

# Engineer's Newsletter

from the UCD Engineering Graduates Association

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## Australian Engineer to be next President of UCD



The Governing Authority has recently approved the appointment of Prof Andrew J Deeks as President from January 2014. He will succeed Dr Hugh Brady, whose ten-year tenure finishes at the end of December 2013.

Professor Deeks graduated in Civil Engineering from the University of Western Australia. He worked in academia and industry for several years, becoming Professor and Head of the School of Civil & Resource Engineering at UWA in 2004. As Head of School, he created a new model for industry involvement in the school, developed collaborative programmes with Chinese universities, significantly improved the student experience and doubled student numbers. He speaks conversational Mandarin and holds a number of prizes for teaching excellence.

In 2009 he joined Durham University as Pro Vice-Chancellor for Science. During his tenure, he spearheaded the development of Durham's global presence strategy and extensive international partnerships, particularly in China and Brazil. During his time Durham has risen steadily in university rankings and is a top 100 university in both the Times Higher Education and the QS world rankings.

"I am very much looking forward to taking up the role of President of UCD, Ireland's largest university." Professor Deeks said. "UCD plays a unique role in Irish society and economy, and, under the stewardship of Dr Hugh Brady, has made impressive inroads into becoming a truly international university. I will bring ideas and approaches learnt from my experiences in the UK and Australia and blend these with the undoubted ambition and energy I see among the high calibre people at UCD to ensure UCD is recognised throughout Ireland and the world as an international and intercultural place of learning and scholarship of the highest standard, benefiting local, national and global communities."

Professor Deeks is a leading expert in computational mechanics, structural dynamics and dynamic soil structure interaction and has authored over 160 publications.

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## Editor's Note

Welcome to the **first edition** of the UCD EGA Newsletter. This is a new initiative on the part of the EGA and we hope it will give you a flavour of the ongoing developments at UCD and encourage you to keep in contact with your alma mater.

We're aware that UCD is a vibrant community and we will try to keep you up to date with what's going on around campus.

As well as providing information on EGA events, we would also like to include our graduate's opinions on what they see as important developments in the world of engineering.

We'll be featuring regular pieces from UCD graduates at home and abroad and would like to issue an open invite to our graduates to contribute their ideas. We hope that this newsletter will be of interest to you; if you have any feedback then please contact us at [ega@ucd.ie](mailto:ega@ucd.ie).

Ciaran McNally



## President's Address

I welcome you to this first edition of the new Newsletter from the UCD Engineering Graduates Association and compliment our new Editor Dr Ciaran McNally on its content and design.

We hope to issue the Newsletter on a quarterly basis. I also run a regular Blog on the EGA website ([www.ucd.ie/eacollege/enggrad](http://www.ucd.ie/eacollege/enggrad)) on events and issues of interest to engineers.

We want to engage with EGA Members and indeed potential new Members on the scale and value of our activities and events throughout the year.

We especially welcome the UCD engineering graduates of 2013 and hope that wherever you might be that you can gain interesting information and career development value from contributing to our activities in the years ahead.

Our economy is slowly starting to recover and engineers have a vital role in that recovery. The EGA has already taken up that challenge for the profession and for UCD. We hope that you will join and stay with us in the exciting times that lie ahead.

PJ Rudden





# Irish Energy Targets

by Cormac Mannion

**The climate and energy package is a set of binding legislation which aims to ensure the European Union meets its ambitious climate and energy targets for 2020.**

These targets, known as the “20-20-20” targets, set three key objectives for 2020:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels;
- Raising the share of EU energy consumption produced from renewable resources to 20%;
- A 20% improvement in the EU’s energy efficiency.

While steady progress is being made towards the first two targets in Ireland, the third target is proving to be quite difficult to achieve. Ireland’s energy efficiency target was addressed in the NEEAP (National Energy Efficiency Action Plan) and again, more recently, by NEEAP2. However, despite these plans, there remained a shortfall of 8,000GWh in primary energy reduction to be identified and achieved between now and 2020, mainly through energy efficiency drives in the domestic and commercial sectors.

For the last number of years, grants have been available for homeowners to carry out improvements such as attic or cavity wall insulation to their properties. Also, SEAI (Sustainable Energy Authority of Ireland) have been fully funding measures in vulnerable homes to increase their insulation properties and help reduce their energy bills, along with increasing their levels of comfort.

On the commercial front, SEAI had been awarding grants until 2012 under what was most recently called the Better Energy Workplaces programme. These grants typically ranged anywhere from 25% to 50%, depending on the sector and the project in question.

Despite these incentives, take-up of measures has been gradually reducing and; with the current unhealthy state of

the government balance sheet; grants are gradually being phased out in favour of other measures in the hope that these will kick-start energy efficiency measures once again. With this in mind, two distinctive programmes are being undertaken by SEAI and DCENR. On the domestic side, a Better Energy Financing workgroup has been set up to determine a method by which financial tools can be developed and utilised by homeowners to fund measures in their homes. While it is not strictly true to compare it to the Green Deal in the UK, the Green Deal is a programme that certainly was developed with the same aim. It is hoped that a working model will be sent to Minister Pat Rabbitte before the end of the year and launched in 2014.

A similar challenge is faced for the commercial sector and this is being addressed through the development of a national EPC (Energy Performance Contract) Framework. The drafting of this framework will enable both public and private sector organizations to procure energy saving measures on the market and, by following the guidelines in the Framework, will be able to avail of capital from the €70m Energy Efficiency Fund announced by the government late last year. €35m has been provided by the government as seed capital with a view to creating a leveraged fund of over €70m.

Involving the energy sector is seen by governmental bodies as key to accomplishing these targets and with that in mind, energy supply companies entered into Voluntary Agreements with SEAI early last year to help achieve the ambitious national energy efficiency targets. It is hoped that by engaging the energy companies in these programmes and providing the financial instruments such as Energy Performance Contracts in the commercial sector and potentially a form of Pays As You Save offerings in the domestic sector that the whole energy efficiency market will undergo a rejuvenation in the next 12-18 months and make a significant contribution towards Ireland’s most challenging 2020 environmental target.

Cormac Mannion is an EGA Board Member and Energy Efficiency Manager with Energia.

# Annual Lecture 2013

**There was a record attendance at the UCD EGA Annual Lecture which was held in May. We were honoured that Regina Finn, Dublin native and Chief Executive of OFWAT (Water Regulator for England and Wales) agreed to give this year's lecture. No doubt that the subject matter of the lecture on the regulation of water utilities and the quality of the speaker drew the very large crowd to the Clinton Auditorium on the UCD Campus.**

Regina gave a fascinating account of setting up OFWAT as CEO in 2006. The England and Wales solution to the regulation of water was to attract private sector expertise, management and capital, coupled with the setting of environmental and quality standards and the protection of consumers from monopoly power. She set about addressing regulation of 20 regional monopolies in an industry with a turnover of more than £10.5 billion. The water companies had been privatised in 1989.

There has been a lot of success in water regulation to date in England and Wales. Leakage has fallen by 40% since 1995. £108 billion has been invested and customer bills are 30% lower in England and Wales than they would have been. The water network is functioning better and environmental quality has improved – they now have over 100 Blue Flag beaches and fish have reappeared in the River Thames again. Most important of all, customer service is significantly better with a 99% reduction in the risk of customers experiencing low water pressure.

New challenges facing OFWAT are climate change causing more droughts and floods, the need for more flexible transfer arrangement between regions with water surplus to those with scarcity. There are also challenges with the tough economic climate and falling incomes, a growing UK population, over-abstraction and increasing environmental challenges required an extra £100 billion to meet the requirements of the EU Water Framework Directive.

After her presentation there were many questions from the well informed audience ranging from the challenge of sustainability, how OFWAT deal with customers who don't pay their bills and universal metering (only 50% of all customers are metered in England and Wales). The issue of a possible 'generous free allowance' to domestic customers was raised in England and Wales in terms of adverse customer reaction, as was the variability of charges across the regions.

The very large attendance on the night included senior officials of Irish Water, the local authorities, Environmental Protection Agency, Commission for Energy Regulation, semi-state bodies, National Treasury Management Agency, Chambers Ireland, Dublin Chamber of Commerce, the Construction Industry Federation, ICTU, leading consulting engineers and contractors, legal and financial consultants.

The feedback messages and emails from those who attended felt it was an excellent discussion and debate on a hugely important national topic. Water is after all the most important food we produce as a nation and water deficiencies can have very serious social, commercial, industrial and public health consequences. Thus the huge focus on this in the political world as the new utility Irish Water is set up under Managing Director Dr. John Tierney in January 2014.



EGA Annual Lecture  
Left to Right: Professor Gerry Byrne, UCD Dean of Engineering, Regina Finn, EGA President and Mark Rogers UCD Register and Deputy President.



# International: Silicon Valley

by Liam Madden



**I graduated from UCD in 1979 with a BE in Electronic Engineering. I came to the US in 1981 and have spent the last 20 years in Silicon Valley. Currently, I am Corporate VP of FPGA Development at Xilinx, where I lead a team of over 500 engineers worldwide. Along the way I picked up an M.Eng degree from Cornell and was honoured to be made a Fellow of Engineers of Ireland. I am currently an Adjunct Professor at UCD and a Board member of SFI. Having design teams in Dublin and Cork has reacquainted me with the engineering community in Ireland and has also highlighted a number of issues that I feel we as an engineering profession need to address.**

The first is the perception that engineering is in some way inferior to the other “hard sciences. The most recent example was in the Irish Times where the correspondent described Prof. Orla Feely of UCD (on her appointment as Chair of the Irish Research Council) as “a comparative rarity, an engineer who also conducts advanced research”. When we see these types of mischaracterizations we need to very rapidly correct them. We could even suggest some counter-examples to this “conventional wisdom”. The Mars Curiosity rover was lauded as a scientific triumph, yet 85% of the technical staff at NASA self-describe as engineers and only 10% self-describe as scientists. The Higgs-Boson discovery led to much ink (or is it pixels these days) being used to show how this justified investment in basic research, yet a quick check of CERN’s website says: “surprisingly, only 2.5% of staff at CERN are research physicists; 33% are engineers and applied physicists, and 33% are technicians and technical engineers”.

The second, and perhaps the most important area that needs change is what Prof. Martin Curley of Intel has described as the “Mammy factor”, namely how parents guide their school leavers. My perception is that engineering is viewed as less desirable than medicine for example, yet engineers (in my mind anyway) can have a much more interesting, and yes lucrative career. Comparing the day to day autonomy of an engineer relative to that of a US physician (who must follow insurance company edicts) leaves me in no doubt in terms of job satisfaction. I think we would also all agree that CEO’s are well compensated and yet the primary degree which affords the maximum probability of becoming an S&P 500 CEO is Engineering (23%), significantly higher than Economics (13%) or Business Administration (12%).

My last request would be that engineers of all disciplines join Engineers Ireland. We need a single voice and I find the work done by EI shows us in our best light and gets excellent press coverage (Engineers Week, Math’s Grinds etc.). To quote Ben Franklin, one of the greatest engineers and inventors of all time, “we must all hang together, or assuredly we shall all hang separately”.





# EGA Strategy

**The UCD Engineering Graduates Association (EGA) was set up in 1980 with objectives that included the provision of a networking forum for graduates, promoting their interest and promoting links between industry and UCD through placements and research.**

Over the years the EGA activities have evolved and we continue to organise events that help fulfil these objectives. Regular events in the EGA calendar include an Annual Lunch (incl. Distinguished Graduate Award), an Annual Lecture and the EGA Gold Medal Ceremony awarded to the top students in each of the graduating classes. In 2012 we added an EGA Panel Discussion to the calendar which addresses a topic of national importance. This event last year was chaired by TV personality (and UCD Engineer) Pat Kenny and drew a record attendance for an EGA meeting.

The membership numbers and funding of the EGA has fluctuated over the years but has declined in recent years. With the recent reorganisation in UCD and the setting up of the new College of Engineering and Architecture, it was an appropriate time to review the remit of the EGA. This was conducted in early 2013 under four key headings: Education, Membership, Funding and Marketing and the strategy document can be found on the EGA website [here](#).

Some key points coming from this strategy include:

The primary role of the EGA is to support the UCD Engineering to become a world class Centre of Excellence producing Masters

Graduates who can lead national economic recovery and development.

The EGA must be re-mandated to gain a high profile within UCD and within the engineering industry in Ireland and in Europe through the hosting of meetings, lectures and events focused on national issues of technical and economic importance.

Using an attractive new Membership Offer we aim to increase membership 10 and 20 fold in the years ahead. This will generate income to support the increased high profile policy formulation and event management.

We need to communicate better with our members through enhanced website, new President's Blog, regular Newsletters and other social media.

We will give every support to the new Engineering Building Plan to update the quality and aesthetic ambiance befitting a leading Engineering College. This will also involve creating greater links with industry who will be more attracted towards the College.

We will grow and foster Membership by maximum use of UCD databases and contacts to give a greatly improved offering and international dimension to our annual events.

**The primary role of the EGA is to support the UCD College of Engineering to become a World Class Centre of Excellence**

# Distinguished Graduate 2013

**The EGA Annual Lunch took place in June and a key part of the event was the presentation of the Distinguished Graduate Award. This year the award went to Dr Liam Connellan (BE in Mechanical and Electrical Engineering, 1957).**



Looking at Liam's career to date, we see that for over 50 years he has been a champion for Irish manufacturing and exports. He was Director General of the Confederation of Irish Industry (now IBEC) from 1972 to 1992. He then became Chairman of the National Roads Authority from 1994 to 2001 and President of the Royal Dublin Society from 1995 to 1998. He was Chairman of Veolia Environment, an organisation with responsibility for planning, building and operating the Dublin LUAS light rail. He has also been decorated by both the French and German Governments for his work in improving international trade relations. He has always been deeply involved with the engineering profession. He was President of the EGA from 1989-91 and of the Institution of Engineers of Ireland in 2001-02. He was a founding member of the Irish Academy of Engineering in 1997, and was elected President of the Academy in 2004.

In his acceptance speech, Liam continued his support for Irish manufacturing and exporting and spoke of the tremendous progress we are making nationally with indigenous manufacturing. He highlighted companies such as Keenan of Bagenalstown, Mc Hale of Ballinrobe and Dairymaster in Tralee, as well as the export success we are seeing in of our food and dairy industry.

This year's lunch, which took place in the John Field Room at the National Concert Hall, was very well attended and supported. The support of our sponsors, including Bord Gais, Nicholas O'Dwyer & Partners, Arup, CRH, Engineers Ireland, ESB and RPS is gratefully acknowledged.

It was a most successful and engaging event, enhanced by the stunning setting of the John Field Room. Sincere thanks to Fionnuala McGowan of UCD Engineering for all the arrangements.

## Engineers Picnic

**UCD EGA will host a novel Gathering event for graduates working at home and abroad**

The Engineers' Picnic will take place on Saturday 24th August 2013 in the Rose Garden, UCD.

The event will start with a barbecue at 4pm with food, drink and music into the evening. Tickets €20 for adult, €5 child available [here](#).



**UCD DUBLIN**

## COME TO OUR ENGINEERS PICNIC!

UCD Engineering Graduates Association and UCD Engineering invite you to join us at our Engineers Picnic starting at 4 p.m. on Saturday 24<sup>th</sup> August at UCD Rose Garden, Belfield.

**BBQ Food, Refreshments and Entertainment!!!**

Book your tickets now @ [www.ucd.ie/eacollege/enggrad](http://www.ucd.ie/eacollege/enggrad)

**the gathering IRELAND 2013**

**Admission**  
Adults: €20  
Children (Under 12 yrs): €5



# UCD Student Centre voted Ireland's favourite new building

The UCD Student Centre was the winner of the Public Choice Award in the 2013 Irish Architecture Awards. The building designed by Dublin based Fitzgerald Kavanagh & Partners received 18% of the 12,500 votes cast for the 33 short listed projects. The Royal Institute of the Architects of Ireland (RIAI) described the centre as “an exciting building which embraces many of the guiding principles of universal design.”

According to the RIAI, the use of colour, choice of materials and the simplicity of its layout contribute greatly to its ease of use. The result is a dynamic building devoted to providing sports and recreational facilities to the students and staff of UCD as well as to members of the public, regardless of age, size, ability or disability.

The 11,000 sq metre building, which was developed with student funds following a student referendum in 2006, marks another major milestone in the evolution of the Belfield campus. UCD has over 100 active student societies and clubs which now avail of the various facilities in the new development including:

- 50 metre Olympic-specification swimming pool

- 125-seat state-of-the-art performance theatre
- 90-seat multimedia 3D cinema
- Dance studio with a ‘floating-floor’
- Debating chamber resembling a mini-parliament named in honour of the late Dr Garrett Fitzgerald.

Special membership rates of the pool and gym are available to UCD Alumni. Tours of the building can be facilitated for EGA members – contact [ega@ucd.ie](mailto:ega@ucd.ie) for more details.



## First TEDx Event at UCD

**The first TEDx event took place recently in the new UCD Students Centre and featured 12 speakers giving talks on a topic of particular importance to them under the broad theme of ‘Foresight’ - predicting what will happen or be needed to happen in the future.**

TED is a non-profit organisation devoted to ‘ideas worth spreading’, which started as a conference in California 26 years ago, and has created a programme called

TEDx, where x = independently organised TED event. TEDx is a programme of local, self-organised events that bring people together to share a TED-like experience.

At TEDxUCD a combination of live speakers and a selection of TEDTalks videos were combined to spark a discussion and connection among the viewers. There were 12 speakers on the day including Dr Rhona Mahony (Master of the National Maternity Hospital, Holles Street), Claire Lambe (Irish international lightweight rower and UCD Engineering student), Peter Clinch (UCD Vice-President for Innovation) and Conor Heneghan (UCD School of Electrical, Electronic and Communications Engineering & Chief Engineer at ResMed Sensor Technologies).

All of the presentations are available on YouTube and can be seen [here](#).



Pictured: Final Year Engineering Student  
Claire Lambe