

ISA Ireland Section 2022 Honours and Awards



*Munster Technological University
Wednesday 25 January 2023*

e-mail: info@isa.ie
<http://www.isa.ie>

About ISA Worldwide

ISA – The International Society of Automation has 30,000 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 2000, the ISA Council approved a legal name change to ISA -The Instrumentation, Systems and Automation Society. Today worldwide, ISA consists of 174 regular sections and 179 student sections.

ISA Ireland Section

The Ireland Section, which is voluntary with a membership of over 180, 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 Three Technical Talks
Plant Tours
Annual Honours & Awards ceremony
Annual Golf Outing.

Today's Mission

Maximize 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.

Lord Mayor of Cork Councillor Deirdre Forde

I am delighted to be present here tonight to present the awards in this historical centre of education dating back to 1845. This occasion is intended to acknowledge and encourage excellence and achievement amongst those involved in, and those training for careers in automation, instrumentation and related areas of technology.

When people involved in such diverse areas of technology achieve excellence and in the process produce quality work, it is only right that we should publicly acknowledge such success.



ISA Ireland President Mr. Rory Moloney



Apprenticeship Award

Criteria:

To be awarded, on the nomination of Cork Training Centers and / or South East Technological University, to the best final year instrumentation Apprentice for notable academic and practical achievements in instrumentation.

Recipient:

Ms. Eibhlin Hennessy
South East Technological University, Carlow.

Nominated by:

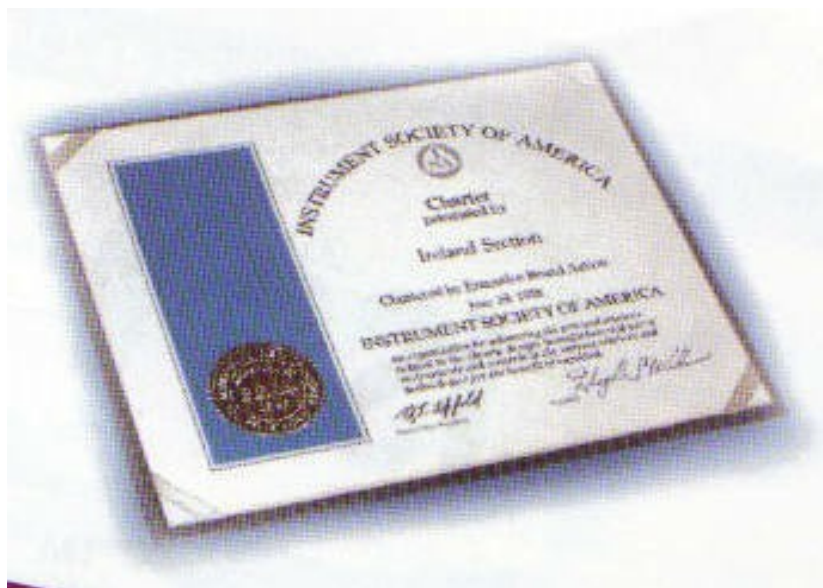
Eddie Mc Elheron
Lecturer at South East Technological University.



Eibhlin choose the apprenticeship route straight from school having achieved over 500 points in the leaving certificate. She demonstrated academic excellence throughout her apprenticeship achieving an overall distinction in her apprenticeship with credits in all exams during phase 2, 4 and 6.

Eibhlin has been a fantastic ambassador for the Electrical/Instrumentation trade, meeting with the minister for higher education at the Carlow campus to discuss the apprenticeship and also conducting interviews across national media outlets.

During her apprenticeship, Eibhlin also furthered education, studying in Carlow during the day and commuting to Cork two evenings a week to study automation.



Degree Award

Criteria:

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

Recipient:

Mr. Eddie Walsh
Technological University Dublin.

Nominated by:

Mr. David Peyton
Lecturer at School of Electrical and Electronic Engineering, Technological University Dublin.



The subject of the project is the practice of recovering energy from domestic heated water prior to discharge to waste. Comparisons are made with commercial and industrial Wastewater energy recovery systems to show the current status of the residential / domestic sector in this regard, and the objectives of heat recovery from wastewater will provide the motivation to develop this sector to provide cost effective means of domestic waste-water heat recovery.

The purpose is to investigate the methodology and practices used to harvest this energy, and to replicate a heat recovery model in simple form, to demonstrate one method of achieving the exchange of heat energy from heated water to a separate body of water.

The practice of heat recovery from domestic hot water is relatively new therefore it is necessary to review the history of wastewater in general, its uses and how heat recovery technology and design being used in commercial / urban projects and installations, can be scaled for use in domestic residential models. The reasons and motivations for pursuing domestic heat recovery are explored to provide the context for the cost benefit analysis of domestic heat recovery from wastewater.

A review of the products, equipment and technology used in the industry will provide the research to design and build a scaled model of a heat recovery system, to demonstrate heat exchange taking place and document data from the experiment.

Honour's Degree Award

Criteria:

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

Recipient: Mr. Dylan Doherty
Dublin City University

Nominated by:

Ms. Eilish Mc Loughlin (Enda and Jennifer)
Lecturer at Dublin City University.



On behalf of the staff of the School of Physical Sciences in Dublin City University (DCU), we wish to nominate Mr. Dylan Doherty (who graduated from the B.Sc. (Hons.) in Applied Physics degree programme on 24th October 2022) for the Honours Degree award of the ISA – Ireland Section.

Microfluidics is the collaboration of science, engineering, and technology applied to the field of fluid mechanics that mainly focuses on the micron to nanometer scale (10^{-6} m to 10^{-9} m). Microfluidics is an interdisciplinary field of research applying knowledge from physics, chemistry, biology, engineering, and electronics production with a wide array of applications in medical diagnostics, chemical analysis, and biotechnology. These systems allow for the control of liquids with volumes on the order of nanoliters (10^{-9} L) or even, in some cases, picoliters (10^{-12} L).

Within recent decades technological progress has been achieved through the scaling down and miniaturisation of devices. Microfluidics is an outcome of his technological advancement, with various fabrication processes stemming from those developed in the microelectronics industry. As miniaturisation has become commonplace, the microfluidics industry has grown substantially.

One factor that has drawn large amounts of interest to the microfluidics industry is the utilisation of scaling laws and continuum breakdown for new effects and better performance. These advantages are derived from the microscopic amount of fluid a microfluidic device can handle. The utilisation of small fluid volumes and small channel and device dimensions leads to benefits in terms of a low Reynolds number, stronger capillary effects and a more substantial contribution by diffusion comparison to convection or bulk flow.

An analysis of various materials used commonly throughout the microfluidics industry, such as silicon, polymers, glass, and metals and the particular mechanical, optical and thermal properties these materials possess was conducted and a review of the four categories of fabrication techniques; Photolithography, solidification and soft lithography, additive processes and subtractive processes and various applications of these processes to fabricate microfluidic devices was explored.

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 Instrumentation / Applied Physics in Ireland.

Recipient:

Mr. Simone Iadanza
Munster Technological University

Nominated by:

Dr. William Whelan-Curtin
Munster Technological University



The recent years' exponential growth of data transmission in datacom and telecom technology (such as in Wavelength Division Multiplexing - WDM) has highlighted the energy consumption challenges of electronics, shifting research and industry interest towards optical interconnects. Novel and more efficient integrated photonics is being given the objective to face the ever-increasing demand for speed and bandwidth. This has initiated, in both industrial and academic environments, a quest for low-power, compact and cost-effective optical interconnects that can be integrated on electronic boards of Datacentres and transceivers all over the world.

Science and technology must provide billions of people with the means to access, move and manipulate, what has become, huge volumes of information. The environmental and economic implications becoming serious, making energy efficient data communications key to the operation of today's society. This creates a strong need for energy efficient data communication and manipulation and a close integration of electronics and photonics.

Simone's thesis titled "CMOS compatible deposited materials for Optical Interconnects" Simone developed a technique to integrate photonic components on a computer chip using deposited polycrystalline silicon and silicon nitride, thereby providing means to increasing data transfer rates on and off the chip. Simone considered the requirement and restrictions of the fabrication processes and configurations. He demonstrated a variety of photonic crystal resonators and lasers using deposited silicon-based materials. These results create the possibility to employ optical resonators in the next generation of 2D and 3D integrated optical interconnects

Simone published 7 journal papers during his thesis- 4 as first author and 3 as second- which is a very good record.

Innovation Project Award

Criteria:

To be awarded to any person or group in recognition of a new invention or application, significant achievement in contributing to instrumentation, automation, measurement and control technology within Ireland.

Recipients:

Ms. Zaida Resendiz-Reyes, Mr. Neil Mc Carthy, Mr. Frank Twohig. Mr. Michael O Connell, BioMarin Biopharmaceutical's



Nominated by:

Mr. Neil McCarthy BioMarin Biopharmaceutical's Ringaskiddy, Co. Cork.

Ms. Zaida Reyes on behalf of BioMarin Biopharmaceutical's project team Neil Mc Carthy, Michael O Connell and Frank Twohig.

The basics of this project were installing and developing software called PEAK Platform in Shanbally site to allow more of the team to become involved in sustainability. Currently, all the energy and sustainability issues are being calculated and demonstrated by the Principal Engineer on site. This software integrates building intelligence, machine learning and technical engineering support to improve the sustainability and reliability across the site.

Any problems with any system or equipment are inspected by technicians or engineers on-site, and a fault may take a few days to detect. However, this program will identify and recommend solutions achieved by the algorithm; will be pre-defined with expected performance of how each AHU, boiler and equipment on the platform, and any deviation from this will be alerted by the system.

The new platform will ease fault detection, highlight where energy saving is possible, recommend future site improvement, and produce effective results in solving faults across the site. All critical from an asset management perspective to highlight issues early.

The other main part of the team was the CIM engineering team, who have previously installed The Peak Platform in different sites across Ireland. The project platform analyses the existing data from the Building Management systems (BMS) delivering innovation and quality, Improves site efficiency through ensuring all the utilities and facilities of the site operate reliably and efficiently, helping to meet sustainability goals of the site and the reduction of CO2.

As a student engineer my role in the project was to be the communication link between all three parties involved. Furthermore, provided the communication of data and collection of data required to be transferred. It ensured that the work that needed to be completed and information that had to be communicated across different teams was done efficiently and quickly. I gained a lot of experience on resource management and scheduling as result of this project.

Automation Champion Award

Criteria:

To be awarded to a person in recognition of their contribution to the advancement of Instrumentation, automation, IT or Industrial systems and / or technology in Ireland.

Recipients:

Mr. Noel Heary, The Brennan & Co Group

Nominated by:

Mr. Eoin Ó Riain Read-out , Co Galway.



Noel has been principal of Irish Power & Process, serving Irish industry for over 30 years in the area of Process Instrumentation and Calibration products. Representing some of the leading industry specialists including Yokogawa, Fluke, Burns Engineering, Camille Bauer and Raytek.

He has vast experience of the Pharmaceutical and Medical Device industry and associated processes and provides products and services on GMP critical processes. His company supplies and maintains industrial process instrumentation and also provides calibration and validation services.

Irish Power & Process was acquired by The Brennan & Co Group earlier this year.



Instrument Pioneer Award

Criteria:

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

Recipient:

Mr. Jim Doyle
South East Technological University

Nominated by:

Mr. Eddie Mc Elheron South East Technological University, Carlow and
Mr Pat Mc Carthy, Cork Education and Training Board.



For over 40 years Jim played a key role in the development, updating and delivery of instrumentation curricula for the Instrumentation and Electrical Instrumentation Apprenticeship in Ireland.

Acting as a conduit between SOLAS, Industry, Education Training Boards, and Institute of Technology Carlow in all Instrumentation apprenticeship matters, Jim played a pivotal role in developing both the Instrumentation and Electrical Instrumentation trades into what they are today.

Jim was also responsible for developing and delivering part-time modules for industries to upskill staff in industrial instrumentation.

Jim always gave freely of his time to both students and other lecturing staff, and for any apprentice struggling with a particular subject, or simply seeking career advice, Jim was always the first port of call.

Jim was well known for his teaching skills and ability to connect with apprentices having delivered instrumentation modules at all levels for both the time served and the standards-based apprenticeship since the 1970's.

Up to his well-deserved recent retirement, Jim has directly taught almost (if not) all time-served Instrumentation and Electrical Instrumentation craftspeople throughout Ireland. The knowledge Jim passed on can be seen in Industries such as Manufacturing, Energy, Utilities and Pharmaceutical throughout the length and breadth of the country.

ISA IRELAND SECTION PRESIDENTS

Year	Name	Year	Name
1977 / 1979	Mr. Fred Gilroy	2001 / 2002	Mr. Tony Mahon
1979 / 1980	Dr. Liam McDonnell	2002 / 2003	Mr. Alan Edwards
1980 / 1981	Mr. Maurice Radford	2003 / 2004	Mr. Peadar Walsh
1981 / 1983	Mr. John Power	2004 / 2005	Mr. Martin Almond
1983 / 1984	Mr. Malachy Hanley	2005 / 2006	Mr. Kevin Dignam
1984 / 1985	Mr. Eoin O’Riain	2006 / 2007	Mr. Brian Nolan
1985 / 1986	Mr. Harvey Makin	2007 / 2008	Mr. Jim Long
1986 / 1987	Mr. Frank Maher	2008 / 2009	Mr. Michael Meade
1987 / 1988	Mr. Brendan Barry	2009 / 2010	Mr. Kevin McCarthy
1988 / 1989	Dr. Liam McDonnell	2010 / 2011	Mr. David O’ Brien
1989/ 1990	Mr. Fred Gilroy	2011 / 2012	Mr. John Downey
1990 / 1991	Dr. Eamon Cashell	2012 / 2013	Mr. Kieran Coughlan
1991 / 1992	Mr. Ger Dullea.	2013 / 2014	Mr. Liam O’Brien
1992 / 1994	Mr. John Lotty	2014 / 2015	Mr. Alan Bateman
1994 / 1995	Mr. Robert Shine	2015 / 2016	Mr. Alan Bateman
1995 / 1996	Mr. John Farrell	2016 / 2017	Mr. John Murphy
1996 / 1997	Mr. Aidan Howard	2017 / 2018	Mr. John Murphy
1997 /1998	Mr. Billy Walsh	2018 / 2019	Mr. Edmund Cuffe
1998 / 1999	Mr. Declan Lordan	2019 / 2020	Mr. Edmund Cuffe
1999 / 2000	Mr. Brian Curtis	2022 / 2021	Mr. Rory Moloney
2000 / 2001	Mr. Eamon Creech	2022 / 2023	Mr. Rory Moloney

Setting the Standard for Automation™

Honours & Awards 25th January 2023 Program of Events

Munster Technological University, Administration Centre, Council Room (2nd Floor)

18:00 Arrival of Lord Mayor Councillor Deirdre Forde.

18:10 Past President Mr David O'Brien will begin proceedings.

18:15 Formal opening by Lord Mayor Councillor Deirdre Forde.

18:20 Response from the President of ISA Ireland Section Mr. Rory Moloney.

18:25 Presentation of Awards.

Apprenticeship Award	Ms. Eibhilín Hennessy, South East Technological University
Degree Award	Mr. Eddie Walsh, Technological University Dublin
Honours Degree Award	Mr. Dylan Doherty, Dublin City University
Post Graduate Award	Dr. Simone Iadanza, Munster Technological University
Innovation Project Award	Ms. Zaida Resendiz-Reyes, BioMarin Biopharmaceutical's
Automation Champion Award	Mr. Noel Heary, The Brennan & Co Group
Pioneer Award	Mr. Jim Doyle, South East Technological University

18:55 Response from the Winner of Pioneer Award, Mr. Jim Doyle.

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.

Thanks to our H&A Chairman Mr. Aidan O Connell, Munster Technological University, our Nominations Review Board and ISA Ireland Section Committee members.

A special thanks and appreciation to our education centres for the time and effort of the lecturers and students for submitting nominations.

**South East Technological University
Technological University Dublin
Technological University of the Shannon
Dublin City University
Atlantic Technological University
Trinity College Dublin**

**Dundalk Institute of Technology
South East Technological University
University College Dublin
University College Cork
University College Galway**