UNIVERSITY of LIMERICK
OLLSCOIL LUIMNIGH

FACULTY OF
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Newsletter

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In this issue:

Director of Bernal Institute Appointed

Professor Luuk van der Wielen has been appointed Director of the Bernal Institute at University of Limerick. The €86 million Institute, which was launched in November by An Taoiseach Enda Kenny, TD, houses more than 260 researchers who work across research themes of advanced materials, manufacturing and process engineering and fluid dynamics. Professor van der Wielen took up the position of Director of Bernal Institute and Bernal Professor of Biosystems Engineering and Design on Wednesday, February 1, 2017. Professor van der Wielen was appointed at Delft University of Technology in 1992 and will retain a part-time position as Distinguished Professor in Bioeconomy and Bioprocess Engineering. His work in Delft has been consistently ranked as excellent by consecutive national research evaluations and has resulted in several spin-off companies.

Professor van der Wielen's research interests include various engineering topics in bio-renewables production systems, and their societal impacts. He has led the BE-Basic Foundation since 2004, a globally-operating private-public research organisation for biobased sustainable industrial chemistry, food, energy and materials, which is based in the Netherlands with hubs in South East Asia and Brazil and a cumulative budget exceeding € 250 million. He has held several visiting professorships in South-East Asia.
Speaking following his appointment, Professor van der Wielen said, "The Bernal Institute has the ambition to impact the world beneficially on the basis of top science in an increasingly international context. My positions at BE-Basic, Shell, our starters and Delft University of Technology have taught me that scientific excellence, intensive collaboration with industry, and positive climate impact can go hand-in-hand. The Bernal Institute will create the opportunities and the means to deliver this in its focus areas of research. The impact will potentially be at a global level, and I trust that the link to the BE-Basic international network will help tremendously".

According to UL President, Professor Don Barry: "Impact in the real world with real benefits for real people is the key target of the Bernal Institute. Professor van der Wielen's long experience at the public-private interface will help to build the Bernal Institute with the ambition to advance the university's reputation for research excellence, while continuously developing research that has a positive impact on industry, society and the local, national and international communities we serve". The Bernal Institute is committed to translating cutting-edge fundamental research into innovative solutions for industrial, commercial and societal issues.

Universal Design Grand Challenge

Last year's Product Design and Technology graduate Aine O'Reilly won the Judges Choice award in the National Disability Authority Universal Design Challenge with her 4th year design project called 'Zobi' which is a diabetes management system for children. It incorporates a continuous glucose monitor, an insulin management kit as well as a carrier bag and a parent monitor. The design serves to remind the children and adults how to prepare and manage the condition. As the child grows up and learns how their condition behaves the parental monitor gradually hands over control to the child. The entire management system and bag is designed to be fun, discrete and enable children with diabetes to continue with their everyday activities.

The Universal Design Grand Challenge **(UDGC)** is a student competition that promotes and awards excellence in student projects that feature solutions that work for everyone. The UDGC invites third level students in their final two years of study, post grads and recent graduates to enter their best student project to compete for two National Universal Design Student Awards. There are three 'Judges Awards' categories in the completion: Information and Communication Technology, Built Environment and Products and Services.

International Conference on Flexible Automation and Intelligent Manufacturing (FAIM) 2019

At the recent 2017 FAIM conference in Modena Italy, University of Limerick was chosen as host venue for the 2019 international conference. University of Limerick beat off stiff competition from University of Porto and the University of Coimbra to host the 2019 conference. University of Limerick's bid was presented by Dr. Alan Ryan, on behalf of the organising committee Dr. Peter Tiernan, Dr, Seamus Gordon, Dr. David Tanner and Dr. Huw Lewis. The UL bid was strongly supported by Head of School Engineering, Dean of Science and Engineering and the President of the University which was very positively received and commended by the conference scientific reviewing committee. Hosting this international conference in the area of Flexible Automation and Manufacturing will allow the University to showcase its strong links with industry, its cutting edge research and its superb facilities to an international audience of approximately 250 delegates.

2017 Games Studio Competition

Congratulations to our UL team "Trash Team Racing" who emerged overall winners in the 2017 Games Studio Competition which was held as part of the 2017 Games Fleadh at LIT Tipperary (http://gamesfleadh.ie/games-ireland-2/). The Games Studio competition is open to 2nd, 3rd and 4th year undergraduate students from across all institutions in Ireland, and our Trash Team Racing members comprised four 2nd year and one 3rd year BSc in Computer Games Development students. The trailer for the winning game can be viewed at this link: https://www.youtube.com/watch?v=AudlKPztwJk

Since 2010, the ICT Learning Centre has been managing UL ICT students' participation in this competition and other similar annual competitions, as part of our aim to promote active and student centred learning, enhance and broaden the students' ICT skill-sets and to promote ICT as a career path. Working with all undergraduate students in UL every year, the centre invites and encourages students' participation, manages team selection via internal competitions and provides mentoring.

The members of Trash Team Racing are:

Joseph Greaney	-	3rd year BSc in Computer Games Development
David Ryley	-	2nd year BSc in Computer Games Development
David Ryan	-	2nd year BSc in Computer Games Development
Christopher Brady	-	2nd year BSc in Computer Games Development
Shane O'Malley	-	2nd year BSc in Computer Games Development

With over 20 games entered in this year's competition, our students' excelled their game winning in the "Best in Animation" category as well as the main award "Game Studio Ireland Challenge - College Cup Champions".

BOC Award Winner (RIP)

Kevin Hayes a PhD student in the Department of Chemical Sciences and a recent winner of the BOC prize which is awarded to a postgraduate for their outstanding contribution to the department passed away suddenly on 23rd June.

Kevin graduated in Industrial Biochemistry and was in the third year of his PhD in CS. He served on the safety committee and the faculty and Departmental Athena Swan Committees. Kevin was a superb scientist, always cheerful and such a fine young man. I considered him not only a colleague but friend. We will miss him dearly. He was extremely popular amongst all our PhD population.

Our sympathy goes to his parents James and Catherine, his two brothers, his uncle Joe Murphy and his other uncles and aunts and his girlfriend Louise.

Ar dheas Dé go raibh a anam!

Professor J Tony Pembroke, Head, Dept of Chemical Sciences

Knowledge Transfer Ireland Consultancy Impact Award

MACSI has won the Knowledge Transfer Ireland Consultancy Impact award, for a project with Rusal Aughinish Alumina, run by William Lee and Vincent Cregan. The full list of finalists and winners is here: http://www.knowledgetransferireland.com/KTI%20Impact%20Awards/Finalists-Winners-2017/

Johnson & Johnson Vision Care : Automation Project Awards

On 25th of April Dr. Michael Quinlan, Snr Automation Engineering J&J Vision Care, attended University of Limerick to assess automation projects completed by 2nd year Design and Manufacture Engineering Students and 2nd Year Technology Management students. Students were tasked with Conceiving, Designing, Implementing and Operating an automated system, projects included 3D models, code simulation, physical construction and debug/operation. Projects ran for the duration of the semester, with physical build completed in the final 4 weeks of the semester.

Projects were assessed on functionality, safety, students ability to explain and aesthetics. Speaking to the students Dr. Quinlan was impressed with their enthusiasm, overall thought process and their ability to explain key concepts. Dr Quinlan stated that what the students had experienced in this short project was essentially what engineers in Vision Care experience on a day to day basis, on a much larger scale. From being able to design solutions to problems, organise workforce/team members, analyse and debug issues, he praised the University for engaging in such problem solving activities and offered continued support for this activity.

Pictured above are the best placed group members Brendan McCoy, David Earls, Finnian Moane, Seamus Walsh, Donal O'Brolchain & Stephen Ruttle with Dr. Michael Quinlan J&J Vision Care and Dr. Alan Ryan Module Lecturer.

Leslie Holliday Award 2017

Dr Terry McGrail has been awarded the 2017 Leslie Holliday Award Prize from the UK's Institute of Materials, Minerals and Mining (IOM3). This prestigious award recognises those who have made a significant technological contribution relating to any type of composite material. Terry can be considered as the primary person behind the development of second generation toughened epoxy systems for aerospace composites applications, namely the '977 family' of thermoplastic modified high temperature epoxies, which have been used worldwide in the industry for the last 30 years. After a degree and PhD in Chemistry obtained at University of Sheffield, Terry worked within the powerhouse Research and Development team of ICI at Wilton from the 1980s, concentrating on the development of commercial toughened thermosets. The team eventually became part of the Cytec/Fiberite activity, with major developments and commercialisation of new matrix resins occurring in the 1980s. During this time Terry and co-workers were frequent contributors at all major composites conferences and published a considerable number of highly academic papers in peer reviewed journals. In the 1990s Terry was appointed Visiting Professor at Universities of York and Sheffield, and later was associated closely with the group of Professor Frank Jones at University of Sheffield. This led to his appointment as Research Director at the AMRC in Sheffield, a post he held for 2 years before becoming Director and Technology Leader of the Enterprise Ireland Irish Centre for Composites Research, established in 2010 and hosted at the University of Limerick.

Accenture Awards: BSc. Technology Management

From Left to Right
Dr. Peter Tiernan, Prof Jeremy Robinson (Head of School of Engineering), Anthony Kavanagh, Ingar Filinn, Sean Roche (Accenture) Linda Masale, Daniel Hinchy, Dr. Alan Ryan (Course Director Technology Mgt) Dr. Peter Williams.

On 24th April Sean Roche from Accenture attended the University of Limerick to present the best performing first years on the BSc. Technology Management from 2014/15 & 2015/16 with their awards. Sean commended the programme, its diverse mix of modules and the academic staff and also congratulated the students on their achievement in adjusting to third level education and performing to such a high level in their first year.

Head of School Prof Jeremy Robinson congratulated the students on their achievement and mentioned that this ongoing relationship with Accenture helps work towards the University's strategic plan by strengthening our links with industry.

The 'Edison of Medicine'

Researchers from around Ireland gathered in University of Limerick (UL) on Friday morning to listen to one of the world's top engineers discuss his work in the area of biomaterials and biotechnology.

Described by Harvard Business Review as the 'Edison of Medicine', Professor Robert Langer is credited with improving the lives of more than two billion people worldwide through his work in developing novel drug-delivery systems.

The David H Koch Institute Professor at Massachusetts Institute of Technology was in UL as part of its Bernal Distinguished Lecturer Series at the university's Bernal Institute. The university's new president Dr Des Fitzgerald described Professor Langer as an "outstanding academic" and a "great educator".

"Professor Langer's career is not just about his exemplary track record in multidisciplinary research, it is also about his success in bringing his research from the lab to the market and his innovation in the design of novel therapies for treatments with high societal impact," Dr Fitzgerald stated.

Chair of Friday's event and lecturer in chemistry at UL, Dr Sarah Hudson was a postdoctoral researcher in Professor Langer's lab from 2006 to 2008.

"While working in Professor Langer's lab at MIT, I saw how he was able to pinpoint the crux and/or the potential of your work or ideas immediately. I discovered that innovative science comes from the unexpected - you can plan your experiments but you cannot plan your results but that by looking at things from different angles, unexpected ideas and solutions will evolve," Dr Hudson said.

"Professor Langer is an inspirational speaker and his work is an exciting example of what can be achieved when you integrate medical doctors, engineers, physicists, biologists, histologists, vets, pharmacists and chemists together in a research environment. The Bernal Institute and UL has created a similar cross-disciplinary research environment and I believe listening to how Professor Langer's work came about, his numerous inventions and discoveries for new therapies to treat disease, will demonstrate just how much can be achieved in such an environment.

"I believe it will inspire many people here and also reassure the public that we, as researchers, are concerned with the same things that worry them and that we are pulling together to combat many of the health and environmental issues we face worldwide today," Dr Hudson concluded.

Professor Langer's lecture at UL was entitled "Biomaterials and Biotechnology: From the discovery of the first angiogenesis inhibitors to the development of controlled drug delivery systems and the foundation of tissue engineering". The lecture included discussions on Professor Langer's research, how it led to new drug delivery technologies including nanoparticles and nanotechnology that are now being studied for use treating cancer, other illnesses and in vaccine delivery. It also touched on ways of developing systems for treatment of brain cancer and other diseases and new approaches for engineering tissues such as cartilage, skin and blood vessels

Aerospace and Aviation

Minister of State for Employment and Small Business, Pat Breen TD highlighted the growth potential in the aerospace and aviation industries in the Mid West during a recent visit to the University of Limerick. Speaking to aerospace and aviation industry and academics at the university, Minister Breen said: "The aviation and aerospace sector has the potential to play a significant role in the future enterprise growth in the Mid West. There is great opportunity for Ireland to increase its market share in these growing sectors in particular aerospace sub-component manufacturing. The business, research and educational strengths in existence in the Mid-West in addition to the strategic asset of Shannon Airport provide the right conditions for Ireland to seize this opportunity".

The Mid West region is home to more than 40 aerospace and aviation companies, employing some 1,600 people in and around Shannon. Companies include GE Capital, Aercap, Lufthansa Technik Shannon, Engine Lease Finance Corporation, Atlantic Aviation Group, Eirtech Aviation, CAE Parc Aviation, Irish Aviation Authority (IAA), Acclino and Magellan Aviation Services. Several of these companies are also involved in aviation education and training.

UL launched the first aviation programme in Ireland in 1992, and now offers seven courses including a BE/ME Aeronautical Engineering, a Corporate MBA with Aviation Management, a BSc in Aircraft Maintenance and Airworthiness Engineering, and two Specialist Diplomas in Aircraft Leasing and Continued Airworthiness. In the past seven years, UL has developed partnerships with several mid-west aviation education and training partners in the Mid-West, and annual intake of aviation students has quadrupled to over 100. UL is also home to the Irish Composites Centre (ICOMP), an Enterprise Ireland/IDA Technology Centre, providing innovative solutions to enable acceleration of economic growth within the indigenous composites industry.
Prof Michael McCarthy, Chair in Aeronautical Engineering at UL said: "Over the last 25 years, the University of Limerick has developed research partnerships with more than 100 aerospace companies, including Airbus, Bombardier and SAAB. Meanwhile, our global network of in excess of over 600 aerospace and aviation graduates occupy senior positions in most of the world's major aerospace and aviation companies. The Mid West region has the key elements to create a world-leading aerospace and aviation cluster, including a pipeline of talent, research infrastructure, innovative small and medium enterprises, multinational corporations, and a network of aviation education and training providers".

Audio Engineering Society Convention

Fourth year MMPT students Jack Haigh and Ellen Culloo presented their papers entitled 'The DFA Fader: Exploring the Power of Suggestion in Loudness Judgments' and 'Do Microphone Angles Result in Audible Differences When Recording a Guitar Amplifier?' at the 142nd Audio Engineering Society Convention in Berlin. This work, supervised by Dr Malachy Ronan, was selected following blind peer review for inclusion in what is widely recognised as the single most important venue for publication in the field of Audio Engineering.

Irish research programme to investigate if new social media platform can address challenges and opportunities for those aged 50+

Lero, IBM Ireland and ISAX (Ireland Smart Ageing Exchange) have announced a two year research programme which could result in a new social media platform which would allow older people to offer and receive volunteer services, make new friends and interact. The Science Foundation Ireland supported initial research programme is valued at an estimated €116,400.
Lero, which is managing the programme, is seeking volunteers aged 50+ to participate in the research. Working with IBM and ISAX, Lero, will conduct research to collect data, convert the needs of the older person into a usable platform and monitor whether it meets their needs and performs a useful function.

"This is more than a LinkedIn, Facebook or online water cooler for those aged 50+, although it may share some or all of those attributes," commented Professor Ita Richardson, Lero co-principal investigator at the University of Limerick. "Social isolation remains an issue for many older people who still have a lot to offer society but do not necessarily have the means, confidence or encouragement to engage with the wider community through social networking or otherwise," added Dr Sarah Beecham of Lero who is heading up the programme.
"While there are over 40 applications specifically designed for older people in different regions of the world, it may be that current technology based solutions are not providing the right answer or are failing to reach the older adult."

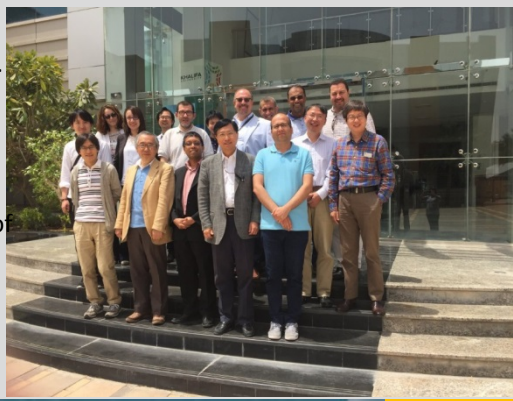
"People in their 50s and beyond do not consider themselves old, have a vast array of skills and professional competencies to offer. They have a desire and energy to share their experience with others in their communities. Yet many have trouble finding appropriate ways of meaningfully applying these skills beyond the workplace when they retire or reach a particular age," said Gary Thompson, IIX Technical Manager, IBM Ireland. "As part of the programme we will work with Lero as they use our Bluemix™ platform to host a volunteer hub where individuals, local businesses, schools and local communities can come together to enable skill sharing and strengthen community involvement."
"For many of us social isolation can be an issue when we lose contact with former work colleagues and family has moved on," commented Aine Phelan, Head of Consumer Insight & Marketing, ISAX. "A key item on the agenda for ageing in Ireland is to give older adults the opportunity to participate as valued members of their communities. A new social media platform, designed specifically for older people, could provide countless benefits to both the receivers and givers of such services or advice as well as society in general."

Anne Connolly, CEO, ISAX added, "Increasing life expectancy and the rapid ageing of populations, while good news at the individual level, presents society with far reaching challenges, from health, care and pensions to the design of cities and educational systems.

"But these challenges also represent exciting opportunities for innovation. Through this research, we aim to maximise the opportunities by bringing together business, research and government agencies while ensuring that older adults themselves have a direct contribution to the design and usability of the solutions that emerge."
All aged 50+ who would like to participate can contact Prof. Ita Richardson, Principal Investigator, Connected Smart Ageing (CSA) at the University of Limerick or email: ita.richardson@lero.ie

Annual Lero - NI - OU workshop

The annual NII-Lero-OU workshop (http://ra.crema.unimi.it/CPSS2017/index.htm) was held this year at Khalifa University, Abu Dhabi, UAE, between 7-8th April 2017. This year's workshop theme was "Software Engineering for Cyber-Physical-Social Systems". Bashar Nuseibeh from Lero co-chaired the workshop, together with Professor Ernesto Damiani, Director of the Information Security Centre at Khalifa University. Professor Nobukazu Yoshioka, an Associate Professor at the National Institute of Informatics (NII), Japan, and is currently visiting Lero at the University of Limerick on sabbatical, served as workshop programme co-chair. NII is an international strategic research partner of Lero, with a formal joint Memorandum of Understanding (MOU) that has facilitated collaborations in software research and education for many years.



Inaugural Lecture

On Friday May 26th, the Bernal Institute hosted a workshop on interfacial and transport phenomena in industry and health as a prelude to Prof. Jacques Huyghe's inaugural lecture as Bernal Chair of Biomedical Engineering. Around 60 people participated in the event, which included several distinguished international guests and received funding assistance from SFI.

Dr. Pat Phelan, Vice President Academic and Registrar, Prof Jeremy Robinson, Head, School of Engineering, Prof Jacques Huyghe, Dr. Des Fitzgerald, UL President, Prof Edmond Magner, Dean, Faculty of Science & Engineering

Joining of Composites Conference

IComp, in partnership with The Knowledge Transfer Network (KTN) UK (ktn-uk.co.uk), organised an international conference on 'Joining of Composites' on 21st March 2017 in the Titanic conference facility in Belfast. The 12 speakers were predominantly from industry as were the 86 delegates. The comprehensive programme was aimed at identifying the challenges to industry of joining composite to composite and composite to metal, which are ubiquitous across all of the rapidly expanding composites-related sectors. Speakers from academia presented some potential solutions to these problems by bringing relevant aspects of current developments, as well as future opportunities, in the S&T of joining to the attention of industry. IComp members were well represented in the programme with a presentation from Conor McCarthy (UL), "Novel methods to join composites to metals: moving from coupon joints to pre-industrial scale demonstrators". Other IComp representatives included Alojz Ivankovic (UCD), Peter Quigley (CCP Gransden), Thomas Engels (Henkel) and Dean Bugg (Scott Bader).

"Are You Ready? Towards the Engineering of Forensic-Ready Systems

New research from Lero finds that many organisations are failing to consider the threat of cyber attacks when they design and develop software systems. The news follows on from the recent unprecedented global WannaCry cyber-security attack that affected more than 200,000 systems in 150 countries, including the UK's NHS.

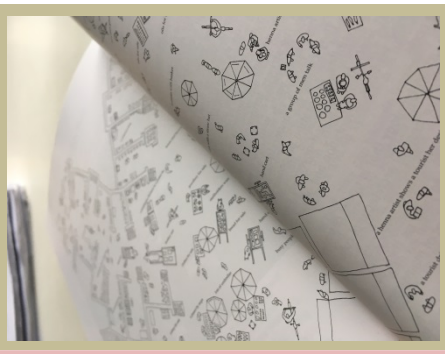
"The recent global cyber attack has highlighted the growing demand for organisations across the public and private sectors to have the capacity to investigate such incidents," said Dr George Grispos of Lero, the Irish Software Research Centre, which is supported by Science Foundation Ireland. "Our study suggests that current software development processes are inadequate in many organisations with regard to integrating forensics into the development process." He added, "The repercussions of these findings could mean that when cyber attacks and similar incidents occur, investigators could face challenges with not only eradicating the problem but also identifying and collecting information that can help catch the perpetrators or other malicious users."

The Lero study found that while 64% of the surveyed organisations considered requirements for the detection of security incidents, less than a quarter (23%) have considered requirements regarding the collection of data for forensic investigations.
More than half of the surveyed individuals indicated that their organisation does not consider requirements for how data should be collected and secured before investigators can examine it after an attack.
"Many organisations do not consider how they will investigate and eradicate security incidents and attacks during the development lifecycles of their applications," commented Dr Grispos. "Further complicating matters, the study also highlights that any data which could be required to identify who is responsible for the incident, may also be compromised before it is even used in an investigation."

He said that in many cases organisations across the public and private sectors implement software applications and then decide how to protect them. "The recent global cyber attacks emphasise the need to not only build-in security protections but also forensics from the start of the development lifecycle." The report "Are You Ready? Towards the Engineering of Forensic-Ready Systems" is available at https://arxiv.org/abs/1705.03250

AD Wiley. Ground Rules for Humanitarian Design Publication

A new publication by the esteemed publisher AD WILEY examines conditions and research in humanitarian construction and design features work by SAUL alumni and faculty. Three chapters by SAUL Head Merritt Bucholz, senior lecturer Grainne Hassett and former External Examiner Alice Min Soo Chun, Parsons School of Design NY (editor) are accompanied by drawings of the SAUL IU research unit and SAUL undergraduate drawings by Sarah Mannion and Georgina Daly with Erasmus student Anna Bokodi.



All Ireland Architectural Research Group (AIARG)

The All Ireland Architectural Research Group (AIARG) took place in Waterford Institute of Technology Friday 27th and Saturday 28th January 2017. Peter Carroll, Senior Lecturer at SAUL presented "In Conversation With Limerick City: Andy Devane and St. Marys Girls Primary School, King's Island, Limerick City 1951". A SAUL 2nd Year student exhibition in 2011 on the construction of St. Mary's Girls Primary School, King's Island presented Peter Carroll and his SAUL Yr2 students with an opportunity to study, survey and seek value and recognise its distinguished quality as a modern school in the city's fabric. This well-disguised school, designed in 1951 by Andy Devane, is not so much a building but rather city fabric. It reinstates streets and spaces both within the school and beyond its limits. It resonates and converses at every level with its context: engaging with the city's medieval wall; reinforcing an old lane that runs through the school; terminating a street with its entrance; addressing the space of Peter's Cell; attaching itself to existing stone buildings that form parts of the school. Coupled with this, the school is as much a conversation with the built American work of the architect's former master, Frank Lloyd Wright under whom he studied at Taliesen West in 1946. This school represents one of the first design commissions Devane received on returning to practice to Ireland from Taliesen West.

UL to Lead CONFIRM – Centre for Smart Manufacturing

Science Foundation Ireland will invest in four new world-class SFI Research Centres in Ireland. The new SFI Research Centres will be supported by 80 industry partners who will support cutting-edge basic and applied research with strong industry engagement, economic and societal impact. The decision follows a comprehensive international peer review process involving leading industry and academic experts over the last 12 months.

Innovation 2020, the Government's five-year strategy for research and development, science and technology, directs that the network of SFI Research Centres should be further developed to build critical mass in strategic areas of research strength and address enterprise needs.

The four new SFI Research Centres announced will address the following:

- Smart manufacturing IT and industrial automation systems, led by Prof Conor McCarthy, University of Limerick (Project Title – Confirm);
- Biological resources as alternative materials to finite fossil resources, led by Prof Kevin O'Connor, UCD (Project Title – BEACON);
- Innovative techniques and processes in Additive Manufacturing, led by Prof Denis Dowling, UCD (Project Title – Deantus);
- Diagnosis, monitoring and treatment of chronic and rare neurological diseases – led by Prof David Henshall, RCSI (Project Title - Future Neuro).

€4.9m project to cut CO2 footprint of carbon fibre production (LIBRE)

Researchers from across Europe, led by University of Limerick (UL), Ireland, have begun a project to produce carbon fibre from forestry by-products. Carbon fibre is a reinforcement which when added to plastic improves its mechanical properties thereby forming a composite material. Composites are used in many products including automotive parts and wind-turbine blades. However, carbon fibre is currently produced from petroleum which is expensive and detrimental to the environment. The LIBRE project, led by Dr Maurice Collins of the Stokes Labs, Bernal Institute at UL, aims to create carbon fibre materials in a cost-effective and more environmentally friendly way, by producing them from a naturally derived wood product called 'lignin'. "The production of carbon fibre from lignin will allow us to move away from the reliance on fossil fuel," Dr Collins explained.

The strength-to-weight ratio of carbon fibre offers excellent potential to reduce the weight of products including vehicles, with consequent saving of fuel. Currently, the cost of carbon fibre makes it prohibitive for widespread use. The LIBRE project is expected to reduce production costs sufficiently to find mass-market applications for carbon fibre. This will enable European producers to rely less on imported precursors and imported carbon fibre thereby securing an indigenous and sustainable European carbon-fibre manufacturing base. "Together, the project partners will create new innovative materials and manufacturing processes capable of lowering the cost of end products by 30% while cutting in half the CO2 footprint of carbon fibre production," Dr Collins added.
LIBRE is co-ordinated by Dr Collins at University of Limerick and run in cooperation with European partners from Ireland, Germany, Sweden, Belgium, UK and Italy. The project has been awarded €4.9m in funding from the Bio-Based Industries Joint Undertaking. This grant is awarded under the European Union's Horizon 2020 Research and Innovation Programme.

128th European Study Group with Industry

Mathematicians from all over the world, from New Zealand to Mongolia, gathered in Limerick in June to solve problems faced by Irish Industries at the 128th European Study Group with Industry. Over 5 days about 100 mathematical scientists worked on a wide variety of problems presented by Irish companies, from modelling what happens to a car during a crash in order to tackle insurance fraud to how microwaves measure water content in the raw material that produces alumina. The ESGI programme is an innovative and collaborative way of tackling real world-problems faced by industry. As well as solving real-world problems, the ESGI events are a fantastic way to train students with relevant skills that are in high demand by Irish-based companies. This event has received support from Science Foundation Ireland and a number of the SME's participating availed of Enterprise Ireland's Innovation Voucher Programme.

Alltech Young Scientist Competition

PhD student Israel Ikoyi from the Department of Biological Sciences and MASCI was runner up in the Alltech Young Scientist competition for the region Europe, Africa and Russia earlier this year, which is the world's largest agriscience competition for under- and postgraduate students. Israel competed with his research topic "Phosphorus fertilization and its effect on soil microbiotas in grassland columns". This work is part of his PhD that is based on the experimental strand of the SFI funded Soil Biomass Modelling project of Professor Andrew Fowler (MACSI). Last month, Israel and his supervisor for the experimental strand, Achim Schmalenberger, were invited to the Alltech European headquarters for the handing over of the Award.

Dr. Aoife Lyons, Mr Israel Ikoyi, Dr. Achim Schmalenberger, Prof. Maurice Boland.

Pint of Science

Pint of Science returned to Limerick on Wednesday May 17th in JJ Bowles Pub, Thomondgate, Limerick City. This is a worldwide event where Scientists doff their white coats and head to the pubs to tell their research tales. Limerick is one of hundreds of cities who took part in the event. The aim of Pint of Science is to deliver science talks in a fun, engaging and approachable way by bringing them to a relaxing public space – the local pub. The idea is to invite people to sit back, drink, listen and engage with the scientist presenting … over a pint.

Limerick's event, which was organised by the University of Limerick hosted the following speakers:

Dr. Tadhg MacIntyre, PESS, "Does going green enhance well-being?"
Dr. George Grispos, Lero, "Doctor! Doctor! My Smartphone Says I'm Sick!"
Dr. Mark Campbell, PESS, "Is computer gaming (eSport) reinventing the science of expertise?"
Dr. Cameron Hall, MACSI, "Deciding when to chicken out"
Dr. Teresa Curtin, School of Natural Sciences, "Magic Mufflers"
Dr. Kevin Moroney, SSPC & MACSI, "One step closer to the perfect cup of coffee"
Prof. Paul Weaver, Bernal Institute, "Morphing cars, planes and wind turbines: the *shape* of things to come"

Drafting for Film and TV

This programme – a collaboration between Limerick and Clare Education and Training Board (LCETB) and Screen Training Ireland, with the support of University of Limerick School of Architecture (SAUL) and Troy Studios. The programme was aimed at focusing the skills of architects and drafts people to the specific requirements of drafting for film and television, in particular those with architectural or built environment background or knowledge who wish to apply their drafting/surveying skills to a film and television setting.

Architecture Ireland On-line

Following her entry to the *Architecture Ireland* Student Writing Prize, Grainne Smith-Muldowney, SAUL Y3 student, was invited to become a regular contributor to *Architecture Ireland* Extra online. Her first published piece for *AIExtra* is available at: http://architectureireland.ie/author/grainne-smith-muldowney

Scratch Competition

Lero hosted the 2017 Scratch Competition National Finals in the Kemmy Business School on April 26th This year there were 30 finalists who had been selected from 545 entries. The 30 projects were created by students aged between 5-18. All of the projects were on display in the chill out area of the Kemmy Business School. The judging panel included Asanka, Fayola, Anila and Muneef who are all based in Lero at UL. This year Chris Exton was the guest speaker.

Timber Technology Elective Module

Year 4 and Year 5 SAUL students were asked over a two week block to develop a patent for a timber frame employing the patent as a format to encourage research, innovation and risk in timber technology.

The elective was opened with a visit to Glenstal Abbey Forest to fell a Norwegian Spruce tree. The tree was subsequently rough-cut and processed by students. The remainder of the first week was spent designing, testing and exploring the capacity of the joint in timber frames. The second week was introduced with a visit toILEN Boat-Building Workshop in Roxboro Road. The remainder of the concluding week was spent making a 1:1 full scale fabrication of one chosen frame and an exploration of its spatial capacity in context. The frame is due to be located in the front courtyard of The Hunt Museum this summer.

SAUL would like to thank Professor Tom Cosgrove and Michael Quilligan of UL Civil Engineering for their invaluable input and generosity during this elective module.

Limerick City Symposium

Members of the public and interested parties were invited to share their views on the future direction of Limerick city. Limerick City and County Council in conjunction with SAUL, School of Architecture,UL, posed questions through a new consultation process to collect people's thoughts, hopes and opinions about living in Limerick.

The first week was built on the ongoing council supported research on the city carried out by SAUL and included community learning events curated and moderated by Professor Merritt Bucholz, Head of SAUL and a Street Design Workshop co-ordinated by Rosie Webb, Senior Architect with Limerick City and County Council. This series is the first of its type to be undertaken in Ireland.
Rosie Webb is leading the project and said: "City Engage Limerick is all about getting the views of the people and groups who call Limerick home. How can we make the city centre a more attractive place for people to live? How can we best use the River Shannon? These will be some of the topics that will be discussed as part of this process. It's all about getting people and groups involved in the plans for Living Limerick," added Rosie Webb. "We hope that the range of events being held will allow people to choose a time that suits them to engage with Limerick City and County Council and to give their views about Limerick City. This first City Engage Limerick week of events will be the first of many throughout the year focusing on different themes, such as the Riverbank, Georgian Limerick and the medieval quarter and how best these places can be improved." Prof Bucholz added "We want to help Limerick build an accessible vision of a great city. Using physical models and prototypes we will help people understand how they can help build a city they want in a way they understand. These events aim to provide an open door to the design of the city and a really new way to get great ideas for its future from the people who know it best!"

The first City Engage week was held at the end of February, details of which are available at:
https://www.limerick.ie/council/living-limerick-city-engage

The second City Engage week - **City Riverway Engage** ran from Tuesday 25th to Friday 28th of April. The week was all about capturing citizens' thoughts, opinions and hopes for Limerick's Riverways, including ideas and aspirations for the Riverway Footbridge proposals.

The Steam of a Perfect Coffee:

MACSI and SSPC's outreach event took place at the Canteen (Mallow St Limerick City Centre) on Monday 13th March to investigate the STEAM (Science, Technology, Engineering, Art and Mathematics) of the perfect cup of coffee. Talks were given by MACSI's resident coffee expert Dr Kevin Moroney (MACSI, UL), Dr Christopher Hendon (MIT) a world renowned coffee chemist and from Canteen's resident barista Dalton.

European Consortium for Mathematics in Industry

MACSI coordinated the ECMI blog for two weeks in March. MACSI researchers wrote articles ona wide variety of topics from the rise and fall of Leicester City to a new approach to understanding human behaviour. All UL's contributions may be seen here https://ecmiindmath.org/category/ecmi-nodes/limerick/

International Women's Day event in Bank of Ireland Workbench

An exciting collaboration between Bank of Ireland Workbench, UL (SSPC, MACSI, Bernal Institute) and LIT to show school children the fun side of STEM.

Masterclass in Chemometrics

Dr's Kevin Hayes and Darren Whitaker led a MACSI/PMTC and SSPC Industry Masterclass in Chemometrics held in the Bernal Building and attended by companies such as Pfizer, Alkermes, and Eli Lilly.

Mathematical Modelling project with Clongowes Wood College

Clongowes physics students have linked up MACSI to develop mathematical model for various problems. This project which has been running for over 5 years is a fantastic opportunity for students to get involved in real world applications and see how problems in science and industry can be dealt with using physics and mathematics. This scheme could lead to attracting energetic and ambitious new students outside of the traditional catchment area.

The secondary school students who were coached by Prof Gleeson and Mr O'Hara from September presented their projects to MACSI researchers in UL on May 2nd. Projects ranged from Modelling the efficiency of a lift system in a multi-storey building to modelling solutions for drivers for getting the cheapest petrol.

Podcast

As part of the UL Research Impact podcast series which explores the tremendous contributions UL research is making in the real world, MACSI researchers Drs Iain Moyles and John Donohue discuss their work funded by SFI on mathematical modelling of nutrient flow in a podcast entitled **Phos"Fate": Where have all the nutrients gone?** They focus on two particular nutrients, phosphorus and sulfur. For the former, they discuss the phosphate crisis, a phenomenon which relates to the localisation and finite availability of the nutrient and for the latter, they touch on some surprising outcomes of emissions regulations. Other talking points include the various collaborators in our research programme, the importance of mathematical modelling in science and advice for scientists interested in collaborating with applied mathematicians or pursuing a career in the field.

Design@UL Year-End Exhibition of Student Work

Design@UL is an exhibition that brings together a diversity of design from six undergraduate courses at the University of Limerick:

Architecture / Product Design & Technology / Civil Engineering / Materials and Architectural Technology / Materials and Engineering Technology /

First hosted within the generous spaces of the former Franciscan Church, Henry Street, Design @ UL this year was located in the former Helene Modes building at 10 Roches Street, Limerick. The work on display shows, how, through creative problem solving, real-world research and iterative processes students can develop solutions that address real needs, explore new technologies and potential futures, question perceptions and ultimately improve everyday experiences.

Opening the exhibition, UL President Dr Des Fitzgerald paid tribute to all those involved saying: “The diversity of product design, architecture and technology project themes brings primary research to the fore, investigating complex problems and developing innovative and entrepreneurial solutions to change our user experience paradigms. These range from water rescue devices, assistive systems for people with visual impairment, to mapping and display systems for firefighters, and even a product to improve your golf swing. The hard work and innovative thinking of the students is clearly evident in the work on display”.

This year’s Design@UL show is the first showcase of work under the new School of Design at UL. It demonstrates what can be achieved through interdisciplinary collaboration and offers a vision of change for Design education and research in Ireland.

Dr Adam de Eyto, head of UL’s School of Design said, “This showcase presents the highest quality student work which offers a range of ideas to shape our future”.
The exhibit was opened by Dr Des Fitzgerald with special guest Catherine MacEnri, from the Department of Jobs, Enterprise and Innovation

International Talent Programme of the Chinese Academy of Sciences

Bashar Nuseibeh attended a reception at Buckingham Palace on 27th February 2017, hosted by Prince Andrew, The Duke of York, and The President of the Chinese Academy of Sciences (CAS), Professor Bai.

The reception focused on promoting the International Talent Programme of the Chinese Academy of Sciences (PIFI), which aims to enhance the internationalization of Chinese research teams, by financing outstanding foreign scientific and technological talents, to engage deeply with CAS researchers. Bashar discussed with Prince Andrew how to bring down barriers for western researchers to visit and engage with fellow Chinese researchers. He also discussed with President Bai several different forms of potential collaboration and exchange, particularly in areas such as software engineering. For example, Lero researcher Jesus Galan will present his research at the 6th Asian Workshop of Advanced Software Engineering (AWASE2017) which will be held in Chongqing, China.

NCCA report - introduction of computer science as Leaving Cert subject

Ireland can learn from other developed countries in the development of a computer science course at Leaving Certificate level, according to a new report led by a team of researchers at the University of Limerick. The report, commissioned by the National Council for Curriculum and Assessment (NCCA) aims to advise on the best methods for implementing a course for upper second-level students. The report, which was conducted by researchers from Lero (The Irish Software Research Centre), the National Centre for STEM Education at the School of Education in the University of Limerick and the Third Level Computing Forum, examined the experience of those implementing computer science courses in England, Scotland, New Zealand, Ontario and Israel.

Welcoming the report, Richard Bruton TD, Minister for Education, who recently announced the target of introducing computer science as a Leaving Certificate subject in 2018, said, "The value of computer science is much greater than the subject itself. Taught well, it educates students in problem solving, innovation and creativity. It also boosts career opportunities as students with an understanding of computer science are required across a diverse range of industries."
"Ireland is well positioned to learn from the international experience and developments detailed in this report," commented John Hammond, Acting CEO of the NCCA. "The renewed and growing appreciation of the importance of computer science programmes internationally, particularly at upper secondary level, points to now being an opportune time to introduce computer science as a Leaving Certificate subject."

"Our analysis of computer science teaching in other countries threw up major challenges for example, in low participation rates especially amongst girls," added Clare McInerney, education and outreach manager, Lero, University of Limerick.
"However, an interesting finding from other jurisdictions indicates that when girls participate in computer science courses, they tend on average to achieve better grades than their male counterparts. In this regard, we can learn a lot from Israel where female participation is 40%." The preliminary report makes a number of recommendations designed to facilitate the introduction of a computer science course for Leaving Cert. The report also stresses the importance of teacher professional development in order to ensure the adoption, implementation and sustainability of a computer science curriculum

1st year Design-Build-Compete project

As part of their Production Technology modules first year engineering students have Conceived, Designed and Built electrically powered vehicles to carry a drinks bottle with a mass of 400grams up a 15metre slope. 31 teams consisting of up to six members raced their vehicle in the Students Courtyard. They were timed and awarded marks based on their original design concepts, their workmanship and speed to climb the slope. The students were guided to work within strict guidelines, and the racing was very competitive.

Modular Automation from Shannon sponsored prizes for the top three teams. The Johnson and Johnson campus based ACoE centre sponsored a separate prize based on the Best Team Performance which was assessed through in-depth team interviews and video analysis.

1st Overall Prize – "Team Slow but Steady", comprising Khalid Kamil, Peter Breslin, Seamus Cronin, John McMahon, Andrew McMahon and Cathal Daly

RTÉ Building Ireland

The story of Ardnacrusha was presented to a general audience through an RTÉ programme on the Shannon Scheme as part of "Building Ireland," a documentary series in which experts explore Ireland's building and engineering achievements.

This particular programme highlighted the German influence on the design of Ardnacrusha and interrogated its generally assumed status as a milestone in the modernisation of Ireland shortly after independence. Questions of location were central to building a hydroelectric power station on the river Shannon, as were the many engineering challenges. Civil engineer Prof Tom Cosgrove (UL Civil Engineering) gave an enthusiastic account on how these challenges were mastered by the local Irish workforce led by a team of German experts.

German architect Jan Frohburg (SAUL) discussed the ambivalent design of Ardnacrusha. Housing giant turbines in a cathedral-like space, the architecture of the power station balanced classical influences and Heimatstil against the potentially threatening powers of modern technology. German design at the time was aiming to transport craft sensibilities into an era of mass production, and even this building near Limerick in its great form as well as its well-made details showed clear evidence of that. Also typical of the time, the Shannon Scheme's ambitious programme was advertised in a striking mixture of modern graphics and mythical imagery.

The National Planning Framework

The National Planning Framework - "Ireland 2040 – Our Plan" - will set a new strategic planning and development context for Ireland and all its regions in the period between now and 2040, setting a strategic, high-level framework for the co-ordination of a range of national, regional and local authority policies and activities, planning and investment.

In this regard Simon Coveney, Minister for Housing, Planning, Community and Local Government sought views on the framework at the School of Architecture, University of Limerick (SA UL). While in UL, the Minister participated in a panel discussion with students, chaired by Shane Colman. The meeting with students included a discussion with a panel comprising of students from School of Architecture, Product Design, Kemmy Business School, Politics and Public Administration, and UL Student's Union.

Consultation papers were published on 2nd February for citizens, stakeholder organisations, public bodies, indeed anyone with an interest in our country's future and willing to share their ideas, to inform and engage in creating this new Framework Plan.

Swedish and Norwegian Ambassadors to visit SAUL

The Swedish and Norwegian Ambassadors visited SAUL at the invitation of SAUL Senior Lecturer Elizabeth Hatz and Professor Merritt Bucholz. SAUL is looking forward to strengthening the already close relationship with the design culture of Scandinavia.

New Director of Lero Appointed

Professor Brian Fitzgerald has been appointed director of Lero, the Irish Software Research Centre which is headquartered at the University of Limerick (UL). He replaces Professor Mike Hinchey following an eight year term of office. Roscommon born Professor Fitzgerald was formerly chief scientist at Lero and has been involved with the Science Foundation Ireland supported national research centre since its inception in 2005, apart from a spell as vice-president research at UL from 2008-2011.

Prior to taking up an academic position, Professor Fitzgerald worked in the software industry for over a decade in a variety of sectors including finance, telecommunications, manufacturing and bespoke software development in Ireland, Belgium and Germany.

"Brian brings to the role valuable industry as well as academic experience," commented Professor Don Barry, president, UL. "He is a pioneer in research into open source software and is widely recognised as a global leader in the study of software development processes and methods."

THE IRISH LABORATORY AWARDS 2017

In May 2017, Professor Gavin Walker and the Process Engineering Lab team at the Bernal Institute scooped three top honours, including the prestigious Academic or Research Lab of the Year at the Irish Laboratory Awards 2017 which were held in Dublin. The event recognises and celebrates the successes and achievements of Ireland's internationally renowned scientists in areas such as innovation, leadership, and collaboration. The Process Engineering Lab was honoured in the Chemical Laboratory and Pharmaceutical Laboratory categories, and most notably as the Academic or Research Laboratory of the Year for 2017. In awarding these honours, the jury described the lab as "unrivalled", a reflection and recognition of the positive impact of the research activities undertaken by Professor Gavin Walker and his team at the Bernal Institute. The Bernal Process Engineering Laboratory uniquely hosts three international leading research centres based in UL: the Science Foundation Ireland funded Synthesis and Solid State Pharmaceutical Centre (SSPC); the industry and Enterprise Ireland (EI) funded Dairy Processing Technology Centre (DPTC) and the EI and IDA funded Pharmaceutical Manufacturing Technology Centre (PMTC). The Bernal Process Engineering Laboratory is the largest process engineering research group in Ireland. The group is led by Professor Gavin Walker, Bernal Chair of Process Engineering and supported by several young research-active staff including: Dr Denise Croker; Dr Emmet O'Reilly; Dr Luis Padrela; Dr David Egan; Dr Darren Whitaker and Dr Ahmad Albadarin.

BERNAL CHAIR RECEIVES WALES' HIGHEST ACADEMIC HONOUR

In May 2017, Professor Michael Zaworokto, Bernal Chair of Crystal Engineering, was admitted to the Learned Society of Wales (LSW) in honour of his world-class contribution to science. Election to fellowship of the Learned Society of Wales is a public recognition of academic excellence and achievement and is the highest academic honour in Wales. Professor Zaworotko leads a group of researchers on the design and development of crystalline structures. From fundamental discoveries to applied industry innovations, these projects seek to design materials from first principles using "molecular building blocks", which allows for close control of the properties and in turn characteristics of the resulting materials. He is internationally recognised for his work, contributing important theoretical models and practical demonstrations of how crystalline materials can address grand challenges such as energy sustainability to enhancing processes within the pharmaceutical industry. Those elected are entitled to use the designation FLSW after their name. Professor Zaworotko is the first member of the Learned Society from UL.

School of Architecture Student Study Trips

Morocco

Following the strong relationship established with the School of Architecture of Fez and Marrakech over the last 7 years and the continuous success this exchange has generated in term of teaching and learning outcome for SAUL, a new group of 20 students went to Morocco to the city of Marrakech and Essaouira. This, to research, record and understand further the cultural, social, urban and environmental context of this ancient world, so close, but yet, so far in our western mind.

The second semester design studio project, for both year 2 and Year 3, is based in the UNESCO site of the Medina (walled city) of Essaouira, in the Mellah quarter, currently under treat of demolition. Year 2 project will look at making housing scheme proposal for the site while year 3 will investigate a proposal for an education centre.

Prior to visiting Essaouira, the students visited the city of Marrakesh to study some key traditional architectural typologies; A Madrassa (world's first university), a Daar (house), a Ksar (Palace) as well as public spaces such as Souks (market), streetscapes and residential quarters (Derb), public squares and public gardens. Marrakesh, eleventh century cultural city, its medina (walled city) is also a UNESCO world site. A city accessible from Europe, still adapting to the digital age, whilst grappling with the implication of its hand-made culture and buildings in that age. For all the students, the reading of this city was new. The students needed to take it apart and reconstruct it analytically for them to understand it.

In Essaouira, students explored and investigated the urban structure of the Medina. They then visited, drew and recorded the Mellah Quarter located the North West of the Medina and severely damaged by unconsidered speculative projects (The demolition has now stopped thanks to the new city conservation director). The students will now individually make an architectural proposal for the Mellah quarter using the immersion experience and analytical work they have been doing during the study trip. The work will be presented to the city officials of Essaouira and potential work collaboration between the city of Essaouira conservation department, the School of Architecture of Marrakech and SAUL students might be put in place which we are keen to expand to include research and post-graduate study.

Porto

This year 25 SAUL Year 2 and Year 3 students went to Porto to research the conditions for urban life in Porto. Students were asked to consider conditions such as mixity, density, climate, property, participation and typology which support and human life in Porto. Particular emphasis was given to the lives of senior citizens. The choice of an unfamiliar context and of perhaps unfamiliar urban traditions helped students to both reflect and invent new models of wider relevance for urban life. In the context of a semester theme with a particular focus on ageing students visited, drew and surveyed a number of high density accessible housing schemes as well as a number of accessible community buildings.

Vienna

In early February, 19 students from second and third year in SAUL spent a brisk week in Vienna to study the rich history and culture of early modernist thinking that developed in Vienna at the turn of the 20th Century, as well as the development of affordable and social housing in the 100 years since Red Vienna. Students met local architects and engineers to visit, sketch and discuss a range of innovative housing projects - including student housing, co-operative housing and a new town of 20,000 currently under construction - which variously sought to address the pressures of a growing population and the reality of affordable housing. Students studied in depth several Co-operative housing projects which will form the basis of their brief for a housing design project for 2nd years on a site in Vienna. A day was spent with an engineer to review the growing culture of timber construction in larger scale projects in the city which will further underpin their design studio work. Students also studied a series of public and educational buildings such as the Secession Building, the Postsparkasse by Otto Wagner, the Leopold Museum, the Wittgenstein Haus [now the Bulgarian Embassy] and institutions such as Akademie der bildenden Künste Wien, where they reviewed the work of their counterparts in the School of Architecture. The students also spent some time with the staff of the Vienna Music Institute, whose facilities and site will encompass the 3rd year SAUL design studio project for the spring semester.

FABLAB Activities

Events with Data Scientists Ireland

In collaboration with Data Scientists Ireland, Fab Lab Limerick were delighted to invite Paulito P. Palmes, a Research Scientist with IBM Ireland's Dublin Research Lab for a free public talk in Limerick on Machine Learning with the Julia language, including topics like Machine Learning, Visualization, Distributed and High-Performance Computing. In June, "Introduction to SciKit-Learn" demonstrated implementations of a range of machine learning algorithms. Scikit-Learn is a package that provides efficient versions of a large number of common Machine Learning algorithms, which demonstrated some of the best known algorithms, including clustering algorithms, Randof Forest and Logistic Regression. This collaboration will continue, with other talks and workshops coming to Fab Lab Limerick very soon.

PUPA at the Belltable, and Ivan Owen collaboration

"PUPA", a performance held this March at the Belltable theatre, is the result of a collaboration involving digital fabrication, performance art, prosthetics, as well as themes of disability and personal development.

Emma Fisher, as part of her PhD, initiated this collaboration with Fab Lab Limerick and Ivan Owen to explore digital fabrication for performance art, and produced a Laser cut Exoskeleton Arm, a device worn over Emma's left arm and through a pulley, the left hand can be puppeteered to open and close by the right hand's little finger, to then subsequently puppeteer a puppet.

Ivan Owen is a Makerspace Lab Manager at the University of Washington, and an Interdisciplinary artist exploring a wide range of topics. Co-inventor of the first open-source 3D printable hand prosthesis and has worked with musical composition, metal casting, jewellery, recreations of medieval armour and costume and prop making for stage and screen. Ivan and local puppeteer Emma Fisher, hosted an imaginative masterclass, called "Shadows cast by Lasers", guiding puppeteers, artists and designers through designing & building their own laser cut mechanical shadow puppets.

Open Source Prosthetic Workshops

Fab Lab Limerick established a chapter of the e-NABLE Community - a Limerick-based community of designers, manufacturers, medical experts, tinkerers and volunteers, to explore new ways of using digital fabrication for upper limb prosthesis, and use 3D printers to create free 3D printed hands and arms for those in need of assistive devices. The project was kick-started by the visit of e-Nable founder Jen Owen last November (http://fablab.saul.ie/events/nablejenowen/) and for further information on the e-NABLE community: http://enablingthefuture.org

Restarter-Limerick: Repair Workshop collaborations

Fab Lab Limerick are partners in the Restarter-Limerick project - which offers iPhone repair events at UL since April, with the next workshop coming to Fab Lab Limerick this July, These event give people the opportunity to repair their broken/damaged iPhones free of charge. The Restarter-Limerick project is funded by Science Foundation Ireland through the SFI Discovery program. It aims to uses electronics repair as a means of engagement with the general public on topics related to critical raw materials.

Winter Conferring 2017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1. Mr Ahmed Aljohani from Saudi Arabia who graduated with a Masters of Engineering in Information and Network Security with his father Mohammed.
2. Mr. Sean Roche who graduated with a Bachelor of Engineering in Mechanical Engineering with his son
3. Dr. Mahendar Kumbham who graduated with a PhD with his supervisor Dr. Christophe Silien
4. Dr. Brian Conroy and Dr. Brian Golden receiving their PhDs with Dr David Tanner
5. Ms. Aleksandra Tybura, who graduated with a Master of Science in Strategic Quality Management with her daughter Lillianne

Winter Conferring 2017

Celebrating receiving their PhDs with their supervisors were:

1. Dr. Teresa Curtin, Dr Aine O'Driscoll, Prof. J.J. Leahy.
2. Dr. Witold Kwapinski, Dr. Daya Pandey, Prof. J.J. Leahy.
3. Dr. Witold Kwapinski, Dr. Natalie Taupe, Prof. J.J. Leahy
4. Dr. Witold Kwapinski, Dr. Francesco Severini, Prof. J.J. Leahy
5. Dr. Damien Thompson, Dr. Shane O'Mahony
6. Prof Michael Zaworokto, Dr Shiyuan Zhang.

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Individual faculty award for Excellence in Teaching

Dr Hussain Mahdi. Hussain is based in the Faculty of Science and Engineering. His leadership in enhancing the student learning experience has been wide reaching, substantial and impactful. Since 2001 he has driven UL's Peer supported learning group tutoring programme and by demonstrating a strong evidence base of the impact of his work, has been repeatedly successful in securing funding for the establishment and development of UL's peer supported learning centre. This centre, along with his leadership of a range of other learner support activities has had a demonstrable impact on students' learning, academic competence, success, progression and retention. Most importantly, Hussain's passion for and commitment to student success and engagement is clear in the range of activities and achievements for which he is responsible, as well as in student, peer and expert feedback on his performance as a teacher.

New Faculty

Dr. Andy Stewart, lecturer below the bar in Microscopy, Department of Physics
Dr Cameron Hall, Lecturer in Applied Mathematics, Dept of Mathematics and Statistics
Dr Michael Cauchi, Lecturer below the bar in Statistics, Dept of Mathematics and Statistics

Dates for your Diary

Summer Conferring	21st - 25th August 2017
Orientation	28th August – 1st September 2017
Autumn Semester	4th September – 15th December 2017
UL Open Days	19th and 20th October 2017
Science Week	12th – 19th November 2017
S&E Faculty Board	20th September 2017 29th November 2017
Winter Exam Board	7th December 2017
Graduate Career Information Evenings	26th October: LM124/LM125 9th November: LM099/LM076 16th November: LM123/LM068/LM093 7th December: LM121/LM122

Bereavements

The Faculty extends its deepest sympathies to the following:

The family of Professor Evan Petty, retired, School of Engineering

Dr. Eoin O Connell, ECE Department on the death of his mother, Mrs. Olive O'Connell

Dr. Reiner Dojen, ECE Department, on the death of his father, Mr. Harm Dojen

Prof Noel O'Dowd, School of Engineering, on the death of his father, Mr. Patrick O'Dowd.

The family of Dr George Mullen retired Dept of Biological Sciences

Ms Brid O'Brien-May, MSSI/Bernal Institute on the death of her son, Mr. Luke O'Brien-May.

Ms Valerie Cliffe Barnes, Department of Biological Sciences on the death of her brother, Mr. Eddie Cliffe

Dr. Niall Deloughry, School of Design, on the death of his mother, Mrs Mary Deloughry.