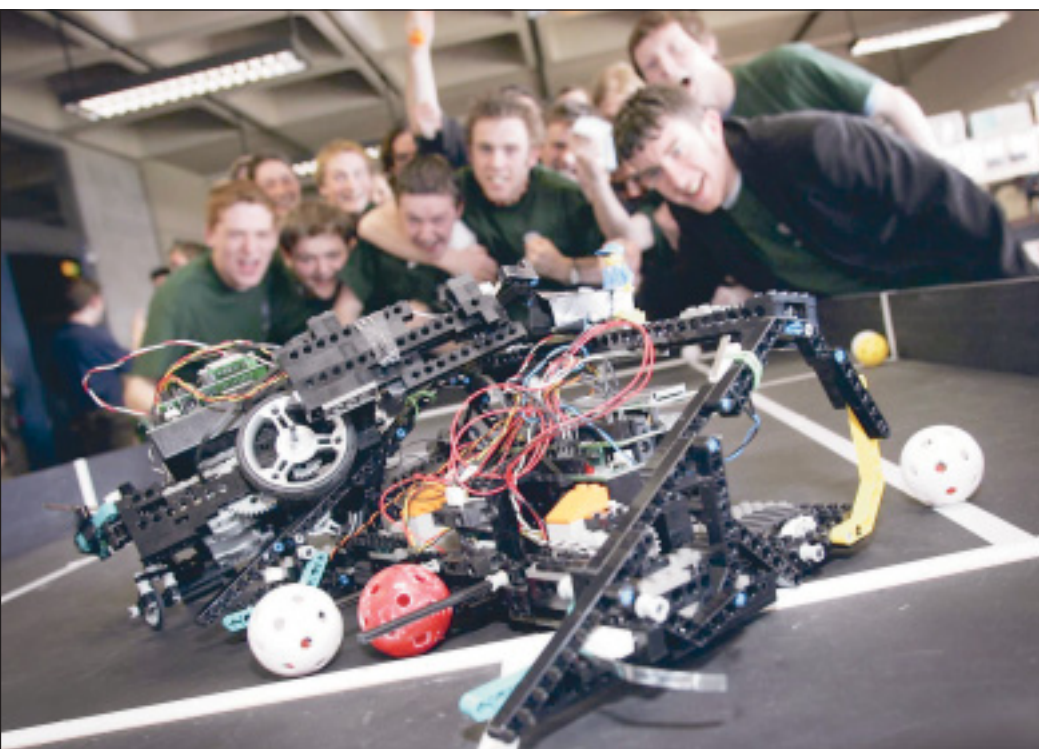




# The ever-wider engineering brief of UCD



Engineering has a long history at UCD. Science Editor Dick Ahlstrom looks at its past – and its expanding place under the current reshaping of the university



A robot designed by UCD electronic & electrical engineering students, winner of the annual RoboRugby competition, sponsored by Siemens for first-year engineering students

ENGINEERING has a long history at UCD. When Newman opened the doors in 1854 a professor of engineering was appointed, and since then engineering students have been there as part of the academic mix.

However, the university's engineers really count their origins from 1908 when UCD was established as a college within the NUI, explains dean of faculty, Professor Owen Lewis. "Engineering and architecture was one of the original faculties in 1908," he says.

For many years the engineers were based with the science faculties in the grandiose Merrion Street buildings which are now Government Buildings. They moved to Earlsfort Terrace and Belfield – and now even greater change is on the way with UCD's controversial restructuring affecting all faculties.

In recent years UCD had 90 departments in 11 faculties, but from September 1st 2005 there will be five colleges with 35 schools. Lewis will become the principal of the new College of Engineering, Mathematical and Physical Sciences, which in turn will have seven schools.

Engineers however will still be engineers, says Lewis. "As far as the students are concerned their course of study will be the same."

The changes should help engineering at UCD to build on its strengths as a scientifically based programme, he believes. "UCD engineering has a very strong base in science engineering."

For example, within computer science there will be a new degree in computer engineering which will bring together electronic, electrical and computer science students.

Another example is the School of Architecture, Civil Engineering and the Designed Environment, he says. This will be the first time that these academic areas – in essence focusing on a single theme – will be housed in a single location.

Lewis believes that the changes planned for the engineers are in keeping with the way Ireland's economy is evolving. The Government is investing to create a knowledge-based economy where ideas and innovation create wealth rather than the manufacture of goods. In such a high-tech economy, graduates in engineering and the sciences are essential for economic development.

Yet the faculty has always been a part of the wider economy here, says Lewis. "If you plot the careers of our engineering graduates, you would also be plotting the development of the Irish economy."

The very evolution of the engineering faculty reflects this, he believes. Civil and mechanical engineering from its origins was quickly followed by mecho-electrical engineering, electrical

engineering and on to electronic and chemical engineering. These latter two fed into the rapid growth of our computer and pharmaceutical industries as they developed from the 1970s.

The chemical engineers celebrate their faculty's 50th anniversary in 2006.

The youngest engineering faculty is Biosystems Engineering, launched during the 2004-05 academic year. Its graduates will be looking towards large biotech and biosynthesis facilities such as the Wyeth biotech plant in west Dublin to provide career opportunities.

So it goes, with the march of technology being reflected in the march of engineering at UCD, says Lewis. "As technology develops the discipline changes to support a new area. Our chemical engineers last year become chemical and biochemical engineers."

This is why the strong research-driven and scientific basis of engineering at UCD has served the faculty well over the years, says Lewis. It has kept UCD engineering graduates close to the latest developments as the technological imperative evolves.

An example of this at work is UCD's appointment by the Industrial Development

Authority to spearhead a €90-million project to build a National Institute for Bioprocessing Research and Training (NIBRT). "The initiative will tackle an emerging area in engineering," says Lewis. "We are trying to develop a niche expertise to exploit the opportunity."

Bioprocessing deals with techniques used to produce biological material, such as genetically engineered microbial strains or

commercially useful chemicals using biological processes. The NIBRT will train bioprocessing technicians, generate research and serve the needs of institutions and companies engaged in such work. Partners in the project with UCD include TCD, Sligo Institute of Technology and DCU.

"It's an illustration of how new engineering emerges as technology evolves," says Lewis.

This is also seen in surprising areas such as medicine. "Engineering is pervasive," says Lewis, so much so that, if a student approaches him saying he wants to study medicine, Lewis now suggests any one of a number of engineering areas.

Mechanical engineering students are studying new designs for replacement hip and knee joints and new forms of artificial bone. Another project involves modelling how the brain responds to trauma, for example in an accident. This work is being done in conjunction with surgeons, says Lewis.

He has electronic and electrical engineering students working on neurological studies of how the brain functions, on devices that can be controlled by thought which can be applied in physical rehabilitation and on systems which can help control hyperactive behaviour in children.

Another study in this faculty is looking at sleep apnoea, and the design of electronic devices that can monitor brain activity as a way to block apnoea and its associated health risks.

His chemical engineers are looking at the development of secondary tumours in cancer and how to control them. Gene therapy studies linking chemical engineers with UCD's Conway Institute are also underway, says Lewis.

# Alumni memories



Five graduates talk to Catherine Foley about the impact UCD had on their lives



**Garret FitzGerald** former taoiseach

I suppose you could say the FitzGeralds are a UCD family. My eldest brother and I taught there, and over three-quarters of a century more than a score of us from three generations have graduated from UCD, as did a number of our spouses, including my wife Joan, whom I met there.

Joan and I were students during the second World War, when we felt very cut off from the outside world – although in our case deeply committed to the Allied cause and constantly disputing with Anglophobe elements among the student body. Some were unashamedly pro-German – until the accounts of the concentration camps effectively silenced them.

Some of the academics had been originally appointed when the former Jesuit College had become a constituent college on the foundation of the NUI in 1909 and several had also been members of the Dáil and of the Cumann na nGaedhael government of the 1920s, as my father had been.

During the 1930s many children of members of that Government and the subsequent Fianna Fáil Government had become friends in college – that was the moment when the Civil War ceased to be a divisive factor, although some families had never allowed that tragic event to interrupt old friendships.

We students of the mid-1940s were an innocent lot. As I recall, none of my friends drank alcohol – indeed we were dismissive of others who did. At

that time only a tiny minority – about 6 per cent – of young people entered a university, but the atmosphere was more egalitarian than that might lead one to suppose. During the war few except ministers, diplomats and doctors had cars. The most any family, however well-off, could aspire to were bicycles – my second-hand one cost me less than €8.

A relatively high proportion of students were then clerical students or nuns, who kept themselves apart from the rest of us. Some research which I frivolously initiated in first year established that UCD was host to no fewer than 29 orders of nuns – identified by their different habits – ie clothing.

For the rest of us a pre-occupation was light-hearted romance: many successful marriages originated in UCD. Even those unenlightened days almost one-third of students were female and, discounting those committed to a religious life, the effective gender ratio wasn't far off one for one!

Once in the mid-1980s Joan found herself placed at a dinner between Charlie Haughey and myself. As she sat down she made it clear to him that she had no intention of spending the evening talking to me, and demanded that he deploy some what she described as his "celebrated charm" on her. They spent the evening gossiping happily about who had married whom "out of college", and how those unions had fared thereafter!

Our own marriage owed a little to Charlie – when he started a riot outside Trinity on May 7th, 1945, in response to news of the war's end, I immediately rang Joan to join me for the counter-riot – and I proposed to her 10 days later!



**Mary Finan**, chairman of the ESRI and Wilson Hartnell Public Relations, graduated from UCD in 1966

"I had three years of unadulterated bliss in Earlsfort Terrace. I joined the drama society and the L&H on day one. I gave them both a lot of time. I was social secretary of the L&H and I took part in a lot of plays. Colm Ó Briain (the current director of the National College of Art and Design) was auditor of dramsoc. He really encouraged me to act. The day I walked in I made friends. The societies were fantastic if you were at all interested in college life.

The L&H, which is celebrating its 150 anniversary this year, would often get the front page of the Sunday Press and the Sunday Independent. We could get any politician we wanted. We got the film director, Peter Bogdanovich, who caused a bit of a sensation. And actor George Peppard came along with his girlfriend, Elizabeth Ashley. He was filming *The Blue Max*.

I did my final exams in Aula Maxima, now the National Concert Hall. I absolutely enjoyed all the terms. I joined everything but I'd spend the holidays studying in the National Library to catch up. I did go to all the lectures and I took all the notes. We wanted to do all the dress dances ... but we were serious enough. We wanted to get the exams and be respectable. We all did our studies. My English lecturers were brilliant. I really got a love of literature from those days. I had Gus Martin, Dennis Donoghue, Lorna Reynolds and John Jordan.

It produced a terrific generation of graduates. My peers were Eoin McGonigal, Peter Sutherland, Dermot Gleeson, Vincent Browne, Pierce Colbert who became professor of accountancy in UCD, Mary Canning who is in the World Bank in Warsaw. And Dailhi Ó Ceallaigh, our ambassador in London, who made a huge contribution to the Northern Ireland talks, and his wife, Antoinette. There were people who rose to the very top in every section of Irish life. Of course we were very intellectual! We thought we could run the country. There was an awful lot happening in politics at the time.



**Eamon Delaney**, editor of *Magill* and author of *An Accidental Diplomat*, studied English and History from 1982 to 1986

"I went to UCD a bit late – I travelled the world and worked for two years before I went to college. I was more mature going in, so I suppose I valued it much more. I really had a ball, I really enjoyed college life.

I was very involved in the debates in the L&H – I was auditor for a year. It was a fantastic experience. The L&H was very much the students' union, like the opposition.

I was living in Blackrock, so I was very near Belfield. There were great teachers – especially in the history department.

It was the 1980s, the recession years. We were all being reared for export, like the Mullingar Heifers. People didn't care – not like now.

But today people are being pressure-cooked for jobs. Then we had lots of time to read and go to films. There was much more political agitation – the issues of the North, abortion and the whole constitutional crusade ... and the Cold War still existed. You felt you were on the cusp to being able to change things. A lot of people did go on to positions of influence.

My peers included Marian Keyes, a lot of barristers, Tom Humphries, the sports writer; Joe O'Connor, the writer, who was involved in the Labour Party; Conor Lenihan, the composer, was there – and a lot of dram soc people like Helen Montague of *Rough Magic*.

I think UCD has become too much like a factory now. When I was there a lot of people came from the North and from the country. Now it's valley girls and rigger-buggers. There was more craic and sex when I was there. I suppose it's the national university and is much more connected to Irish public and business life than any other university."



**Doireann Gillen**, freelance film publicist, graduated in 1999 with a degree in business and legal studies

My degree was quite new. It was like a double degree – half commerce and half law. I really enjoyed meeting people with different interests. In my first two years I was exploring all the facets of university life. In my final two years I was much more focused and worked quite hard.

I really embraced the student club culture. I was a very active member of many of the students' societies. I spent my time down in dramsoc and film soc. I feel I came into my own during that time. I found out what I liked doing. I wanted everybody to know what great stuff was going on down there.

I remember Norma Sheehan, who is now in RTÉ's *The Clinic*. She got the leading role in *Peter Pan* – I was an elf. Some others who were there but a bit older included as Dara O Briain. And I've started

working with some, such as Willie White at the Project Theatre.

I did a very practical degree. It challenged me in a way that the Leaving Cert hadn't. When I got into college there was an emphasis not just exams but on personal development. I was very much involved in promoting the plays that were down in the dramsoc, which was on the lower ground floor.

University was very much what you made of it. Some would say it's a very concrete set of buildings and perhaps it's not as beautiful as Trinity but I just felt that the arts concourse in the central building was so alive. There was always something on each week. There was always a ball on. I was usually either at it or helping to organise it.

We had so much time to talk and meet for a cup of coffee. It was a great way to meet people and exchange ideas, to get to talk about things and develop new ideas.

Now in work, you don't have as much time to mull over things. For instance, when I was at UCD, the divorce referendum was a big issue – people had very strong views on it.



**Adrian Hardiman**, Supreme Court Judge

He began studying for a BA at UCD in 1969 – "the year after the Gentle Revolution in Paris", he recalls. His years there both as an under and post-graduate student studying history and law from 69 to '74, were "very busy", including terms as auditor of the L&H (Literary and Historical) Society and president of the Students' Representative Council.

L&H debates were combative, eloquent, witty, amusing, with jibing and with a good deal of intensity. It was fascinating to me as a young under-graduate. You suddenly met all sorts of other more senior students and post-graduates. The campus was much smaller than it is now. It was very much a part of the city. It was a Dublin university more so at my time than Trinity College was. It was still a fairly intimate place.

People who weren't connected with the college used to drop in. It used to take place in the old physics theatre G32. In the 19th century in the days

of James Joyce, the L&H was in the old physics theatre in Newman House in Stephen's Green. The SRC was much more politician.

The arts faculty was in Earlsfort Terrace when I started. In second year, I began studying law (in addition to BA history) and I commuted by motor bike between Belfield and Earlsfort Terrace, which was life-imperiling since Belfield was a bit of a building site. The history department in UCD was in its glory days with the great figures of Dudley Edwards, Desmond Williams and Kevin B Nowlan as professors there.

The university continues to supply a good number of people who have been significant in public life. At a graduation ceremony recently, I noticed that all the students were well dressed, neat and tidy and in suits that seemed to belong to them, and they were happy to be there.

When I graduated a number of people wore vests or leather jackets, and they took out cigarettes to burn their degree scrolls as a mark of protest. They would have been a minority even then. Life is more serious today. The difference between then and now is like chalk and cheese."

Be proud.

Congratulations to University College Dublin, celebrating 150 years of academic excellence.

Best wishes from all of us at AIB in this very special anniversary year.

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