



UNIVERSITY OF LIMERICK

FACULTY OF SCIENCE & ENGINEERING

Faculty Newsletter

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December 2008

Welcome

Welcome to the first Newsletter from the Faculty of Science and Engineering at the University of Limerick. This publication is intended to focus attention on some of the exciting things that are happening in the Faculty, often of course with external Collaborators. We are trying to recognise certain achievements as well as bringing work in progress to the attention of others.

The Faculty of Science and Engineering in UL comprises of ten Academic Departments:

Chemical & Environmental Sciences; Computer Science and Information Systems; Electronic & Computer Engineering; Life Sciences; Manufacturing & Operations Engineering; Materials Science & Technology; Mathematics & Statistics; Mechanical & Aeronautical Engineering; Physics and School of Architecture, and three Research Institutes Lero, Stokes and MSSl.

Teaching and Research are our core activities. In 2008 we offered a total of 40 undergraduate degree programmes, 18 taught postgraduate programmes, and 60 PhD's graduated through our research programmes. During the year academic staff in the Faculty of Science and Engineering successfully competed for €20 million in research funding in a wide range of national and international programmes.

This publication is intended to be informative, informal and enjoyable. If you have an interesting story to include, please do so by contacting our Editor, Ms. Eileen Madden, (email: Eileen.Madden@ul.ie).

Prof. Kieran Hodnett
Dean

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Inaugural Lectures



Three inaugural lectures took place within the Faculty during the year. Prof Merritt Bucholz, Professor of Architecture on Wednesday 13th February, Prof Noel Buckley, Chair of Physics gave a talk on 'The Physics and Chemistry of Energy' on Wednesday 10th September and Prof James Gleeson, Professor of Applied Mathematics gave a talk on 'The tangled webs we weave: fads, epidemics, and networks' on Tuesday 28th October. James is pictured here with Prof Don Barry,

UL President. 2009 inaugural lectures will be given by Prof Andrew Fowler, Mathematics & Statistics on 23rd February and Prof Ade Rasmuson, Chemical & Environmental Science on 27th April.

Demonstration Course a 'flaming' Success

A demonstration with the 'wow' factor: Dr Peter Childs shows off by lighting gas bubbles on his hand. This University of Limerick's Chemistry Demonstration Workshop for Secondary School Chemistry teachers was held from the 23rd – 26th June 2008. Teachers from all over the country, as far away as Donegal and Dublin participated. A number of industrialists also participated in the event.

The annual residential workshop was sponsored by the RDS Science Live for teachers programme, the Second Level Support Service, PharmaChemical Ireland, Eli Lilly S.A. and the Faculty of Science and Engineering, UL. The aim of the workshop was to give teachers the confidence and competence to use more chemical demonstrations in their everyday teaching of both Junior Science and LC Chemistry, and to equip them to design, develop and perform a Chemical Magic Show. Demonstrating safely in school or in public was a major emphasis of the course. Sarah Hayes demonstrated the Science Magic Show which she gave to schools around Munster in the 2007- 2008 school year.



Participants had a lot of fun and learned a lot of new demonstrations and gained in confidence in doing spectacular demonstrations safely. Technical assistance was provided by Michelle Starr and Brian O'Shaughnessy from the CES Department, who responded patiently to a myriad of requests for chemicals and glassware. Burning money is always popular: Mary and Eileen Collins get into the (methylated) spirit of the course.

New Faculty and Staff

We welcome the following faculty and staff who have joined the Faculty since 1st January 2008.

Professor: Mike Hinchey, Lero; Ake Rasmuson, CES

Lecturer: Douglas McIntosh, LS, Ken Byrne, LS; Colm Cryan, MST; Colm O'Dwyer, Physics.

Junior Lecturer, Robert Sazdov, CSIS, Giuseppe Torre, CSIS, Leon McCarthy, CSIS; Roger Santer LS, Audrey O'Grady LS; Tewfik Soulimane, CES; Ian Clancy, Physics, Fernando Rhen, Physics; Norma Coffey, M&S, Sofiane Soussi, M&S, Romina Gaburro, M&S, William Lee, M&S.

Administrators: Amy O'Brien, CSIS; Maria McDonald, MST, Ciara Tuohy, CES, Josephine Hogan, Faculty Office

Condolences

Condolences are extended to the families of the following deceased faculty members, Dr. Bob Critchley, Senior Lecturer, Mathematics and Statistics, Dr. George Goberman, Senior Lecturer, Physics and Mr. Liam Hennessy, Lecturer, Manufacturing & Operations Engineering, Dr. Pat McElligott, Postdoctoral Researcher, Lero

Retirements

Best wishes are extended to the following members of the Faculty who retired during the year:

Eoin McCann, CES
Michael O Maoldomhnaigh, LS
Jim Leahy, M&S



Captain John McBride, Space Shuttle Astronaut NASA, Phil Samways ECE and David Moore Astronomy Ireland at a lecture (hosted by the S&E Faculty on Friday 16th May 2008 in the Jean Monnet Lecture Theatre) titled 'NASA Space Programme Past Present and Future given by Capt McBride. Over 100 people attended.

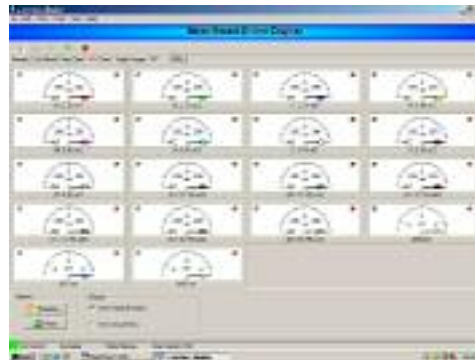
Pictured from Left to Right, David Moore, Captain John McBride, Phil Samways

New Aircraft Structures Lab at UL

For the first time at the University of Limerick, aeronautical engineering students will carry out experiments on Aircraft Structures. A new Aircraft Structures lab, based in the basement of the Lonsdale Building, was officially launched during the summer 2008. Led by Dr. Conor McCarthy, a team including UL staff Jim Ryan, Adrian McEvoy, John Cunningham and Ronan O'Higgins and UL students Ciaran O'Callaghan and James Drudy have designed, manufactured and certified a number of aircraft structures experimental test rigs. One of the rigs, shown in Figure 1(a), represents a tapered wing spar subjected to an elliptical aerodynamic load. By applying forces to this rig, Students can measure the stresses in its walls. All experimental data is relayed back to an on-line interface, shown in Fig. 1(b), where Students can see graphically (in real time) where the highest stresses occur and can subsequently download a unique set of results directly to their laptops. The lab was developed in-house in conjunction with Queens University Belfast.



(a)



(b)

Figure 1: The new aircraft structures lab at UL, (a) Tapered Wing Spar Rig, (b) On-Line Interactive display

Women in Engineering Bursary Awards



The Women in Engineering Bursary Awards are given to female students who receive the highest points on entry to Engineering programmes. The recipients for 2007/2008 were:

- Ms Miriam Cashman, Colaiste Teresa, Kanturk, BE, Biomedical Engineering
- Ms Laura McCarthy, Sacred Heart Secondary School, Clonakilty, BSc Product Design & Technology, and
- Ms Julia Madden, Desmond College, BSc Biomedical & Advanced Materials,

Miriam, Laura and Julia are pictured here with Prof Kieran Hodnett, Dean, Faculty of Science & Engineering

Prosthesis Designed



Edward Chadwick, M&OE, designed a prosthesis for Cathal Miller, (pictured) a member of the Irish Paralympic Team who participated in the Olympics this year and was placed 5th in his event. The prosthesis was manufactured by Tom Byrne, Technical Officer in the M&OE Dept., and designed under the supervision of Prof. Tim McGloughlin. Edward is currently doing a PhD funded by Enterprise Ireland, under the supervision of Dr David Tanner

Science Week and Family Fun Day



A week long programme of events from 10th to 15th November was organised by the Faculty of Science and Engineering involving nine interactive talks and 21 workshops attracting over 2500 young students to the Campus from schools throughout the Region. The Department of Physics and the Department of Chemical and Environmental Sciences participated in the 'Birr Castle Science Experience', a two-day event organised by Birr Castle Demesne for Science Week 2008. On Saturday 15th November the Faculty ran a Family Fun Day of Science, Engineering and Technology. This was a day geared for all the family. Academic departments provided exciting interactive displays and exhibits including science magic shows, feats of engineering innovation from the microscopic to mega structure design, shooting stars, falconry and wildlife

displays in addition to guest speakers. Corporations such as Intel Ireland, Analog Devices and Stryker Europe also had stands at the Exhibition. Sue McGrath provided a range of experiments to facilitate the younger members of the audience, while the "Cosmos was Revealed" to all by Robert Hill, Armagh Planetarium and NI Space Office and UL's own Sarah Hayes put the "whow" back into science with flames, flashes and frozen flowers!! Paul McCrory with his magic, science and mystery show, where nothing is quite as it seems – showed how objects sing; water seems to disappear; tornadoes appear in bottles; and a brave volunteer was invited to sit on a chair of nails. This was magic with a difference - in this show the audience was encouraged to figure out the science behind the tricks. All the shows were full of intriguing science and engineering demonstrations with audience participation for all the family. Faculty and staff were on hand to provide advice on the various career options available to graduates of science, engineering and technology programmes at the University of Limerick



RIAI Irish Architecture Awards Exhibition



The School of Architecture (SAUL) hosted the RIAI Irish Architecture Awards Exhibition 2008 from September 10th-26th in the basement level of the Foundation Building.

The RIAI Awards 2008 is an annual showcase of the best of contemporary architecture in Ireland. An overview of the award winners and commendations would testify the ever increasing ambition and quality of Irish Architecture in an extraordinary two decades.

The range of projects premiated this year, from domestic extensions through to educational buildings, testifies to the diversity of scale and skills in which the architect can contribute to an equally diverse range of clients in the public and private sectors

Pictured (L to R) Mr. Hugh Murray, Murray O'Laoire Architects
Prof Merritt Bucholz, School of Architecture, UL and Mr. Sean O'Laoire President RIAI.



Lero Graduate School

The Lero Graduate School launched its unique new PhD programme in Software Engineering by enrolling the first cohort of students this September. The group of 11 students met for the first time in UCD, Belfield on Friday 10th October. The students are from Ireland, Pakistan, Germany, England, Wales and India. Lero is the Irish Software Engineering Centre, a collaborative venture involving the University of Limerick, Dublin City University, Trinity College Dublin, University College Dublin and is funded by Science Foundation Ireland.

Mechanical Engineering Award

Daniel Mulvihill, who graduated in August with a BEng in Mechanical Engineering, received the top mark in Great Britain and Ireland in Mechanical Engineering and was awarded a medal and a cheque for €250 from the Institute of Mechanical Engineers.

Aerospace Medical Association Award

ECE research postgraduate student, Dr. Marc O'Griofa was awarded the prestigious Aerospace Medical Association (ASMA) - Space Medicine Young Investigators Research Award at the 2008 ASMA conference in Boston, USA. The award was presented for the paper "Sleeping Through The Arctic martian Sol," which relates to data from the Project CASPER mission carried out in a long duration Mars Space Analogue mission completed in the high arctic in 2007. Currently Dr. O'Griofa holds a NASA scholarship and is based at Kennedy Space Centre, Florida, USA. The postgraduate work is been supervised by Dr. Derek O'Keeffe, UL.



Dr. Marc O'Griofa receiving the 2008 Young Investigator Award from Dr. Jeffrey Meyers, ASMA

STARs Programme

Lero – the Irish Software Engineering Research Centre, hosted 2 Science Foundation Ireland Secondary Teacher Assistant Researchers (STARs) during the summer of 2008. Ms. Muireann O'Brien from Carrigaline Community College, Co. Cork and Mr. Brendan O'Sullivan from Castletroy College, Co. Limerick worked for 8 weeks with Education and Outreach Manager Clare McInerney to develop a set of materials for teaching computing to transition year students. The goal is to promote and instill an interest in computing at second-level. A transition unit titled "Having Fun with Computer Programming and Games" was developed. The unit contains 10 modules in total (45 hours). The modules and lesson plans are sufficiently detailed so that a maths/science/ICT teacher without a computer science background is equipped to teach the materials to transition year students. Working with CIO Ireland and IT Tallaght, Lero plans to roll the teaching material out to an expanded number of schools for the 2008/2009 academic year. Support is being actively sought from the Department of Education and Science. Modules 1 & 2 are available at <http://www.lero.ie/educationoutreach/transitionunit/>.



STARs presentation at the Science Gallery in Trinity August 20 2008. The photo features (left to right) Minister for Science, Technology and Enterprise, Dr. Jimmy Devins T.D., Clare McInerney, Education and Outreach Officer, Lero, Muireann O'Brien, Carrigaline Community School, Co. Cork and Prof Frank Gannon, Director General of Science Foundation Ireland.

Schrodinger Lecture

Professor Markus Hengstschlager, Department of Medical Genetics, Medical University of Vienna gave the annual Schrodinger Lecture on Friday 17th October 2008 in the Jean Monnet Lecture Theatre titled 'Human amniotic fluid as a new source for stem cell research'

Outstanding Paper of the Year

A paper by two researchers from the Department of Electronic & Computer Engineering has been chosen as one of the 'Outstanding' articles published in the International Journal of Web Information Systems (IJWIS) in 2007/08. The paper, titled "An innovative web-based approach for study skills development in higher education" by Caitriona Bermingham and Abdulhussain E. Mahdi (Vol. 3 Issue 3, 2007), is currently being used by the IJWIS site as a sample article (See <http://info.emeraldinsight.com/products/journals/journals.htm?id=ijwis>) and has been included in the journal leaflet.

Conference & Journal Papers

A list of Conference, Journal and other publications can be viewed on the Research News page of the Faculty web site at the following address:
<http://www.scieng.ul.ie>

Limerick Tunnel Opening



Mr Tom King, General Manager DirectRoute on the left with Prof Kieran Hodnett, Dean, Faculty of Science & Engineering

Over 7,000 people, 5,000 more than expected, attended the Limerick Tunnel Open Day on Saturday 26th July, 2008 at Coonagh, Limerick at the Shannon RFC rugby grounds, an event which allowed the Public the opportunity to examine one of the biggest construction projects undertaken in the West of Ireland.

The event was organised by Mr Tom King, General Manager, DirectRoute who provided an information centre with a scale model of the scheme for visitors who took part in the tour. The Faculty of Science & Engineering hosted a staffed marquee with information on all courses on offer at the University of Limerick including the BSc Construction Studies and BE Civil Engineering programmes.

More than 14 students from the BSc Construction Studies programme acted as bus guides for the day informing visitors of the design and plans for submerging the Limerick Tunnel.

The students enthusiastically explained to the fascinated public that the tunnel element is approximately the length of a football pitch, 100m; as high as a two storey house, 8.5m; wide enough for two lanes of traffic in each direction, 25m; and weighs in at 20,000 tonnes giving a combined weight of a staggering 100,000 tonnes. The five tunnel elements were, on the day, being fitted out for the next major phase of the tunnel construction, immersion in a pre-dredged channel in the river which was scheduled for 7th August, 2008 with final immersion at the beginning of September, 2008.

Materials and Surface Science Institute

The Integrated Nanoscience Platform for Ireland (INSPIRE) was launched by Dr. Jimmy Devins T.D., Minister of State for Science, Technology and Innovation in the Science Gallery, Trinity College Dublin on October 30th, 2008. The programme is the largest funded under PRTL14 with a total of €31.6 million. MSI was awarded €5.8 million to establish a centre of excellence in electron microscopy, expand its capabilities in the synthesis and characterisation of nanomaterials and to further develop its expertise in computational mechanics.

Academy of Physics

The Academy of Applied Physics was held in the University of Limerick from the 18th to 29th June. The academy was a two-week summer event aimed at encouraging students from local schools to pursue science and in particular applied physics at third level. The emphasis was on demystifying science, and showing not only how a subject such as Physics can be both interesting and exciting, but also how it is relevant to industry and can lead to a rewarding career. The programme combined hands-on learning experience with demonstrations and presentations and culminated in group projects where the students applied what they had learnt.



Punch Lecture Series



Professor Ken Carper from Washington State University was the speaker for the 3rd Punch Lecture held at the University of Limerick. His lecture was entitled "Why Buildings Fail", and focused on the Forensic Engineering of buildings to understand the lessons learned from the failure of structures.

Pictured (L to R): Prof Ken Carper, Mr. Pat Hanley (MPP), Prof Con Hussey, Head, Dept of Materials Science & Technology, Mr. Michael Punch (MPP), Dr Declan Phillips, Course Director, Civil Engineering.

Tom Cosgrove, Director of Michael Punch & Partners, was the speaker for the 4th Punch Lecture held on 23rd September. His lecture focused on the challenges surrounding the design and construction of the redevelopment of Thomond Park in Limerick. Michael Punch & Partners are the lead Civil and Structural Engineers for the project.



Eqvalan Thesis of the Year



Winner of Eqvalan Thesis of the Year competition, Soraya Morscher, presented her thesis to the National Equine Forum 2008 held in the Royal Society in London in March 2008. In attendance were Minister Jonathan Shaw (MP) and HRH the Princess Royal in addition to a representative from all equine related interest groups. The Eqvalan Thesis of the Year competition selects the five best submitted projects from equine related courses in England and Ireland to compete for the Thesis of the Year. The National Equine forum was set up in 1989 for the equine industry to "speak with one voice" about current topics, findings and progressions in the equine industry. The Eqvalan Thesis of the Year competition was set up in 1999 and during this period the University of Limerick entry has been selected in the top 5 in nine of those ten years

Ecological Footprint

Sonya Quinn, a PhD student in the M&OE Dept. is one of a group of researchers on environmental sustainability, under the supervision of Dr. Bill Gaughran. As part of her post-graduate research she has been working with a group of secondary schools to calculate their ecological footprint; this is a first in Ireland. The ecological footprint is a relatively new concept, and it may be described as a measure of the load imposed by a given population on the eco/environmental system. It represents the land area necessary to sustain current levels of consumption and discharge by that population. The aim is to quantify our use of natural resources, and compare this with the carrying capacity of our ecosystems, so that we can measure environmental sustainability.



Pictured following a seminar at St. Josephs Secondary School, Rochfortbridge. Seated, Eileen Alford, Deputy Principal, Sonya Quin, UL. Back left-right, Margaret Cole TYO Coordinator and Anna Kavanagh Greenschool Coordinator.

Conferring September 2008



Chemical & Environmental Sciences PhDs

Back row: Prof Edmund Magner, Dr. Richard Moles, Prof Tony Pembroke, Dr. Gerard Wall
 Front Row: Phd Recipients, Dr. Zuzana Brusova, Dr. Noreen Layden, Dr. John O'Halloran, Dr. Rafia Razzaque, Dr. Olga Kolaj



Fiona Fitzgerald, MST, Winner of the Cooperative Education award



Final year project awards in Dept. of Life Sciences sponsored by Coolemore stud. Pictured Left to Right: Lindsay Perry, 3rd prize, Cathal Murphy Coolemore Stud representative, Siobhan Griffin, 1st prize and Carol Quish 2nd prize.



Prof. Don Barry, President, Dr. Catherine Adley, Head, Chemical and Environmental Science and Lorraine Blackmore who received the Pharmaceutical and Industrial Chemistry Student of the Year award



Prof. Don Barry, President, Anthony Maher recipient of the MSSl best Final Year Project award, Prof. Edmund Magner, Director, MSSl



Prof. Don Barry, President, Alison Orr receiving the Environmental Science Student of the Year award from Seamus Devine ESB Networks



Physics PhD

Dr. Martin Leahy, Prof. Noel Buckley, Dr. James O'Doherty, conferred with a PhD, Dr. David Corcoran, Department Head, Dr. Ian Clancy.



a



b

Four students from the Safety, Health & Welfare Diploma were presented with the Gerard Harold Memorial award for Student of the Year. Pictured above from left to right are Prof. Don Barry, President, Mr Eoin McCann, Course Director, Chris Harold, G.H Health & Safety Ltd, Andrew McNamara, award recipient photo (a) and John Ryan award recipient photo (b).



Dr. Muhammad Raja ECE Dept, conferred with a PhD.



Patricia Armshaw, CES, who was awarded the First Place in Science receiving her Medal from Prof. Don Barry, President,



Dr Ciarán MacNamee, Lecturer, ECE Dept. being congratulated on receiving his PhD by his supervisor Dr. Donal Heffernan.

Dr Angela Morris and Dr Clare Ryan, Mechanical & Aeronautical Engineering who were awarded PhD's



Diarmuid O'Keeffe, BE Computer Engineering, Dr. Husain Mahdi, ECE Dept. Philip Murphy, BSc Information Technology & Telecommunications



Eve Manning, Grainne O'Dea, Aine O'Connor, Final Year Project winners sponsored by Kerry Group pictured with Martin Wilkinson, Dept of Life Science.



Peter Roe, Tipperary Race Course and Carol Quish winner of the best Final Year Project sponsored by Horse Racing Ireland



Mathematics and Statistics PhDs

Dr. Ailish Hannigan, Dr. Ben Flood and Dr. Jason Flanagan PhD Recipients, Prof. Eugene Benilov



Excellence in Research Award

Left to Right: Mr. Michael Connelly, Dr. Michael Connelly, award recipient, Mrs Margaret Connelly, Prof Tom Coffey, Head, Electronic and Computer Engineering Dept.

Funded Projects

Below is a list of research projects awarded 100K or more during the year:

John O'Donoghue, M&S and George McClelland, Physics, received 2.94 million from SIF2 for the National Centre for Excellence in Mathematics and Science Teaching & Learning.

Martin Caffrey, CES received €2,521,216 from SFI for 'Structure-Function Studies of Membrane Proteins Involved in Quorum Sensing and the Pathogenicity of *Pseudomonas aeruginosa*'.

Frank McGourty, LS received €2.411million from NDP for the period 2006-2013 to continue the development and delivery of the Distance Learning Programme in Equine Science through the International Equine Institute.

Sean Arkins, LS, and Drew Harrison, PESS received €2,280,000 from HEA for 'HEA RFES - Food & Health'.

Edmond Magner, MSSl received €1,565,000 from HEA for 'HEA RFES - Composite and Glass Materials'.

Richard Conway, ECE received 1.09 Million Euro from SFI Strategic Research Cluster (SRC) Award, for "Efficient Embedded Digital Signal Processing (EEDSP) for Mobile Digital Health". Project Partners are UCC (lead institution), UCD and NUIG.

Syed Tofail, MSSl received €1,052,490 from EI for 'RARE-EARTH (RE) DOPE NITI ALLOYS (RENITI)'.

Martin Leahy, CPI received €972,000 from HEA for 'HEA RFES - CPI Energy & Sustainable Environment'.

Syed Tofail, MSSl received €800,000 from EU - Framework 7 for 'Electrically Modified Biomaterials Surface: From Atoms to Applications'.

Mark Southern, M&S received €569,865 from EI for 'IP511 - Process Innovations for the Production of Reliable Piezoelectrically Actuated Nebuliser Vibration Plates for Drug Delivery'.

Richard Fitzgerald, LS received €516,614 from Dept of Agriculture, Fisheries & Food for 'Generation and characterisation of novel health enhancing ingredients from brewers spent grain'.

Richard Fitzgerald, LS received €456,150 from Marine Institute for 'National Marine Functional Foods Research Initiative'.

Con Sheahan, MOE received €400,000 from EU - Framework 7 for 'An extended value chain model for performance prediction and optimisation of product and process lifecycles for SMEs'.

David O'Beirne, LS received €396,132 from Dept of Agriculture, Fisheries & Food for 'Technology and Raw Material Quality to Underpin the Irish Fresh-Cut Fruit Industry'.

Mark Halton, ECE received €378,738 from EI for 'Digital Power soC Incorporating Time/Event Driven Control'.

Elfed Lewis, ECE received €363,000 from EU - Framework 7 for 'Innovative & Novel First Responders Applications'.

Lisa O'Donoghue, MOE received €349,876 from Environmental Protection Agency for 'Innovative Process for Recycling of LCD Displays'.

Richard Moles, CES received €343,000 from Environmental Protection Agency for 'A Roadmap for enhancing sustainability of Irish Settlements for local and National decision makers'.

Colin Fitzpatrick, ECE received €301,130 from Environmental Protection Agency for 'RE-EVALUATE - Reuse of EEE-Evaluation and Mainstreaming'.

Ita Richardson, CSIS received €267,360 from EU - Framework 7 for 'Software Services and Systems'.

Toshko Zhelev, CES received €265,000 under SIF 2 advance teaching proposal.

Martin Wilkinson, LS received €264,008 from Dept of Agriculture, Fisheries & Food for 'Natural Ingredient Cheese Solutions'.

Julian Ross, CES received €255,431 from EU - Research for 'Design and Development of Highly Active and Stable Nano-Structured Catalyst for Dry Reforming of Methane with CO₂'.

Martin Wilkinson, LS received €242,225 from Dept of Agriculture, Fisheries & Food for 'Novel Strategies for optimization of the Cheddar Manufacturing process'.

Richard Fitzgerald, LS received €240,250 from EI for 'Functional Food Centre'.

Toshko Zhelev, CES, Dr. Máirtín O'Droma ECE, Dr. Ivan Ganchev, ECE, , and Dr. Conor Ryan, CSIS received €236k from HEA SIF2 for 'Virtual Learning Spaces'.

Noel O'Dowd, MAE received €215,570 from SFI for 'Development of fracture mechanics procedures for high temperature components containing a residual stress field'.

Thomas Harrington, LS received €182,579 from COFORD for 'Production of edible fungi in farm forests'.

Jakki Cooney, LS received €175,484 from SFI for 'The role of bacterial proteases in gut health and disease'.

Natalia Kopteva, M&S received €154,627 from SFI for 'A posterior error analysis in the numerical solution of singular perturbed differential equations'.

Ajit Thakker, MAE received €130,000 from EU - Framework 7 for 'Components for Ocean Renewable Energy Systems'.

Sean McGrath. ECE received €122,758 from EI for 'FindME++'.

Michael Connelly, ECE received €120,000 from SFI for 'Optical coherence Tomography using a 1550nm Superluminescent diode and anti - Stokes Imaging device for full field optical metrology'.

Kenneth Byrne, LS received €114,746 from COFORD for 'Carbon Stocks and Stock Changes in Harvested Wood Products'.

Mark Towler, MSSl received €114,677 from EI for 'Therapeutic bone Allografts 2'.

Eugene Benilov, M&S received €114,148 from SFI for 'Vortices in Rotating fluids'.

Ajit Thakker, MAE received €110,000 from ESBI Engineering & Facility Management Limited for 'OWC Impulse Turbine / Generator Design'.

Michael, H Hayes, CES received €107,972 from Environmental Protection Agency for 'The laboratory analysis of Irish municipal and agricultural biomass wastes and evaluation of their utilisation in bio refining technologies'.

Due to space constraints projects awarded under 100K are not listed here but can be viewed on the Faculty Research Web page: www.scieng.ul.ie



School of Architecture Talk



On Tuesday the 25th of November the School of Architecture, took its first steps into the city. The event, which was held in St. Munchin's church on King's Island, showcased some of the talent from inside the school of architecture in University of Limerick. Four new members of staff, Maria Donoghue, Jim Corbett, Declan Feeney and Morgan Flynn spoke about their work both in Limerick and farther afield, while students from the school provided music to punctuate the speaker's talks. The event was well attended by students and staff, but also by members of the public from the locale.

Long Term Research Collaboration Honoured

Timothy Hall, Dept ECE, has been awarded an honorary Professorship by the Academic Senate of Stefan cel Mare University, Suceava, Romania, in recognition of an "outstanding contribution to Computer Science and its development at Suceava University". This award was presented in May at a special meeting of the Academic Senate and the Faculty of Electrical Engineering and Computer Science by the Rector of Suceava University Prof Adrian Graur. This meeting also honoured a similar contribution by Prof John Milner from City University, UK.

MACSI Outreach Lecture



On 16th October MACSI organised its third annual outreach lecture. A thousand students from twenty schools in Clare, Limerick, Offaly and Tipperary came to hear David Acheson, Jesus College, Oxford talk about Mathematics, Magic and the Electric Guitar', and to listen to him put these ideas into practice with an epiphone

guitar. The event's organiser, Jean Charpin said, 'MACSI is very pleased to welcome speakers like David Acheson. He illustrated Mathematics at its best in a way you would never see in a classroom'.

Science and Engineering Camps

Both the UL Science Camp (16th - 20th) and the Explore Engineering Camp (23rd - 27th) ran in June with some 60 young people participating from the Munster area. The Camp 'experience' was designed to complement students learning levels and experiments were designed to enable participants to have a 'hands-on' experience while investigating the different aspects of science, engineering and technology. The involvement of local industrialists in the career workshops gave participants first-hand insight into life after college and the many exciting career opportunities there are available to science and engineering graduates. A varied recreation programme was also offered, and students had access to the extensive sporting and recreational facilities available on Campus.

New President of the Electrochemical Society

Prof Noel Buckley, Chair of Physics was recently elected President of the Electrochemical Society. This is only the second time in the 106-year history of the society that its President is based in Europe and the very first time ever in Ireland. The Electrochemical Society is an international scholarly and educational society with a membership of nearly 8,000 scientists and engineers in over 80 countries. Since its inception as the American Electrochemical Society in 1902, the ECS has had a long tradition in the advancement of the theory and practice of electrochemical and solid state science. Noel is internationally recognized as a leader in the application of physical science to thin film technology with over 30 years of research experience. He was elected a Fellow of the ECS in 1987, an honour extended to less than 2% of the membership. He held numerous positions within the Society including Treasurer, Secretary and Chair of the Electronics Division. He has been a member of the board of Directors of the ECS for six years and was previously Vice President until he attained the position of President. We congratulate Noel on this outstanding achievement.

Dates for your Diary

Faculty Board	- 17th December 2008
Exams	- 8th to 20th December 2008
Conferring	- 19th - 21st January 2009
Spring Semester	- 26th January 09 to 1st April 09
Script Viewing	- 2nd & 3rd February 2009

Graduate Experience Evenings

January:	Physics/Mathematics & Statistics/Computer Science and Information Systems
February:	Mechanical and Aeronautical Engineering
March:	Electronic and Computer Engineering
March:	Manufacturing & Operations Engineering/ Materials Science & Technology
April:	Life Sciences/Chemical and Environmental Sciences

Scheduled dates can be viewed on the Faculty Web Page www.scieng.ul.ie

Seed Funding

The following faculty members were successful in their Seed Funding applications:

Jan Frohburg, Architecture	Peter Murphy, ECE
Catherine Adley, CES	Roger Santer, Life Sciences
Toshko Zhelev, CES	Michael Walsh, M&AE
Tony Pembroke, CES	Walter Stanley, M&AE
Witold Kwapinski, CES	Patrick Walsh, M&AE/Stokes
J.J. Leahy, CES	Ann Ledwith, M&OE
Luigina Ciolfi, CSIS	Sarah Mitchell, M&S
Phil Samways, ECE	Wynette Redington, MSSl
Colin Flanagan, ECE	Zakia Rahman, Physics
Mairtín Ó Droma, ECE	Colm O'Dwyer, Physics
Ken Byrne, Life Sciences	Jennifer Johnston, Physics

Graduate Experience Evenings

The Faculty run monthly Graduate Experience Evenings where past graduates return to give a presentation to secondary school students and their parents. The presenters describe the type of industry they work in and how the skills and knowledge gained in their programme has benefited them in their careers. The evenings are held on a Thursday night from 7pm to 8pm in the Kathleen Lonsdale Building. The final evening for 2008 was held on 20th November and covered Pharmaceutical and Industrial Chemistry, Industrial Biochemistry, Environmental Science, Food Science & Health and Equine Science degree programmes.



Pictured from left to right are Julie Behan, BE Electronic Engineering, Class of 2002, Justin McCarthy, BE Aeronautical Engineering, Class of 2007 and Sinead O'Leary, BE Biomedical Engineering Class of 2007 who were the presenters for the March 2008 evening.

HP 2008 Invent Award

Kate Corish from the Product Design and Technology course in the Dept. of Manufacturing and Operations Engineering was the winner of the Hewlett Packard 2008 Invent Award. The HP invent award was initiated more than 30 years ago, with the purpose of "celebrating excellence" and is bestowed upon a student whom the panel judges feel has developed the most innovative or original final year undergraduate project in the Engineering and Science disciplines. Kate's project was a manual lifting ergonomic-design solution, the "sol-A-lift" was recognised for its originality and innovative design solution. It allows people to safely and efficiently lift large panels, mainly used in the construction industry. She received a €5,000 prize. Competing alongside "sol-A-lift" in the HP final was Kate's classmate Gary Cagney. Gary's design project was a digital media download pod for a public space, the "eStore". Gary's design offers music and video to people on the go, through a smartly designed user friendly interface, and he was awarded the Silver Medal. Congratulations to Kate and Gary for such a fine achievement! Kate's design project was supervised by Niall Deloughry and Gary's supervisor was Dermot McInerney.



Kate Corish with HP's Vice President Lionel Alexander and her award winning design



Kate Corish, Dr. William Gaughran, Course Director and Gary Cagney