



The Institution of
Engineering and Technology

Lancashire and Cumbria Network



Programme Card

September 2023

Free to attend - all welcome

Professional Home for Life® for Engineers and Technicians

Website: <http://www.theiet.org/lancscumbria>

Chairman's Introduction

Dear Lancashire and Cumbria Members,

Although we are approaching the usual start of our Autumn/Winter programme in October, we can look back on some events that were held during what is usually regarded as the summer break. The busiest of those events of course was the UCLAN Science Festival and a report is included inside this programme. However, we could not have managed to run our contribution to the event without the help of our volunteers. Our Chairman has asked me to pass on his thanks to those who gave up their time.

The front cover shows the volunteers who were kept busy on the Saturday which, as the public day, had the highest attendance. Others gave their time on the schools days - but I don't have a photo to share!

Also technically in our recess period are the talks during September given by Professor Robin Catchpole. Robin will be presenting updates on the latest discoveries made with the James Webb Space Telescope. As always, his talk will be accompanied by some remarkable images.

This is our second 'electronic-format only' programme. We would appreciate your feedback on the this - please send your views on this, and anything else, to your committee at LancsCumbria@ietvolunteer.org.

On a final note we are in discussions with the senior management at BAE Systems' *Factory of the Future* (part of the *FalconWorks Technology Environments*) with a view to arranging a technical visit. If our discussions reach fruition, this may take place before the next programme and numbers will be strictly limited - make sure you are signed up to received daily EngX emails and keep an eye on our website.

All the best

Bill Willcock

Retired Members' Chairman's Report

We are planning three talks again this year ranging from a talk on B4RN (Broadband for Rural Networks) to one on the Devil's Porridge Museum. The "TSR2 Cock-up or conspiracy" event due a wider audience than our usual attendees, some of whom had been apprentices on the TSR2 programme. Their personal recollections brought another insight into the story of the TSR2.

We are planning four talks again this year ranging from a talk on Forensic Investigations to one on the Devil's Porridge Museum. We are continuing with our popular optional lunches and the booking forms will be out soon. Please go to our webpage to download a copy. We are transitioning to electronic payments so would encourage lunch goers to pay by Bank Transfer.

We tried 2 new venues last year: Garstang Golf Club and the Crooklands Hotel which we hope to use again this year. Our events and lunches are open to all, we look forward to seeing you at some of them!

Suzanne Flynn

The Institution of Engineering and Technology - Lancashire and Cumbria Network

Lecture Programme September - November 2023

Date/Time	Event Title	Venue	Organised by & Contact	Speaker	Synopsis
Tuesday 12th September 18:30	The Latest Views of Our Universe with The James Webb Space Telescope	The Samlesbury Hotel Preston New Road Samlesbury Preston PR5 OUL	Organised by: IET Contact: Mike Bell Michael.Bell@ietvolunteer.org	Dr Robin Catchpole Institute of Astronomy Cambridge University	Since its launch over a year ago, the JWST has performed exceeding its original specification, bringing us the deepest and earliest views of our universe. This has allowed us to see objects as they were when the universe was only a few hundred million years old at a time when the first stars and galaxies were forming. We will see what this tells us about our origins.
Wednesday 13th September 10:30		Wesley Hall Westby Street Lytham FY8 5LU	Organised by: IET/Lytham PROBUS Contact: Mike Bell Michael.Bell@ietvolunteer.org		
Wednesday 13th September 19:30		The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/PESC Contact: Anne Morris anne.morris@ietvolunteer.org		
Thursday 14th September 18:30		Lakes College Lillyhall Business Park Hallwood Road Workington CA14 4JN	Organised by: IET Contact: Artur Majchrowski artur.majchrowski@ietvolunteer.org		
Thursday 21st September 19:00	Sight Advice – Problems & Solutions	Castle Green Hotel Castle Green Lane Kendal LA9 6RG	Organised by: IET/KDES Contact: John Doffegnies john.doffegnies@ietvolunteer.org	Sara Cook Services Manager Sight Advice South Lakes	Our aim for the session is to give a summary of what we offer here at Sight Advice, run through some of the most common eye conditions and then look at the different aids and equipment that can support you in the home and out and about.
Thursday 21st September 19:00	Building Our Engineering Future	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/BDAE Contact: Anne Morris anne.morris@ietvolunteer.org	Jon Shaw Engineering Director BAE Systems Submarines	Earlier this year the Government announced the AUKUS agreement to design and supply nuclear submarines to Australia. In order to deliver this programme BAE Systems, at Barrow in Furness, will need to significantly develop and expand the engineering capability at a time when the yard is already very busy. Engineering Director Jon Shaw and Melissa Craig Thompson will share their plans and progress across the wide capability that is required.
Wednesday 4th October 19:30	The History of Control Engineering and How it Changed The World	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/BDAE Contact: Anne Morris anne.morris@ietvolunteer.org	Professor Paul Stewart Cumbria University	Paul is Professor of Electronic, Control and Systems Engineering and holds the Research Chair in Engineering and Advanced Manufacturing in the Institute for Engineering, Computing and Advanced Manufacturing at Cumbria University.
Wednesday 11th October 19:30	The Undiscovered Treasures In The Cumbrian Fells	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/PESC Contact: Anne Morris anne.morris@ietvolunteer.org	Dr. Jane Barker Prof. of Practice - Institute of Environment & Science, University of Cumbria	The application of scientific techniques and innovative thinking is revolutionising traditional Cumbrian Hill Farming practices and making dramatic contributions to local employment. Another aspect of the work at Dalefoot, near Penrith, is making a significant contribution to resisting the effects of climate change.
Thursday 19th October 19:00	Air Ambulance	Castle Green Hotel Castle Green Lane Kendal LA9 6RG	Organised by: IET/KDES Contact: John Doffegnies john.doffegnies@ietvolunteer.org	Neil Airey Lakes Lightning	This talk will cover Neil's 45 years in aviation from Air Cadet wooden gliders to Air Ambulance helicopters
Wednesday 25th October 19:30	Dorothee Pullinger MBE - Barrow's Famous Professional Engineer	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/PESC Contact: Anne Morris anne.morris@ietvolunteer.org	Nina Baker Independent Engineering Historian	Dorothee Aurélie Marianne Pullinger MBE. Aero and automobile engineer and entrepreneur trained at Arrol Johnston's car factory and was headhunted to become the very young supervisor of Vickers Barrow's thousands of WW1 munitionettes. Nina Baker will tell the story behind the Dorothee Pullinger's plaque, which visitors to BAE SYSTEMS Works can see on the right as they cross Michaelson Road Bridge, Barrow-in-Furness
Monday 6th November 18:30	Development of the Jaguar	The Samlesbury Hotel Preston New Road Samlesbury Preston PR5 OUL	Organised by: IET Contact: Fred Eastham frederick.eastham@ietvolunteer.org	Dave Ward BAE Systems Heritage	This talk gives some background to the origin of the Anglo-French Jaguar jet fighter programme back in the 1960s and 1970s and describes the changes made between first flight and it being ready to go into service with the RAF. It also includes some film of the Jaguar's spinning trials, some of low level flying and some of a Jaguar operating from a grass runway. Finally, it has a short clip of a Jaguar operating from the unfinished M55 motorway near Weeton.
Wednesday 8th November 19:30	Deep Geothermal Energy In Cumbria: Social License To Operate	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/PESC Contact: Anne Morris anne.morris@ietvolunteer.org	Rose Yates MSc University of Stirling	As the UK turns to renewable energy in the journey to Net Zero, untapped geothermal resources have the potential to provide an abundance of low-carbon heat and electricity for homes across the country. Cumbria's geology could make our area a suitable place for a deep geothermal facility; but would it gain social acceptance in the county?

For the latest news on local network activities please visit our website: www.theiet.org/lancscumbria
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The Institution of Engineering and Technology - Lancashire and Cumbria Network

Lecture Programme November - December 2023

Wednesday 15th November 19:00	Vikings in Cumbria	Castle Green Hotel Castle Green Lane Kendal LA9 6RG	Organised by: IET/KDES Contact: John Doffegnies john.doffegnies@ietvolunteer.org	Steve Dickinson	A lost Viking kingdom - in the Lake District? Recent archaeological research, incorporating the interpretation of satellite imagery and LiDAR (plane-based laser scanning of the earth's surface) data has revealed new evidence for a massive Viking Age hall and fleet bases on the west coast of Cumbria. Cumbrian archaeologist Steve Dickinson, whose team excavated the only Viking Age English longhouse known (to date) - in the Lake District valley of Kentmere - guides us in a fully illustrated talk through these new discoveries that are set to revolutionise our knowledge of the region over a thousand years ago.
Thursday 16th November 19:00	Bursary Awards Evening and Lecture Life at Sea as an Engineering Submariner	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/BDAE Contact: Anne Morris anne.morris@ietvolunteer.org	Chris Evans Senior Naval Officer - DN ROYAL NAVY	Cdr Evans is the senior naval representative for Dreadnought and first member of Ship Staff as she is being built in Barrow. He will draw on his experience of rising from the ranks to senior engineering posts on the deterrent submarines, Navy Command and the Ministry of Defence to inspire our young award winners.
Saturday 18th November 9am – 4pm	UlverSTEM	Ulverston Victoria High School, Springfield Road, Ulverston, LA12 0EB	Organised by: IET/BDAE Contact: Anne Morris anne.morris@ietvolunteer.org	There are shows and presentations throughout the day	UlverSTEM is an interactive Science, Technology, Engineering & Maths focused event for 6-16 year olds. An exciting collaborative event which gives young people in and around Furness the chance to explore the STEM opportunities on their doorstep. An opportunity for young people and their families to find out what is on offer in and Furness, in terms of continuing education and future careers.
Thursday 30th November 11:00	B4RN (Broadband for Rural Networks)	The Netherwood Hotel and Spa Lindale Road Grange-over-Sands Cumbria LA11 6ET	Organised by: IET Retired Members Contact: Suzanne Flynn suzanne.flynn@ietvolunteer.org	Martyn Welch	Dependence on the internet has grown exponentially over the last 25 years to a position where it is now considered one of the essential utilities for modern life. Martyn Welch, who has spent a career of over 40 years in telecommunications, electricity and water utilities, explains his involvement in a community-led project to take a sparsely populated rural area of Cumbria from the internet 'dark-ages' into the 21st century.
Thursday 14th December 19:00	Victoria Bridge	Castle Green Hotel Castle Green Lane Kendal LA9 6RG	Organised by: IET/KDES Contact: John Doffegnies john.doffegnies@ietvolunteer.org	Mike Rayworth	The Strengthening of Victoria Bridge, Kendal in 1963 This talk is a personal nostalgic recollection of how a crumbling bridge, a 1900s Victorian wrought iron structure on the main arterial route through Kendal, was rescued and restored to modern standards in the 1960s. The talk will consider how bridge design fashions over the decades influenced the original design concept and how contemporary thinking in the 1960s enabled the novel restoration, built to modern heavy loading. The final design concept was unique. It had never been done before and was the subject of a technical paper written for the Institution of Civil Engineers and won the Institution Miller prize for ICE graduates.
Thursday 18th January 2024 19:30	Tidal Energy and Morecambe Bay	The Forum 28 Duke Street Barrow-in-Furness LA14 1HH	Organised by: IET/BDAE Contact: Anne Morris anne.morris@ietvolunteer.org	Professor George Aggidis Lancaster University	We welcome George back to speak to us on an untapped Green energy resource. George is Professor and Head of Energy Engineering in the Engineering Department of the Faculty of Science and Technology at Lancaster University, UK, and Director of the Lancaster University Renewable Energy Group & Fluid Machinery Group.
Thursday 22nd February 11:00	Concorde	The Villa Wrea Green Kirkham PR4 2PE	Organised by: IET Retired Members Contact: Suzanne Flynn suzanne.flynn@ietvolunteer.org	Gordon Bartley	Gordon Bartley has had a lifetime career in the aeronautical industry,. He was invited to host the former British Airways Concorde located at Manchester Airport. This post he held for ten years. He has a detailed knowledge of the history of this unique aircraft and will cover the history from the early consideration of developing a British supersonic airliner in the 1950's through the first commercial flights by Concorde in 1976 to the tragic Concorde crash whilst taking off from Paris in July 2000 and its retirement in 2003.
Thursday 16th May 11:00	Devil's Porridge	Shap Wells Hotel Shap Nr Penrith CA10 3QU	Organised by: IET Retired Members Contact: Suzanne Flynn suzanne.flynn@ietvolunteer.org	John Anstey Trustee, Eastriggs & Gretna Heritage Group	Early in 1915, in response to a growing shortage of munitions, the government commissioned a huge new cordite factory on the Anglo-Scottish border. The 9 mile long site was remote, thinly populated and with little infrastructure. In August, 10,000 Irish Navvies started arriving, building their own timber houses before starting construction of the biggest factory in the world. Work also started on 2 new Garden Townships to house the 8,000 managers and 12,000, mostly women, workers coming to "stir the Devil's Porridge". Astonishingly, within 12 months, cordite was being produced and in May 1917 the King and Queen came to celebrate production reaching 800 tons a week which was as much as all the other Royal Ordnance Factories combined. HM Factory Gretna transformed our region and the story told by the Devil's Porridge Museum sheds light on an overlooked aspect of the War. The talk will cover the use of cordite, the building of the factory and of Eastriggs and Gretna, the role of women in the production process and the government response to perceived excessive drinking by workers at the factory.

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The Return of the UCLAN Science Festival



IET Lancashire & Cumbria volunteers supported the annual Lancashire Science Festival in May. The festival is a chance to enthuse, inspire and inform the next generation to get into science and engineering. Volunteers from the committee and wider network supported the event over the three days with School Days on Thursday 18 and Friday 19 May and a Families Day on Saturday 20 May.

This was our first event with the new IET Lego set as our central feature. We set the students the simple task of build something you'd see in the future, this resulted in a number of unique models, some of rockets, satellites, homes of the future, bridges and many more. Alongside the building we talked to the students about what being an engineer could involve and the wide variety of engineering roles in modern society.

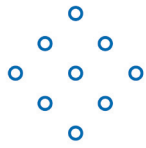
We also had school children building paper guilders and flying them in the hall!

Hopefully we inspired some of the next generation to think about engineering as a future career!

A huge thanks to all the volunteers who supported over the three days – some of which you'll see pictured at the event as our cover photo.

Report by Anne Morris





Foothold

Supporting engineers

Did you know that 73% of people are feeling stressed about the cost of living crisis? Like these people, you're probably also experiencing the challenges of this crisis in your own life right now.

You might be struggling to afford the same lifestyle you had before. And this might be having a knock-on effect on your mental health - making you feel worried, anxious, or perhaps even frightened for the immediate future?

And because you're going through these difficult challenges, you'll be able to benefit from expert advice, guidance and support to help you overcome them. Helping you live well and thrive, every day.

By joining Foothold's monthly webinars, you'll learn how to better manage your financial, mental, and physical wellbeing – from investing to boost your income and creating a workable budget plan, to dealing with stress and improving your diet.



Register for Foothold's upcoming webinars here:
<https://www.myfoothold.org/how-can-we-help-you/webinars/>

“The webinar focused on credit scores and responsible savings, which was exactly what I was looking for! Really helpful information from an enthusiastic presenter.”

“Many thanks for a comprehensive talk on how to overcome bad habits. Really good presenter, who gave a useful overview at a good pace.”

Taking complexity out of life with the Foothold App

We all face different challenges in life, some are easier to deal with than others, like broken appliances or getting vet care for your pet. But others can be complex and confusing and may require specialist advice or support to overcome.

For instance, some people have disputes with anti-social neighbours, or tradespeople who don't do the job properly. Others may be going through a separation or divorce and need to organise custody arrangements and division of assets. And some may have disagreements with their employer over their employment rights.

When we're facing complicated issues like these, we often need more information and guidance to point us in the right direction. By joining our Foothold app, you'll get instant access to expert legal advice and insights at your fingertips. Helping you understand how to manage difficult challenges like these and get things back on track.

Download the Foothold App for free from the Google Play or Apple App Store.

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Local Network Affiliated Organisations

The Lancashire & Cumbria network covers a vast area with diverse interests. We attempt to include the majority of talks organised by the organisations listed below in our IET and LinkedIn pages; however some events are posted only to the local organisation's events pages.

Below is a selection of the local subgroups and contacts:

Barrow and District Association of Engineers - www.bdae.org.uk

IMechE North-West - <https://nearyou.imeche.org/near-you/UK/North-Western>

Kendal and District Engineering Society -

www.facebook.com/photo/?fbid=584696080327998&set=gm.550713739774041

Professional Engineers South Cumbria - <https://pesc.org.uk>