approach to collaboration and his focused, disciplined commitment to transforming the lives of cancer patients. The research team is focused on identifying certain biomarkers, or proteins, to identify which drugs and treatments are most appropriate for cancer patients.

"We're trying to move away from the idea that we must treat all cancers the same," he explains. "Historically, treating cancer has been akin to using a nuclear missile to blow up a garden shed: throw everything at it in the hope that the cancer is killed, causing a lot of collateral damage in the process."

"Our approach was slightly different. We weren't identifying new drugs but instead improving the drugs we have. We need to develop companion tests, known as molecular diagnostic, to identify which patients will respond to which drugs; in some cases certain drugs could make the tumours worse."

The identification of proteins in cancer patients, coupled with advances in cancer diagnostics and therapeutics, is good news for sufferers of a disease that currently accounts for almost 25 per cent of deaths in Ireland. As a child, Dr Brennan, watched a family member battle — and, against the odds, beat — this disease. The experience brought Dr Brennan closer to a career in medicine.

"Cancer research is always changing, and there are always new developments in the area. Great advances have been made. There's been a huge revolution in targeted therapy. Ultimately, the patient wants to know what their long-term prognosis is. By identifying the proteins involved in their illness, we can treat them on that basis and hopefully indicate their chances."

Dr Brennan points out that the team is involved in a work in progress. With his principal investigator William Gallagher, Associate Professor of Cancer Biology in the UCD School of Biomolecular & Biomedical Science and a UCD Conway Institute Fellow, the inter-disciplinary team also includes mathematicians, statisticians, clinicians, geneticists, computer scientists, and a range of other specialists. Dr Elton Rexhepaj, a postdoctoral researcher at UCD Conway Institute; Dr Stephen Hewitt of the National Cancer Institute, Washington; Prof Karin Jirstrom, Lund University, Sweden; and Professor Fran Balkwill of St. Bart's and the London School of Medicine are key players. Commercial collaborators include OncoMark, a cancer diagnostic and therapeutics firm based at the NovaUCD centre; Agendia, an international molecular cancer diagnostics company; and Slidepath, an Irish software solutions company with a focus on digital pathology imaging and data management. Funding from the EU Marie Curie Transfer of Knowledge initiative, Science Foundation Ireland, Health Research Board, and Cancer Research Ireland made the research possible.

Dublin: European Capital of Science 2012

In 2012, Dublin will host the ESOF — where Dr Brennan picked up his award — as the highlight of its year-long European City of Science celebrations. UCD will play integral role in the celebrations.

Planning is underway for a range of science-related conferences, talks, activities, projects, and events throughout 2012, aimed both at the scientific community and the general public. The highlight, the Euroscience Open Forum, will incorporate seminars, workshops, debates, and exhibitions alongside a careers programme for young researchers and an outreach programme to engage the general public.

The City of Science title comes at an ideal time for Ireland. Interest in science soared among young people this year, with points for UCD science courses jumping from 385 to 435 points — a recognition, perhaps, that science will be at the economic and cultural heart of future growth in Ireland.

"Professor Gallagher has been immensely supportive throughout my career," says Dr Brennan on his former PhD supervisor. "He's another relatively young investigator who is enthusiastic about what we do. He gives people the opportunity to flourish, is extremely successful in raising funds for research, and knows how to manage expectations."

Dr Brennan believes that international collaborations are of growing importance — to Irish research academics more than most: "Ireland is a small country, and we can't have expertise in every single discipline. We need to collaborate internationally."

Dr Donal Brennan: Life at a glance

Dr Brennan attended Summerhill College Secondary school in Sligo. In 2003, he graduated with a medical degree from UCD, before working for a year as an intern in the Mater Hospital. Between 2004 and 2007, he undertook a PhD at the Conway Institute under the supervision of Professor William Gallagher. He now works as a specialist registrar in obstetrics and gynaecology at the Coombe Women and Infants University Hospital, Dublin.

Aged just 31, Dr Brennan already has a slew of awards under his belt. Along with the European Young Researcher Award, he has received the 2010 St Luke's Young Investigator Award, the Royal Academy of Medicine in Ireland Registrar's Prize (2009) and the O'Connell Medal for Oncology Research (2006).

Peter McGuire (BA, MLitt) is a freelance journalist, working primarily with the education section of The Irish Times.