

ISA Ireland Section

2014 Honours and Awards



University College Cork
Wednesday 10th December 2014

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About ISA Worldwide

ISA – The International Society of Automation has 35,000 members in 95 countries. The ISA is a global, nonprofit, educational organisation connecting people and ideas in automation and control. The Society fosters advancement in the theory, design, manufacture and use of sensors, instruments, computers and systems for automation and control in a wide variety of applications. In addition to hosting the largest conferences and exhibitions for automation and control. ISA is a leading technical training organisation and a respected publisher of books and standards.

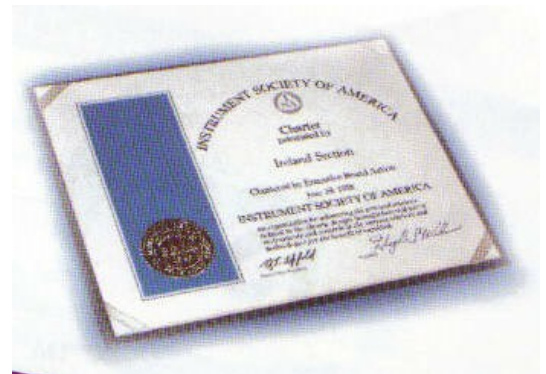
ISA also serves the professional development and certification needs of industry professionals and practitioners with its Certified Automation Professional (CAP), Certified Control Systems Technician® (CCST®), Certified Industrial Maintenance Mechanics (CIMM) programs and the Control Systems Engineers (CSE) license.

Born as the Instrument Society of America in 1945, in Pittsburgh, Pennsylvania, USA. The society grew out of the desire of 18 local instrument societies to form a national organization. Membership grew from 900 in 1946 to 6,900 in 1953 to 30,000 in 2004.

Recognising ISA's international reach and the fact that its technical scope had grown beyond instruments, in 2008, the ISA Council of Society Delegates approved a name change to the International Society of Automation. Today, ISA has 155 regular Sections and 170 Student Sections throughout the world.

Today's Mission:

Maximise the effectiveness of ISA members and other practitioners and organizations worldwide to advance and apply the science, technology, and allied arts of instrumentation, systems, and automation in all industries and applications. Identify and promote emerging technologies and applications. Develop and deliver a wide variety of high-value information products and services to the global community.



ISA Ireland Section

The Ireland Section, which is voluntary with a membership of over 160, received its charter in 1978. Its purpose is to bring together all personnel involved in the instrumentation and related disciplines in order to enhance their capabilities in instrumentation design, manufacture and use.

The sections calendar of events, for the coming year will see:

- Two Seminars and Six Technical Talks
- Plant Tours
- Annual Honours & Awards ceremony.

ISA Ireland President Mr. Alan Bateman

I would like to welcome you all here this evening, to our 33rd annual Honours and Awards Ceremony. We hold this annual ceremony to acknowledge and encourage excellence for those training for careers in Instrumentation, Systems and Automation.

This year we have seven awards, four of which have been submitted by Third Level institutions and three industry awards. I would like to welcome the recipients and their families

We are delighted each sponsor is represented here this evening, this clearly shows the industry's awareness and support for promoting and awarding excellence.

I would like to thank University College Cork for allowing use this very elegant and historic Common Room. I hope you all have a very relaxed and enjoyable evening as we celebrate excellence in our industry. I would like to wish you and your families a joyful Christmas and a prosperous new year.



ISA IRELAND SECTION PRESIDENTS

Year	Name	Year	Name
1977 / 1979	Mr. Fred Gilroy	1998 / 1999	Mr. Declan Lordan
1979 / 1980	Dr. Liam McDonnell	1999 / 2000	Mr. Brian Curtis
1980 / 1981	Mr. Maurice Radford	2000 / 2001	Mr. Eamon Creech
1981 / 1983	Mr. John Power	2001 / 2002	Mr. Tony Mahon
1983 / 1984	Mr. Malachy Hanley	2002 / 2003	Mr. Alan Edwards
1984 / 1985	Mr. Eoin O'Riain	2003 / 2004	Mr. Peadar Walsh
1985 / 1986	Mr. Harvey Makin	2004 / 2005	Mr. Martin Almond
1986 / 1987	Mr. Frank Maher	2005 / 2006	Mr. Kevin Dignam
1987 / 1988	Mr. Brendan Barry	2006 / 2007	Mr. Brian Nolan
1988 / 1989	Dr. Liam McDonnell	2007 / 2008	Mr. Jim Long
1989 / 1990	Mr. Fred Gilroy	2008 / 2009	Mr. Michael Meade
1990 / 1991	Dr. Eamon Cashell	2009 / 2010	Mr. Kevin McCarthy
1991 / 1992	Mr. Ger Dullea.	2010 / 2011	Mr. David O'Brien
1992 / 1994	Mr. John Lotty	2011 / 2012	Mr. John Downey
1994 / 1995	Mr. Robert Shine	2012 / 2013	Mr. Kieran Coughlan
1995 / 1996	Mr. John Farrell	2013 / 2014	Mr. Liam O'Brien
1996 / 1997	Mr. Aidan Howard	2014 / 2015	Mr. Alan Bateman
1997 / 1998	Mr. Billy Walsh		

Craft Person Award

Criteria:

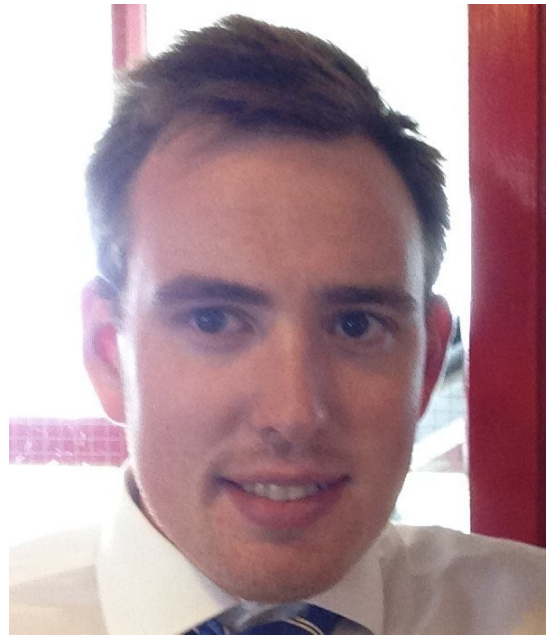
To be awarded, on the nomination of Cork Training Centers and / or Carlow Institute of Technology, to the best final year instrumentation Apprentice for notable academic and practical achievements in instrumentation.

Recipient:

Mr. Thomas Sheehy
Cork Training Centre, Cork.

Nominated by:

Mr. Pat Mc Carthy
Cork Educational and Training Board.



Thomas Sheehy Completed an apprenticeship in refrigeration, and during his time in phase 2 enquired about moving into the instrumentation trade. I advised Tommy to complete his trade in full, and on completion, to start the Electrical / Instrumentation trade from the start without applying for any exemptions, which Tommy did.

It has taken Tommy 8 years to complete his goal and as can be noted from his results he has achieved Credits in practically every subject in Refrigeration, Electrical and Instrumentation during those 8 years.

He has represented Ireland in the Calgary 2009 World Skills Competition achieving a highly successful 5th place, and as a result was invited as a Workshop Supervisors Assistant to London 2011, Germany 2013 and also to Brazil 2015.

Tommy served his time with Carrigdhoun Instrumentation based in Eli Lilly, Kinsale and has taken his apprenticeship very seriously. Tommy has also completed other external and

ISA IRELAND SECTION 2014 HONOURS AND AWARDS SPONSORS



Degree Award

Criteria:

To be awarded, on any nomination, to the best final year Degree student specialising in any area of Automation Instrumentation or Control.

Recipient:

Mr. James Kelly
Dublin Institute of Technology, Dublin.

Nominated by:

Mr. Gavin Duffy
Lecturer with the School of Electrical & Electronic Engineering at Dublin Institute of Technology.



James undertook a 15 ECTS project to investigate the process control of a pilot plant batch reactor in the final year of his Bachelor of Engineering in Electrical Engineering.

The task involved the research of measurement and control strategies for this unit operation which is widely used by the pharmaceutical industry in Ireland. Instruments were calibrated and loop tested through to a Supervisory Control and Data Acquisition (SCADA) screen developed using LabVIEW software not used by James prior to this project.

Standard ISA documentation was used throughout the project such as Piping and Instrument Diagram (P&ID) drawings, loop drawings, instrument lists and block diagrams of the control system. Control algorithms were implemented using an Allen Bradley MicroLogix 1100 processor. The main emphasis in this project, however, was on the application of control systems engineering to this process.

James demonstrated excellent proficiency at both the levels of theoretical understanding and the application of this theory to implement controller strategies in the pilot plant unit. From analyzing the dynamic response of the system using advanced mathematics to implementing a cascade control strategy, James showed a very high level of understanding of, and ability to integrate, several challenging aspects of the programme. He was also able to be an applied engineer, who could transfer this knowledge to a real system. Although his major course of study was Power Engineering, James was well able to transfer his academic skills to a different major area, Control Systems Engineering.

He presented his work as both a report and a presentation and both were delivered to a very high standard. He completed this work while studying for three other modules in his final year. He was awarded a very high mark for his project work and, I believe, has demonstrated an excellent proficiency in the area of instrumentation, control and automation.

Honour's Degree Award

Criteria:

To be awarded, on any nomination, to the best final year Degree student specialising in any area of Automation, Instrumentation or Control.

Recipient: Mr. James Reidy

Limerick Institute of Technology, Limerick.

Nominated by:

Mr. Paul Morrow

Lecturer with the department of Electrical & Electronic Engineering at Limerick Institute of Technology.



James' academic results throughout his four years of study at Limerick Institute of Technology have been unprecedented within the Electrical and Electronic Engineering department. James obtained a Level 7 Degree in Automation and Control Technology in 2013 and then completed the 1-year add-on of a Level 8 Honours Degree in Electronic Systems. James obtained a distinction in both awards and obtained the highest academic results in his class for all four years that he studied at LIT.

James was recognized for his outstanding academic achievements by obtaining the awards listed below at the graduation ceremonies which took place at LIT in October 2013 and October 2014. The awards included;

2013 - Analog Devices B.V. Award for excellence on the Bachelor of Engineering in Automation and Control Technology.

2014 - LIT Student of the year Presidents Award

2014 - Stryker Orthopaedics Award for overall Excellence in Engineering

In 2013 and 2014, James completed a Final Year Project for the Level 7 Degree in Automation and Control Technology and Level 8 Degree in Electronic Systems respectively. James's projects included An Investigation into Bluetooth IO and Wireless HMI Technology, and Development of Demonstration Cell which were of an exceptional standard and were done in conjunction with Modular Automation in Shannon.

James started working in Modular Automation as part of a Summer Internship back in 2012, developing an R&D project using wireless sensor technology. Even at this early stage in his development, James demonstrated an ability to adapt to new challenges and technologies without difficulty. James definitely stood out as a special talent and possessed a great interest in the area of Automation.

While continuing with his studies in LIT, James worked part-time with Modular Automation, on a variety of technologies from, controlling a robot wirelessly using a tablet, to researching the latest technologies in machine Vision, Safety and Control. James has a great capacity to self learn and is equally comfortable working in a team. James has now joined Modular Automation on a fulltime basis and has proven to be an extremely valuable addition to their team.

Post Graduate Award

Criteria:

To be awarded, on the nomination of any third-level institution, to the best Post Graduate student awarded PhD / BSc in Automation Instrumentation or Control in Ireland.

Recipient:

Mr. Mark Hogan
University of Limerick, Limerick..

Nominated by:

Dr. Hassan Kagazchi
Director with the Automation Research Centre
University of Limerick.



Mark has just graduated with a Master of Technology degree from University of Limerick. His thesis title was “Simulation and Development of a Next Generation Post Hydration System for Contact Lens Manufacturing”.

Mark investigated a number of different methods for developing a new automated production line for manufacturing contact lenses. From this research a combination of simulation software was implemented. These simulations allowed Mark to test concepts and enabled him to maximise the performance of each concept. The performance of each concept was maximised by optimising the footprint, reconfiguring the sub sections to be more efficient, reducing the processing time of sub sections and by increasing the quantity of lenses being processed.

Mark’s simulations proved to be invaluable at identifying problems before they arose and it also proved to be invaluable at measuring cycle times. This reduced the need for physical testing and for engineering solutions to unnecessary problems. This dramatically reduced the time from design to installation.

The production line for manufacturing contact lenses required a method of sorting random arrays of contact lenses into groups of five. To solve this problem two sorting algorithms were developed. These sorting algorithms take these random arrays and they calculate the required output array. Based on the sorting algorithms calculations, a sorting robot is driven to the required positions to sort the arrays into groups of five. These sorting algorithms were developed and tested using simulation. The simulation allowed for each algorithm to be tested extensively with a variety of different variables and yields. Simulating each algorithm allowed the candidate to prove their effectiveness and to remove issues before being implemented.

The automated production line required a number of industrial robots for moving product through the production line. Selecting the most ideal robot for different operations is critical for maximising the performance of these operations. Mark used a number of off-line robot

simulation packages to measure the performance of different robots. Based on this the most ideal robots for their operation were selected. The robots compatibility were concluded from measuring a number of different characteristics.

These characteristics include cycle time, reach and lifting capabilities. Because Mark used simulation software for selecting robots, he felt the need to measure the accuracy of the simulations being used. The accuracy of the simulations was tested and measured against an actual robot. Based on this the simulations being used were proven to be accurate.

Setting the Standard for Automation™

Individual Innovation Award

Criteria:

To recognise a individual who has made a significant contribution to the advancement of industry in Ireland through the use of Automation Technology.

Recipient:

Mr. Robert Laffan
Limerick Institute of Technology, Limerick.

Nominated by:

Mr. Ian Foley (Lecturer)
Limerick Institute of Technology.



Robert wanted to use his automation skills to develop a user interface for his daughter who has special needs in the form of Autism. Robert's daughter Sadie is unable to communicate verbally.

The project was to design a Human Machine Interface (HMI) and Programmable Logic Controller (PLC) solution that would enable Sadie to communicate her feelings and requirements through HMI screens and automatically send SMS messages to her parents. The HMI / PLC hardware that he is using for the project is a V1210 Unitronics HMI / PLC.

Also included in the project were different interfaces that Sadie could problem solve, interact, and further her learning experience. Robert is currently participating in an evening course in communicating with people with Autism, and is using what he is learning on the course and incorporating it into his project.

Innovative Project Award

Criteria:

To recognise a project which has made a significant contribution to the advancement of industry in Ireland through the use of Automation Technology

Recipient:

Gilead Sciences
Serialisation Team

Nominated by:

Mr. David Twohig
Gilead Sciences,
Carrigtohill, Co. Cork.



Serialisation Project Team (L-R) – David Twohig, Liam O’Riordan, Jean Luttrell, Pat Kennedy, John Mannion.

Serialisation has presented a unique challenge to the pharmaceutical industry within Ireland and across the world. It is being utilised to protect the interests of both the patient and manufacturer through increased protection against the supply of counterfeit product into the legitimate supply chain. The deployment of these solutions onto existing complex packaging and supply chain operations has “*thrown down the gauntlet*” in project terms. Failing to meet the specific country regulatory requirements and timelines will prevent manufactures from supplying products to patients in the respective markets.

In order to support the Gilead Global Serialisation Programme and ensure the Cork facility continues to supply products to one of its key markets, the site team embarked on a project to serialise its Korean Products for 2015.

- A new high volume secondary packaging line was installed and qualified consisting of 4 areas of operation (Bottle Labelling, Packaging of bottles into cartons with product information, Serialisation of products and Bundling).
- The installation of a dedicated serialisation work centre for the purposes of redundancy.
- The site serialisation system was deployed, integrated and qualified in parallel to the equipment.
- The site serialisation system was integrated with the corporate Electronic Resource Planning (ERP) system to provide a fully automated solution for the execution of work orders.

Over the last 18 months the team in Cork have worked with their global partners and various vendors to successfully manage the deployment of the Serialisation Programme to Cork.

The successful delivery of this programme milestone has enabled the Cork team to achieve the first of their “Go Live” targets and commence commercial packaging of serialised product on schedule while also increasing flexibility for the business from the adaption of this new technology.

Pioneer Award

Criteria:

To be awarded, on the nomination of two or more Society members, in recognition of a lifetime devoted to Instrumentation / Automation in Ireland.

Recipient:

Mr. Clive Doherty (Retired)
Pfizer Loughbeg, Cork .

Nominated by:

Mr. John Murphy (Pfizer Ringaskiddy)
Mr. Declan Lordan (Douglas Control and Automation).



Clive studied Mechanical & Production Engineering at Trinity College, Dublin. After graduating in 1965 he worked with Goulding Chemicals in Dublin as a Project Engineer and after four years was appointed Plant Engineer for Goulding's Cork facility. In 1979 Clive joined CPM / Europe, Wexford (die manufacturing) as Manufacturing Manager, responsible for all aspects of manufacturing in the plant.

In 1982 Clive was appointed Engineering Manager with Yates Industries (copper foil manufacturing) in Cork. The copper foil was produced using an electrochemical process and the finished product was used in the manufacture of PCB's. Responsibilities covered all aspects of the Engineering function in the plant.

In 1988 Clive moved to Angus Fine Chemicals, Loughbeg, Ringaskiddy as Engineering Manager. The facility was established to contract manufacture pharmaceutical intermediates and active pharmaceutical ingredients for the major pharmaceutical companies. Customers included Glaxo, Warner-Lambert, Pfizer to name a few.

The Angus facility was purchased in 1997 by Warner-Lambert and was significantly upgraded with a \$690 million project for the worldwide manufacture of Lipitor and Clive was appointed Project Manager for the upgrade. The timeline was 3 years and the project was completed on time and within budget.

Pfizer purchased the Warner-Lambert Company in a takeover in 2000 and Clive was appointed Site Leader for the Loughbeg manufacturing site with overall responsibility for the operation of the facility. He held this position until retirement in August 2006.

The biggest change Clive has seen in manufacturing which has given rise to real improvements has been in process control and automation. Process control used to be performed manually with all the risks to quality, accuracy and repeatability this method had. This led to process variability with the potential for quality and safety issues. With automation this variability was removed so quality was made consistent, and the process could be more easily optimised.

ISA IRELAND SECTION 2014 / 2015 CORPORATE SPONSORS



Honours & Awards 2014 Program of Events

University College Cork, Wednesday 10th December 2014

- 18:00** Arrival of Lord Mayor Councillor Mary Shields.
- 18:10** Past President Mr David O'Brien will begin proceedings.
- 18:15** Formal opening by Lord Mayor Councillor Mary Shields.
- 18:20** Response from the President of ISA Ireland Section Mr. Alan Bateman.
- 18:25** Presentation of Awards.

Craftsperson Award	Mr. Thomas Sheehy	Cork Training Centre
Degree Award	Mr. James Kelly	Dublin Institute of Technology
Honours Degree Award	Mr. James Reidy	Limerick Institute of Technology
Post Graduate Award	Mr. Mark Hogan	University of Limerick
Individual Innovation Award	Mr. Robert Laffan	Limerick Institute of Technology
Innovation Project Award	Gilead Serialisation Team	Gilead Sciences, Ireland
Pioneer Award	Mr. Clive Doherty	Pfizer, Cork (Retired)

- 18:55** Response from the Innovative Project Award Representative, Mr. John Mannion.
- 19:00** Response from the Winner of Pioneer Award, Mr. Clive Doherty.
- 19:01** Photographs of Award winners with the Lord Mayor.
- 19:15** Photographs of Sponsors with the Lord Mayor.
- 19:30** Reception.
- 20:30** Close of Honours and Awards Reception.



The Ireland section of ISA has conducted an annual Honours & Awards programme since 1980. This programme is intended to acknowledge and encourage excellence amongst those involved in, and those training for careers in Automation, Instrumentation and related areas of technology.

Cork Institute of Technology
Dublin City University
Galway Mayo Institute of Technology
Trinity College Dublin
University College Galway
Dublin Institute of Technology
Institute of Technology Blanchardstown

Institute of Technology Carlow,
Institute of Technology Tallaght
Institute of Technology Tralee
University College Dublin
Waterford Institute of Technology
Limerick Institute of Technology
Cork Training Centre