



IES

News Bulletin

August 2021

The Institution of Engineers in Scotland A Multi-disciplinary Engineering Institution

Message from our President

Dr Andy Pearson

Welcome to the first Bulletin of the 2021-22 session. I hope you have managed to get a break over the summer, even if it was not what you would have planned. We enjoyed a few days in Oban and I was impressed with the bustle and upbeat feel of the place - thoroughly recommended!

We hope to be able to host the James Watt dinner in October having missed out last year for the first time in about 75 years, however this is still subject to the situation with regard to the risk of Covid-19 infection so is under continual review and subject to change. I do hope that you will feel able to attend and to enjoy a very special evening

with friends old and new. Further details are included below. We also have a very exciting programme of evening meetings lined up. One of the benefits of meeting by Zoom for the past year was the number of distant members who were able to join us from far afield. We will experiment with a meeting arrangement which welcomes a live audience to the talk but also enables remote access for those who are unable to attend. Since our on-site numbers will initially be restricted anyway this seems like a good way to include as many members as possible. Bear with us as we iron out the wrinkles.



James Watt Dinner 2021

Always a difficult decision in the middle of a pandemic.....but we have asked some regular attendees for their opinions, paid attention to the latest numbers and followed guidance and government predictions.

We have decided to go ahead with this year's event – there will be a few additional safety features such as:

- Limit tables to eight guests max, allow plenty of room between tables
- Allow guests into the dining room early to reduce mingling in the mezzanine area
- Encourage pre-ordering of drinks
- Masks to be worn as per govt guidance – currently when moving in public areas
- We will not have a raffle this year – but will publicise the work of a local charity and invite donations
- Ask guests to take a Lateral Flow Test on the day of the dinner, we will offer a full refund if the guest has to cancel because of a positive result
- Ask that guests don't bring any of the following symptoms to the event: headache, fever, coughing, sneezing, sore throat - in other words please stay at home if you are not well

We are taking bookings now – full details are on our website.



Managing our Subscriptions

As mentioned in our previous bulletin we will start using new software (MemberMojo) to help streamline our subscription renewals. We will send email reminders in Sept with options to make payments. We will be very happy to receive any feedback.

Cuppa and Chat



Members really enjoyed our Cuppa and Chat meetings in the last session. We shall fix some dates for Cuppa and Chat meetings and let you know once that has been done.

Have your say

There are so many topics that affect and interest engineers, if there is a matter you would like to raise why not contribute an opinion piece to our new website? Please visit the site and have a look at the existing opinions – lots there to get you thinking!

Bookshelf – The Devil’s Carousel, Jeff Torrington reviewed by Andy Pearson

When I was 19 years old I left Glasgow on a Saturday evening in May to head for London on the overnight bus. This was the beginning of three summers spent as an undergraduate trainee at various Ford Motor Company facilities in Essex. If you have never worked in a car factory it might be difficult to believe the array of larger than life characters, fly dodges, crazy nicknames and general insanity that this involves, but in this collection of short stories Jeff Torrington captures the world of motor manufacturing perfectly. Torrington grew up in the Gorbals and worked for a time as a Telex Sequencer in Linwood, so writes from first hand experience. His first novel, *Swing Hammer Swing!*, was published to great acclaim in 1992, winning the Whitbread Book of the Year (only the second time in 20 years that the Book of the Year had been a debut novel). *The Devil’s Carousel* is his follow up to that early success and was published 25 years ago. I first read it on a flight to Australia in 1999 and was easily transported back almost 20 years to my student days. When I realised that 2021 was the book’s silver jubilee I thought it was time for a revisit.

There is a great deal of humour sprinkled throughout, with many laugh out loud moments (at least for me) but every one of the vignettes is also tinged with a darker side, covering family tragedies, struggles between unions and management, physical and mental health issues and ultimately (spoiler alert) the shock announcement of the plant’s closure. I suspect that, like Marmite, this book will not be to everyone’s liking, but if you have your roots in the industrial heritage of the West of Scotland I think you will recognise with delight many of the larger than life characters and situations depicted. By the time Torrington wrote *The Devil’s Carousel* he was in the advanced stages of Parkinson’s disease and could only work an hour a day, picking out his words with one finger on his typewriter. I don’t know if this added any blackness to the humour and sadly he died before completing his third book. This goes some way to explaining why he is relatively unknown although he has been compared to literary greats such as James Joyce and Damon Runyon. Why not see for yourself?

Obituary

Andrew Cumming 1929-2021

It is with sadness the Institution announces the passing of Andrew Cumming in February. Andrew was a Naval Architect and longtime member and supporter of the Institution. Throughout his career Andrew was involved with the design of various small vessels from liferafts, ship’s lifeboats, tugs, dredgers, ferries, pilot vessels and fishing vessels apart from 2 years spent in the aircraft industry investigating problems of air flow.

Andrew began his career serving a 6-year apprenticeship in a ship drawing office, graduating to estimating and then design work. This was followed by 2 years with Miller Brothers of Paisley, then a year with Constants of London Wall (Ship Design Consultants), 10 years at Mechans of Scotstoun designing various small craft and 6 years as the company Naval architect and director of Hugh McLean & Sons of Renfrew Hugh Maclean & Sons of Renfrew. In 1969 Andrew joined the Bute Slip Dock Company as a director. In 1974 one of the fishing vessels designed by him whilst at Bute Slip Dock was lost in heavy weather resulting in two inquiries, the first in 1974 and the second in 2010 following the discovery of the wreck in which the Sheriff’s report absolved him of any fault.

In 1973 he formed his own company, Andrew Cumming Design Associates Ltd, where he continued designing many small vessels for the Scottish marine industry until he retired in 2000 thereafter working part time.



Lecture Programme for 2021-2022

Power Up! Gearing up production of Scottish ebikes - Electric bicycle design and manufacture

Neil McMartin, Managing Director FreeFlow Technologies

Tuesday 21st September 2021, 18.30pm [this will be online only]

FreeFlow Technologies (FFT) have developed the world's lightest power to weight E-Bike motor, allowing riders to travel faster and further for less effort. At the core of their motor is the innovative, patent protected transmission system technology. This lecture will look at both the innovations and the challenges in taking that idea to volume production. Neil McMartin will describe the challenges of large volume manufacture in the UK.

The MacQuorn Rankine Lecture

Joint Meeting with IMechE & University of Glasgow

The latest developments in compressor technology

Prof Eckhard Groll, William E. and Florence E. Perry Head of Mechanical Engineering, and Reilly Professor of Mechanical Engineering at Purdue University, Indiana, USA

Tuesday 12th October 2020, 18.30pm [venue tbc – this will also be online]

This lecture will look at the very latest developments in positive displacement compressors with applications in refrigeration, air-conditioning and heat pumping. These developments include refrigerant injected compression, liquid-flooded compression, novel materials and manufacturing techniques for compression components, linear compression, rotating spool compression, S-RAM compression, z-compression, and bowtie compression.

Joint meeting with the University of Glasgow

COP26 Fringe Event - Hydrogen Powered Trains - a game changer for Scotland's rail rolling stock?

Dr Ben Todd, Chief Executive Officer Arcola Energy

Tuesday 2nd November 2021, 18.30pm [venue tbc – this will also be online]

This lecture will look at the project which will convert a retired ScotRail Class 314 train to hydrogen-power – a cleaner, greener alternative to diesel for non-electrified routes. Transport Secretary Michael Matheson said: "This project has the potential to be a game changer for the future of Scotland's rail rolling stock."

Joint meeting with the University of Glasgow

COP26 Fringe Event - Making River Source Heat Pumps Work – Operational Experience from UK Installations

Dave Pearson, Group Sustainable Development Director at Star Refrigeration.

Tuesday 9th November 2021, online 18.30pm [venue tbc – this will also be online]

Queens Quay is a £250 million regeneration of the former John Brown shipyard in Clydebank. Designed to take advantage of its waterfront location, the development will feature a variety of mixed-use spaces and a pioneering district heating system. This system will utilise Scotland's first major and the UK's largest high temperature water-sourced heat pump. In this lecture Dave Pearson will take a look at how heat pumps and district heating systems operate, and their application in the Queens Quay development in Clydebank and other locations.



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Lecture Programme for 2021-2022

Joint meeting with RINA

From world's biggest offshore windfarm to world's biggest and best value offshore windfarm

Patrick Harnett, Senior Programme Director for Hornsea2.

Tuesday 7th December 2021, 18.30pm [venue tbc – this will also be online]

Hornsea1 is currently the world's biggest offshore windfarm at 1200MW. This lecture will look at how knowledge gained from building Hornsea1 led to a 60% CFD price drop on the Hornsea2 windfarm, which will take the crown of the world's biggest and best value operational offshore windfarm in 2022 with a capacity of 1400MW.

Joint meeting with IMarEST

Prof Malcolm Robb, Role

Tuesday 11th January 2022, 18.30pm [venue tbc – this will also be online]

Joint Meeting with Heriot-Watt University and IStructE

How do you produce a traditional product in an innovative space?

Ian Stirling, Co-CEO, The Port of Leith Distillery

Tuesday 15th February 2022, 18.30pm [venue tbc – this will also be online]

This lecture will look firstly at the structural engineering challenges of the building. We will then hear how this structure has changed process engineering for whisky production. We will find out the key elements of how to produce a traditional product in an innovative space.

What's so smart about the smartgrid?

Dr Nigel Jakeman, Engineering & Business Development Director at TPS

Tuesday 15th March 2022, 18.30pm [venue tbc – this will also be online]

Smart Grids are intelligent networks that monitor the distribution of electricity and enable a two-way dialog where energy can be exchanged between utilities and their customers. This in turn facilitates a demand-supply balance and helps distribution networks deliver electricity more efficiently and sustainably.

This exciting lecture will explain how the Smart Grid works and what we can expect in the future

Developments on our doorstep

TBC, Role

Tuesday 19th April 2022, 18.30pm [venue tbc – this will also be online]

AGM – details to be confirmed

Please visit www.ies.org for further information and registration details

CPD certificates will be available on application