

**TEXT OF THE INTRODUCTORY ADDRESS** delivered by **DR ANNE BURNELL**, National University of Ireland, Maynooth, on 17 May 2002, on the occasion of the conferring of the Degree of Doctor of Science, *honoris causa*, on **MARTINA NEWELL-McGLOUGHLIN**

A Sheansailéir, a mhuintir na hOllscoile agus a dhaoine uaisle,

"Ireland's ability to become a knowledge-based economy will strongly depend on developing a national capability to participate in, monitor and evaluate, and where appropriate, harness developments in biotechnology" so writes Professor Martina Newell-McGloughlin, co-author of a report commissioned by Forfás and Teagasc in 2000.

The results of biotechnology research have already had a profound impact on medicine and health care, but the emergence of biotechnology has also raised many questions of enormous public interest; in particular, questions about the safety of genetically modified organisms in food production, and the application of biotechnology in new methods of medical therapy. Professor Newell-McGloughlin, Director of the University of California Systemwide Biotechnology Program, based at UC Davis, is one of a small number of scientists in the United States who has been prepared to get involved in public debate on genetically modified organisms.

She has addressed food, agriculture and medical associations in the USA, updating them on developments in biotechnology, and has given numerous radio, television and print interviews. She has provided testimony or briefings to legislative bodies and associations, including the US National Conference of State Legislatures, the US House of Representatives, the US Senate, the New Zealand Royal Commission and the panel for sustainable agriculture of the United Nations. She was also a member of the international group of experts which advised the Irish government on the setting up of Science Foundation Ireland. In 1999 Martina was a member of the panel on Agricultural Technology at the World Trade Organisation conference in Seattle (as protesters and tear gas mingled outside). After a speech in April 2000 in San Francisco, Martina was served notice, via a chocolate cream pie missile to her head, that being a recognised spokesperson on behalf of biotechnology can impact on your dry-cleaning bills!

But Martina never takes the easy route. The road less well-travelled seems to have a certain appeal for her. When advised to choose domestic science at secondary school, she chose science; Latin was preferred over business studies. When advised to study law at University, she chose genetics. Martina Newell grew up on a farm near Headford, Co. Galway - the oldest of three girls. So Martina has first-hand knowledge of how labour intensive Irish tillage and dairy farming can be. There was no Roundup Ready sugar beet when she was growing up!

The civil service executive officer examination was an opportunity for Martina to have a day out in Galway, instead of going to school. But Martina achieved first place in Ireland in this examination and shortly afterwards found herself working in the Department of Justice in Dublin. After three years in the civil service, Martina entered TCD to study genetics. Then she moved to the Department of Industrial Microbiology at UCD for her PhD thesis project on the genetic engineering of *Bacillus subtilis* for improved industrial productivity. Martina worked on PVX virus resistance in potato for one year and then moved back to the civil service to a more lucrative position as assistant assay master. But soon Martina was on the move again, this time to California.

Martina was recruited by the University of California Davis in 1989 as director of its Biotechnology Programme. Her remit was to promote biotechnology research at the university; foster links between the university, industry and public agencies, and to run

educational and outreach programmes. [UC Davis is one of the nine constituent colleges of the University of California].

Martina's remit was very broad. In her time at Davis she has become the "driving force" behind biotechnology education and research at the university. In the time available to me I can mention only some of Martina's achievements. In her first years at Davis she developed a series of two to five-day intensive courses for Faculty staff. Many of the academic staff at Davis had completed their own research training before these techniques were developed – the 1980's had been a period of very rapid development in recombinant DNA methodology.

Over the years the courses have changed to keep pace with, and reflect, the ongoing developments in biotechnology, molecular genetics and genomics. Martina obtained NIH funding to establish a Designated Emphasis in Biotech Programme which supported biotechnology post graduate students at UC Davis (and in March 2002 a new tranche of funding was awarded to continue this programme). Over 100 graduate students have been supported on this funding, and on the industrial fellowships she obtained. Martina also obtained NSF support over a nine-year period for training community college and high school instructors in molecular biology and bioinformatics. In 1999 she won for UC Davis the \$2 million competitive programme in Life Sciences Informatics.

In 2001 her leadership was once again recognized, when UC Davis prevailed over the other campuses in winning the UC Systemwide Biotechnology Research and Education Programme. This meant the transferring of this multicampus programme from its former home in elegant, stately, and high ranking UC Berkeley to UC Davis, a former state agriculture college. [This achievement also has a message for the Faculty and Administrators at NUI Maynooth, the smallest constituent college of the NUI. The greatest asset a University can have is a dynamic and committed staff. With this asset David can often out compete Goliath.]

In addition to all of these activities, Martina managed to maintain her own research programme, and she has recently won a \$1 million US aid grant to study African biotechnology and to develop classical breeding methods for African species of beans and cowpea. Discussions are at an advanced stage concerning a new bioremediation project for the State of California to use microorganisms and plants to detoxify contaminated sites, among them decommissioned military sites and old mine tailings.

We honour Martina Newell-McGloughlin today for her role in enhancing societal awareness of the issues related to biotechnology, both in the US and worldwide, for her commitment to public education and demonstrated effectiveness in strategic planning and programme management, and for her scientific leadership and outstanding global reputation. We welcome also Martina's guests to Maynooth, especially her husband Ed, her mother and father Rita and Jack, her sisters, Nuala and Patricia, and their families. I recommend Martina Newell-McGloughlin to you Chancellor, as a worthy recipient of the degree of Doctor of Science, *honoris causa*.

*PRAEHONORABILIS CANCELLARIE, TOTAQUE UNIVERSITAS:*

*Praesento vobis hanc meam filiam, quam scio tam moribus quam doctrina habilem et idoneam esse quae admittatur, honoris causa, ad gradum Doctoratus in Scientiae, idque tibi fide mea testor ac spondeo, totaeque Academiae.*