



Message from our President

David Westmore

Dear friends,

As we approach the end of the Summer and this current session, I think we can all reflect on a very unusual year! We have all had to adapt to a quite different way of working, including our AGM, whilst organising a virtual lecture programme for 20/21. The main casualty has, unfortunately, been the James Watt dinner, now postponed until next year.

In addition to the election of new officials and council members for the 20/21 session, the 2020 AGM included an historic Special Resolution and I would like to thank you all for your support and participation in the recent vote – our first online AGM! I am pleased to announce the result:

AGM Special Resolution Vote

We received votes by post, email and in person via Zoom for our Special Resolution to revert to the Institution's original name. 26 members attended the meeting and together with the proxy votes the results were as follows:

- Special Resolution 1: That the name of the company be changed to the Institution of Engineers in Scotland
Votes cast for = 66, votes cast against = 7
- Special Resolution 2: Subject to the passing of Resolution 1, the draft regulations produced to the meeting and, for the purposes of identification, initialled by the Chairperson of the meeting, be adopted as the articles of association of the company in substitution for, and to the exclusion of, the existing articles of association.

Votes cast for = 63, votes cast against = 6

OSCR and Companies House will now be contacted for approval before it can become official.

It is hoped that reverting to the original name will avoid the misconception that the Institution is for shipbuilding related engineers only and therefore help to encourage engineers from all disciplines and industries to participate and improve our standing within the wider community. Whilst I appreciate that not all members will be pleased about the change to a 150 year old name, I would hope that they continue to support the Institution and help maintain its strong ties with the marine industry.

AGM Election of Officials for 20/21 Session

The following were elected:

President
Vice President and Secretary
Past President
Past President and Executive Director
Honorary Treasurer

Dr Andy Pearson
Mr Dick Philbrick
Mr David Westmore
Prof Iain MacLeod
Prof Stuart Cameron

Continuing Councillors:

Mr Norman Wardil
Prof Ian Arbon
Mr Lewis Hammell
Mr Declan MacDonald
Mrs Ruth McIntosh
Mr William Dunbar
Prof Tom Buggy

Mr Graeme Fletcher
Mr Robert Harley
Mr Andrew Stokes
Mr Derek Elder
Miss Paula Pappas
Miss Kimberley Travers

New Councillors:

Mr John Hayden
Dr Malcolm Robb
Mr Paul Sweeney

Mr Hamish Dow retired having completed 3 years as Councillor. The Institution owes Hamish a large debt of gratitude for his work in supporting the Institution.

David M. Westmore

President's Initiative: A Call for Papers

Over the last two years I have noticed that there is not an easy place for engineers to publish papers as they are often eclipsed by the 'big ticket' lectures or do not fit into a particular lecture programme. Therefore, may I invite engineers (Students, Academics, Consultants, Industrial etc) to submit papers of interest for publishing on our website or journal. Papers can be of any length from one A4 page. Topics could include a novel aspect, developments to solve a problem, a large project, research, etc.

These may be ideal for those who wish to contribute without being subject to public lectures or webinars.

Website

We have been working on re-vamping our website and will launch it in early Autumn

The website will be much more up-to-date with plenty of refreshed content which will celebrate our past and future. It will also be tailored to work equally well on either a PC or smartphone.

Our soon to be President – Andy Pearson



I would like to welcome Dr Andy Pearson to the role of President and congratulate him on the success of the Rankine 2020 Conference. On the 29th Sept I will virtually hand over the office of President to Andy and invite him to deliver his Presidential Address – another first!

Andy is a Mechanical Engineer working in the industrial refrigeration sector. He studied Manufacturing Science and Engineering at the University of Strathclyde and joined Star Refrigeration in Glasgow on graduation in 1986. He is now Group Managing Director for the company, which includes an electrical contractor, a freezer manufacturer, a data analytics group, a consultancy practice, a renewable energy group and an American subsidiary in addition to the core industrial refrigeration business.

Andy was the President of the Institute of Refrigeration from 2010 to 2013 and is currently chair of the BSI committee on Refrigeration Safety. He has presented papers at conferences and seminars around the world and writes a monthly column for an international journal.

He enjoys investigating the history of engineering, particularly from the Victorian era and when he is not engineering he can be found singing bass with the Strathclyde University Chamber Choir or playing alto sax with the Heart and Soul Swing Band, a fundraising enterprise on behalf of the Church of Scotland's HIV Programme. He recently edited the Rankine Song Book for IESIS and chaired the Rankine 2020 Conference celebrating the bicentenary of our first President.

Andy will deliver his Presidential Address on Tuesday 29th September, online at 18.30pm, 'Scotland's role in the development of heat pumps: 1850 – 2050'.

Andy's paper will follow the development of the heat pump and considers the role played by Scotland in that process. This included, in 1852, the publication by Professor William Thomson of a paper on the heating and cooling of buildings by currents of air – the first recorded description of a heat pump in academic literature. Several other significant milestones in the development of heat pumps in Scotland followed and some of these are identified and explained in this paper. The paper finishes with a look forward to the prospects and expectations for heat pump technology in the next thirty years. The challenges ahead are not only technical, requiring a multi-disciplinary approach, but are also commercial and predominantly political.

As previously reported in our last bulletin, this year's James Watt Dinner at the Radisson Blu, Glasgow, has been rescheduled to Friday 8th October 2021 due to the Covid crisis.

This year's inductees to the Scottish Engineering Hall of Fame will be announced in October but will be celebrated at next year's James Watt Dinner. We look forward to seeing you all for a grand celebration in 2021!

Rankine 2020 International Conference - highlights, opportunities and challenges for RACHP and ORC

The IIR Rankine 2020 – Advances in Heating, Cooling and Power Generation ended on 31 July following 90 presentations over 20 sessions and 14 coffee lounges. The virtual event attracted over 200 delegates as well as 245 attendees to its Life and Legacy event which precluded the conference.

This event was the ideal opportunities to share ideas, challenges, and opportunities between the worlds of Refrigeration, Air-Conditioning and Heat Pumps (RACHP) and Organic Rankine Cycles (ORC). Some of the common challenges highlighted during Rankine 2020 included the slow adoption of new technologies by end users and the skill shortages experienced both in the RACHP and ORC industries. Both areas also have noticeable differences too – environmental concerns are at the forefront for the RACHP community while technology and thermo properties of fluids are some of ORC's biggest current challenges.

The conference's three keynote speakers which were Eckhard Groll, Marc McLinden and Vincent Lemort were described by delegates as informative, entertaining, and challenging, while younger generations came up trumps with many students presenting their research and three students distinguished with the Student Paper Prize. The virtual component of the conference promoted further exchanges between delegates from different areas of expertise and the coffee lounges became the stage for lively and educational debates. Thanks to the online element of the conference, delegates will have access to all sessions recordings and conference papers up to four months following the end of the conference, which is one of Rankine 2020's greatest perks. Anyone who hasn't joined the conference but is interested in William Rankine's work can tune into the Life and Legacy Event – the recording is now available for all to view from the IOR's web site at ior.org.uk/events.

Rankine 2020 – Student Prize for Best Paper

IESIS were delighted to support the IIR Rankine 2020 – Advances in Heating, Cooling and Power Generation that took place in July. A high point of the conference was with the excellent level of engagement from students, many of whom presented their work during the event.

A prize for the best student paper in each of the three conference streams was awarded. The winners were

Refrigerants stream: Semi-empirical Evaluation of HCFO-1224yd(Z) as a Replacement for HFC-245fa in High Temperature Heat Pumps by Carlos Mateu-Royo of Universitat Jaume I

Power generation stream: Gradient Based Design Optimization of a Radial Inflow Turbine by Brede Hagen of Norwegian University of Science and Technology

Overall winner and Heating and cooling Stream: Scalability of Chemical Looping Heat Pump Technology by Junyoung Kim of Purdue University

Lecture Programme for 2020-2021



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Presidential Address

Scotland's role in the development of heat pumps: 1850 – 2050

Dr Andy Pearson, Managing Director, Star Refrigeration Ltd

Tuesday 29th September 2019, online 18.30pm – please see website for registration details

The Rankine Bicentenary Lecture

Unconventional Geothermal Technologies and Opportunities

Prof Gioia Falcone, Rankine Chair, Professor of Engineering Science, University of Glasgow

Tuesday 13th October 2020, online 18.30pm – please see website for registration details

Scottish Environmental Protection Agency: COP26/

Crucial Issues for Planet Earth

Mr Terry Ahearn, Chief Executive Officer SEPA

Tuesday 17th November 2020, online 18.30pm – please see website for registration details

Joint meeting with RINA

From Nano to Macro, 1 mm to 10,984 m, Vast and Essential for Life on Earth

Prof Colin Moffat, Chief Scientific Advisor Marine Scottish Government

Tuesday 8th December 2020, online 18.30pm – please see website for registration details

Joint meeting with IMarEST

Dealing with plastic waste sustainably

Prof Ian Arbon, Senior Partner, Engineered Solutions Ltd

Tuesday 12th January 2021, online 18.30pm – please see website for registration details

UN Sustainable Development Goal No 6, Clean Water and Sanitation

Prof Bill Sloan, Professor of Environmental Engineering, University of Glasgow

Tuesday 9th February 2021, online 18.30pm – please see website for registration details

Nanotechnology

Prof Doug Paul, Professor of Semiconductor Devices, University of Glasgow

Tuesday 9th March 2021, online 18.30pm – please see website for registration details

Why Civil Society Needs Engineers - especially Naval Architects, Marine & Ocean Engineers!

Mr Peter Noble, President and Principal Advisor, Noble Associates Inc.

Tuesday 20th April 2021, online 18.30pm – please see website for registration details

AGM – details still to be confirmed

CPD certificates will be available on application



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