

Contents

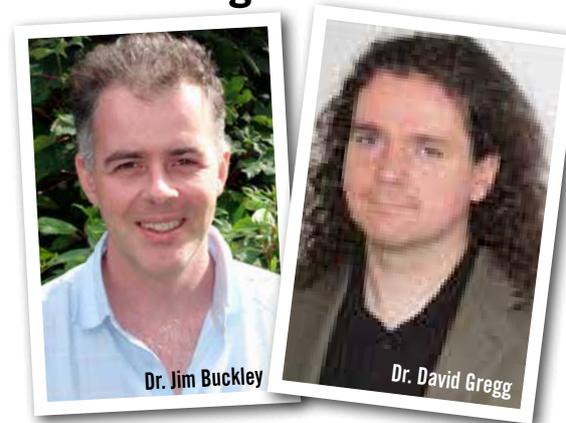
- SFI Investigator Programme Funding
- Lero Visit to Vistakon
- Young Scientist
- 2013 Scratch Competition
- LGSSSE at Postgraduate Study Fair in UL
- Conferences and Workshops
- ICPE 2014
- AMCIS 2013
- Dublin Bid wins ICIS 2016
- Smart Grid 2013
- Testing the Cloud 2013
- Tool Demonstration Track
- Graduations and Vivas
- Irish Research Council Gran
- Congratulations to Dr. Padraig O'Leary
- Big in Japan
- 2013 International Women's Day
- Publications

SFI Investigator Programme Funding

Congratulations to Lero researchers Dr. David Gregg Lero@TCD and Dr. Jim Buckley Lero@UL who were awarded €839,000 from SFI under the Investigator Programme.

Dr. Gregg was awarded €563 K to investigate "Data-centric ultra-low power embedded computing". This award will allow him to build upon the work already funded under the Lero CSET programme and other funding schemes. Over the last decade energy has become the main limiter of computing performance. As energy consumption increased, the industry has adopted measures to limit energy and heat dissipation such as lower clock frequencies and multiple cores. Improved energy efficiency would allow a reduction in power bills and greenhouse gases while increasing battery life and functionality of low-power systems. The goal of this project is to develop techniques for high performance ultra-low energy embedded systems. We will achieve this with a parallel data centric model of computation aimed at minimizing the energy cost of data movement. The aim is to achieve extremely high levels of energy efficiency. While the proposed research is aimed at HPEC, many of the solutions will be applicable to other forms of energy efficient computing.

Dr. Buckley's research project is entitled: "Establishing best practice in Software Architecture Consistency Processes" and it probes the tricky question of promoting consistency between the designed architecture of software systems and the as-implementation architecture of those systems. Dr. Buckley said: "It's analogous to ensuring that the blue-print for a house is the same as



the actual design of the finished house. The difference in software systems is that the blue-print my never actually be written down, that, even when it is, it's often not followed by the builders, and the resultant differences are obscured by the complexity of the implemented system. However, like a house, once these differences are embedded in the finished system they can degrade the quality and maintainability of the system and are very costly to remove."

This award will allow Dr. Buckley to build upon his existing architecture recovery and architecture consistency work with companies like IBM Ireland, FINEOS, Information Mosaic and QAD Ireland: work already funded under the Lero CSET programme, Enterprise Ireland Innovation Partnership grants and Enterprise Ireland Commercialization funding. This funding involves collaboration with Information Mosaic, and Fidelity Ireland, although several other companies have expressed an interest in joining the collaboration ■



Director's Message

Welcome to another edition of the Lero newsletter. In addition to the usual items relating to conferences and publications, in this issue we have some great news on additional funding for two of our researchers. Also, we have news on industrial engagements and outreach and news on graduations. Congratulations to all for a very successful period. ■

Professor Mike Hinchey
Director

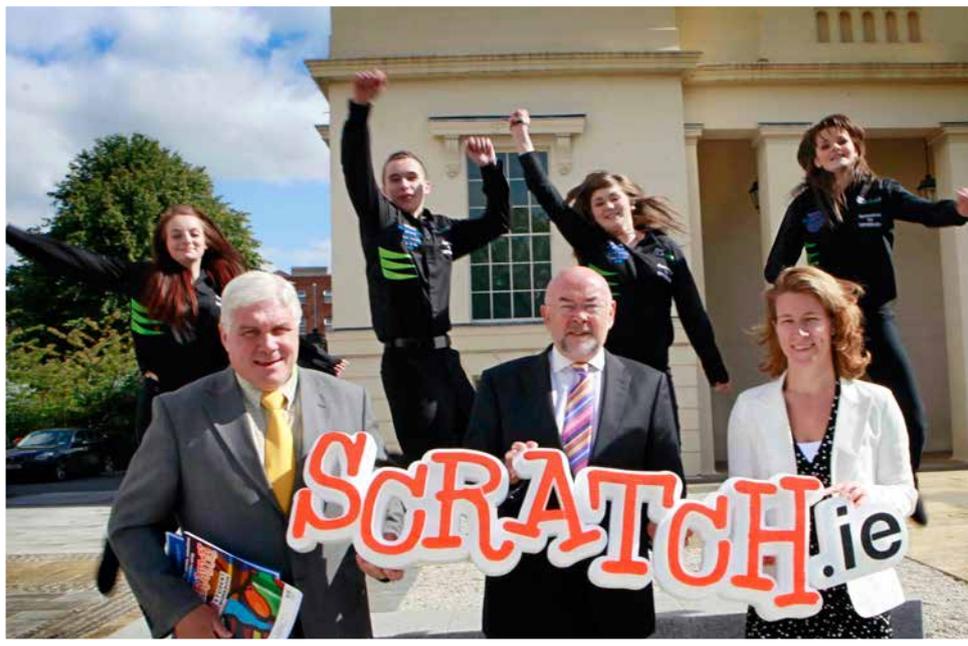
Lero Visit to Vistakon

A group from Lero (Sarah Beecham, Klaas-Jan Stol, Brian Fitzgerald, Brendan O'Malley, Rory O'Connor and Lorraine Morgan) were taken on a tour of Johnson & Johnson's Vistakon soft contact lens manufacturing plant in Limerick recently. The Lero group discussed collaboration opportunities with the newly-established Automation Centre of Excellence for Johnson & Johnson's Medical Device and Diagnostics group.

Dr. Sarah Beecham, Dr. Klaas-Jan Stol, Prof Brian Fitzgerald, Mr Brendan O'Malley, Dr. Rory O'Connor, Dr. Lorraine Morgan



2013 Scratch Competition



Aspiring young software developers can now enter the 2013 Scratch competition that aims to get primary and secondary school students involved in software development by using the Scratch programming language. Education Minister Ruairi Quinn, TD, launched the Irish Computer Society's (ICS) 2013 Scratch competition along with students from St Ailbe's Secondary School in Co Tipperary. The ICS Scratch Competition is sponsored by Lero - The Irish Software Engineering Research

Centre, and supported by IT Tallaght and IT Sligo. The competition aims to give students an understanding of how software is built and how it works. Another aim of the competition is to give students a glimpse of possible future careers in the software development sector. Lero has developed free Scratch teaching materials for primary and secondary school teachers. At primary level, Scratch is now being taught in more than 700 classrooms.

Young Scientist



Rebecca Yates, Pooyan Jamshidi and Clare McInerney represented Lero at the BT Young Scientist Exhibition on Thursday January 10th at the SFI stand. It was very enjoyable and great to meet with so many enthusiastic students ■

LGSSSE at Postgraduate Study Fair in UL

The Postgraduate Study Fair in UL is one of the most popular events in the annual programme of career events organised on campus and attracted some 700 students. This reflected the high level of interest in postgraduate study options and the need to provide them with an opportunity to meet with course providers and get accurate information on entry requirements, course content, research options and other details on postgraduate study and research options. There were approximately 40 exhibition stands covering the main postgraduate study and research opportunities in Ireland at the fair.



Clare McInerney with students



Dr. Ita Richardson

Clare McInerney, Lero Education & Outreach Officer, Patsy Finn, Lero administrator and Dr. Ita Richardson of Lero@UL attended the event on February 6th and manned the Lero stand on the day providing information to potential PhD students about Lero and on possible opportunities for them in Lero. Please see <http://www.lero.ie/vacancies> for further information on post grad opportunities in Lero.

ICPE 2014

John and Liam Murphy from Lero@UCD were successful in their bid to host the International Conference on Performance Engineering (ICPE) in Dublin in 2014. ICPE provides a forum for the integration of theory and practice in the field of performance engineering. ICPE is an annual joint meeting that has grown out of the ACM Workshop on Software Performance (WOSP) and the SPEC International Performance Engineering Workshop (SIPEW). It brings together researchers and industry practitioners to share ideas, discuss challenges, and present results of both work-in-progress and state-of-the-art research on performance engineering of software and systems.

Tool Demonstration Track

“JITTAC, a Just-In-Time Tool for Architecture Consistency has been accepted to the Tool Demonstration track of ICSE this year. It was developed for Lero/CSIS by Sean Mooney, builds on earlier work (the ACTool) by Jacek Rosik, and is based on Dr. Jim Buckley and Dr. Nour Ali's design. For the ICSE video of the tool, please see the youtube clip: <http://www.youtube.com/watch?v=BNqhp40PDD4&feature=youtu.be>

Dublin bid wins ICIS 2016

Brian Fitzgerald and John Mooney were successful in their bid to host the International Conference on Information Systems (ICIS) in Dublin in 2016. This is the 37th conference in the series and attracts about 1500 attendees from all around the world. The Dublin bid beat off very strong competition from Munich, Vienna and Istanbul. Brian Fitzgerald has been awarded a grant of €50K from Science Foundation Ireland to host the 37th International Conference on Information Systems (ICIS) Conference in Dublin in 2016

Testing the Cloud 2013

Christina Thorpe and Anthony Ventresque from Lero@UCD are organising the 1st International Workshop on Testing The Cloud (TTC 2013) at ISSTA next July. ISSTA, the International Symposium in Software Testing and Analysis, brings together academics, industrial researchers, and practitioners to exchange new ideas, problems, and experience on how to analyse and test software systems. In TTC we aim at bringing together researchers and practitioners interested in this difficult question of testing the cloud, i.e., a complex distributed, dynamic and interconnected system. Hence we call for regular scientific submissions, but also for industrial experience feedbacks. <http://issta2013.inf.usi.ch/>

AMCIS 2013

Orla O'Dwyer is co-chair of the Agile Project Management Track at the 19th Americas Conference on Information Systems (AMCIS 2013), which will be held on August 15-17, 2013 in Chicago, IL. Further details are available at http://amcis2013.aisnet.org/index.php?option=com_content&view=article&id=74&Itemid=58

Smart Grid 2013

Dr. Mazeiar Salehie is the co-organizer of the 2nd workshop on Software Engineering challenges for the Smart Grid (SE4SG), in conjunction with the International Conference on Software Engineering (ICSE). The workshop will be held in San Francisco, USA, on May 18th, 2013. The CFP can be found in <http://se4sg.ipd.kit.edu/>



NUI Galway
OÉ Gaillimh

LESS 2013 at NUI Galway

The 4th International Conference on Lean Enterprise Software and Systems (LESS2013) will be hosted by the National University of Ireland Galway. The conference brings together both industrial practitioners and researchers in the fields of information systems and software engineering, and focuses specifically on theory, practical applications and implications of agile and lean development methods. LESS joins three strong communities to form a platform for innovative ideas and future developments. We foster the interaction between the lean product development community and the agile community, coupled with innovative ideas nurtured by the Beyond Budgeting school of thinking. The LESS 2013 conference will have five key tracks:

Enterprise Transformation: This track examines a broad range of emerging issues concerning transformation of how business is conducted in order to help cope with shifts in environments.

Lean Startups: Lean Startup is an approach for launching businesses and products, that relies on validated learning, scientific experimentation, and iterative product releases to shorten product development cycles, measure progress, and gain valuable customer feedback. In this way, companies, especially startups, can design their products or services to meet the demands of their customer base without requiring large amounts of initial funding or expensive product launches

Lean & Agile Project & Portfolio Management: This track examines emerging issues in the area of agile and lean methods. Papers are also welcome on the application of these methods in project portfolios.

Scaling Software: Software is increasingly scaling in importance in companies in different industry sectors who would not have traditionally seen themselves as primarily software companies. As a consequence, software development environments need to scale in various dimensions, e.g., Processes and Methods; Products, Systems and Services; Organization and Business Domains.

Beyond Budgeting: This theme focuses on Beyond Budgeting and other contemporary approaches to the management of organizations.

David Parnas, Professor Emeritus of Software Engineering at the University of Limerick will be one of the keynote speakers at LESS 2013.

ORGANISATION

General Chair

Brian Fitzgerald, Lero, University of Limerick

Program Chairs

Kieran Conboy, National University of Ireland, Galway

Ken Power, Cisco Systems, Galway, Ireland

Ricardo Valerdi, University of Arizona, USA

Organising Chairs

Lorraine Morgan, Lero, NUI Galway

Klaas-Jan Stol, Lero, University of Limerick

Doctoral Symposium Chair

Xiaofeng Wang, Free University of Bozen Bolzano

Executive Track Chair

JK Srinivasan, MIT, USA

Graduations and Vivas



Murat pictured with his supervisor Dr Rory O'Connor on the day of his graduation

Murat Yilmaz (LGSSE student of Rory O'Connor at DCU) was officially conferred with a PhD degree at the graduation ceremony in DCU on Saturday 23 March. Murat's thesis was entitled "A Software Process Engineering Approach to Understanding Software Productivity and Team Personality Characteristics: An Empirical Investigation". Congratulations to Murat ■

Irish Research Council Grant

Marti Lotter, radiographer at the Mid-Western Regional Hospital, has received funding from the Irish Research Council Employment-Based grants. Her proposed supervisor is Dr. Ita Richardson. ■



Congratulations to Dr. Miao Wang (UCD) and Dr. Patrick McDonagh (DCU), who both graduated from UCD in December 2012. ■

Congratulations to Dr. Padraig O'Leary

On Thursday last, received a graduate diploma in New Business Development from Dublin Institute of Technology. ■

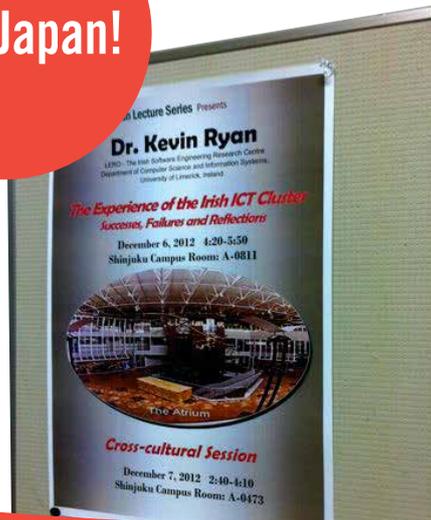


Dr. Ita Richardson spoke at the University of Limerick International Women's Day Conference on 8th March. Her talk was titled "Challenging the Leaky Pipeline in Science, Engineering and Technology". ■

Congratulations to Dr. Sadhana Deshpande, Dr. Stephen Lane and Dr. Khaironi Sharif who graduated with their PhDs from the University of Limerick in January. Sadhana's research, 'A Coordination Model for Global Software Development Teams', was supervised by Dr. Ita Richardson and Dr. Sarah Beecham. Stephen was supervised by Dr. Ita Richardson, and his thesis is titled SOAdapt: A Process Reference Model for Developing Adaptable Service-Based Applications. Dr. Jim Buckley supervised Khaironi in his research on "Open Source Programmers' Information Seeking". ■



Big in Japan!



Professor Kevin Ryan recently undertook a speaking tour of Universities and research groups in Japan. On the 6th of December he was at Kogakuin University in Tokyo and gave a graduate seminar on the development of the Irish ICT Cluster and on the following day he participated in an English Language seminar for students taking international studies. On the 12th Kevin was at the National Institute for Informatics, which has strong links with Lero through Prof. Bashar Nuseibeh. Kevin gave a talk on Technology Transfer in Requirements Engineering. On 13th he gave a retrospective on Software Engineering Research to a graduate class in Nanzan University, Nagoya and on the 14th he spoke at a Requirements Engineering workshop at the Japanese Information Technology Industry Association (JISA). ■

Publications

Conference Papers

Djahel, S., Salehie, M., Tal, I. and Jamshidi, P. (2013) 'Adaptive Traffic Management for Secure and Efficient Emergency Services in Smart Cities', in the IEEE Pervasive Computing and Communication (PerCom) conference (WiP track), San Diego, California, USA.

Finnegan, A., McCaffery, F. and Coleman, G. (2013) 'Development of a process assessment model for assessing security of IT networks incorporating medical devices against ISO/IEC 15026-4', in the 6th International conference on Health Informatics (Healthinf 2013), Barcelona, Spain. pp 250-255.

Flood, D., McCaffery, F. and Casey, V. (2013) 'A roadmap to implement a quality management system', in the 6th International conference on Health Informatics (Healthinf 2013), Barcelona, Spain. pp 133-138.

Jamshidi, P., Ghafari, M., Ahmad, A. and Pahl, C. (2013) 'A Framework for Classifying and Comparing Architecture-Centric Software Evolution Research', in 17th European Conference on Software Maintenance and Reengineering (CSMR 2013), Genova, Italy.

MacMahon, S. T., McCaffery, F. and Keenan, F. (2013) 'Towards a Process Assessment Model for IEC 80001-1', in the 6th International conference on Health Informatics (Healthinf 2013), Barcelona, Spain, pp 301-304, Poster Paper.

MacMahon, S. T., McCaffery, F., Lepmets, M., Eagles, S., Renault, A. and Keenan, F. (2013) 'Assessing against IEC 80001-1', in the 6th International conference on Health Informatics (Healthinf 2013), Barcelona, Spain., pp 304-308, Poster Paper.

Journal Articles

Ali, R., Dalpiaz, F. and Giorgini, P. (2013) 'Reasoning with Contextual Requirements: Detecting Inconsistency and Conflicts', Information and Software Technology (IST) Journal, 55(1), pp 35-57.

Books

Hashmi, S. and Richardson, I. (2013) 'A Cloud Based Model to Facilitate Software Development Outsourcing to Globally Distributed Locations', in the 7th Global Sourcing Workshop, Val d'Isere France.