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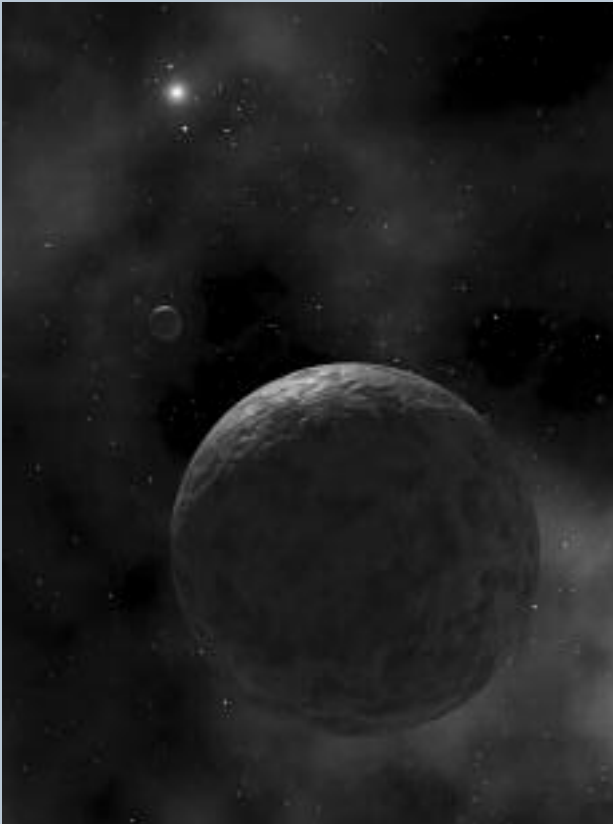


Lancashire & Cumbria

www.iee.org/lancscumbria

Newsletter Vol. 2 No. 1

September 2005





Contents

Whither the IEE?	2
Chairman's welcome	4
Event booking slips	5
Forthcoming events	7
Event planner	8-9
Recent events	12
Contacts	16

Cover Picture: from ice to fire

Our cover picture illustrates our first event of the session in the north of the branch: Dr. Robin Catchpole's talk on the solar system (see page 7 for details). In this artist's visualization, the newly discovered planet-like object, dubbed "Sedna", is shown where it resides at the outer edges of the known solar system - so far away that the Sun appears as a bright star. Credit: NASA/JPL-Caltech.

Champagne winner



The winner of the bottle of champagne, drawn by branch past president Brian Flynn at the guest evening on 9 June, was Cdr Carl Haythornthwaite who used a reply slip from the April Newsletter to book his place on the branch visit to Keswick Mountain Rescue (see report on page 12). For your chance to win a bottle, use the reply slips on page 5 to book your place to hear about Cumbria's future and the life and times of Elizabeth I.

Whither the IEE?

One of the most important events in the history of the Institution of Electrical Engineers takes place this month, when members will vote on proposals to merge with the Institution of Incorporated Engineers (IIE), to form a new institution: the Institution of Engineering and Technology (IET). With this in mind, IEE trustee John Loughhead and Director of Qualifications, Dorrie Giles, travelled to Lancashire on 21 July to brief members on the proposals and take questions. About twenty

members were present. A summary of the discussion follows – you can read arguments in favour of the merger on the internet at www.newinst.org, and contribute to the online discussion forum at www.iee.org/forums.

The IIE was formed in 1998 from the Institution of Electronic and Electrical Incorporated Engineers (IEEIE), the Institution of Mechanical Incorporated Engineers (IMechIE), and the Institute of Engineers and Technicians (IET). It received its Royal Charter in 2001

and is now an institution of some 40,000 members in a wide range of engineering disciplines, few of whom are chartered. The IEE is a much larger institution: 122,000 members of which around half are Chartered Engineers. Despite their differing backgrounds and histories, the IEE and the IIE are said to share a common vision of the future, in which they would join forces to form a new institution which would be interdisciplinary, global and inclusive. The Institution of Mechanical Engineers, which took part in early negotiations, does not share this vision and will not be part of any new institution. The new institution would be the major body promoting EngTech and IEng qualifications.

The current IEE trustees think that “Electrical Engineer” does not properly describe the current and potential future membership, most of whom are active in fields outside what they consider to be “traditional” electrical engineering. “The Institution of Engineering and Technology” has been chosen on the understanding that it will be acceptable to Parliamentary Under-Secretary of State for Science and Innovation, Lord Sainsbury, acting on behalf of the Privy Council which must approve a revised Charter. Postnominal letters for members and fellows of the new institution would be MIET and FIET, although existing members will be able to retain their MIEE/FIEE designations, and the

IEE “brand” will be retained in some other cases, notably publishing activities.

Some interesting points were put by the members present at the meeting. The main point of controversy was the proposed new name. One point of view was that the changes were insufficiently bold, and that the use of “IEE” should be abandoned completely. Others thought that the new name was provocative to existing engineering institutions: as the name implies, the Institution of Engineering and Technology would register engineers at all levels in any engineering discipline. There was also discussion about the financial state of the IEE: John Loughhead assured the meeting that the IEE is in a sound financial position, and that the proposals were not motivated by any financial consideration.

The IEE trustees think we need to act now to secure the future of the profession. What do you think? Are the changes necessary to bring the IEE into the 21st century? Or are they a dilution of what the IEE stands for? Does the name properly reflect the future of our profession, or is it provocative? If you are a voting member you should already have received a voting paper in the post. Please use it. Votes must be received by post or online by 19 September. A simple majority is all that is needed to determine the future of the institution.

Simon Platt



Chairman's welcome

May I extend a very warm welcome to members and supporters of the Lancashire and Cumbria Branch.

The IEE programme of change continues. As you probably already know, recent changes include the widening of membership scope and the separation of chartered status from membership. This has made the institution less exclusive and has opened the doors to those who do not find chartered status relevant to their situation.

Members of the IEE benefit not only from the branch activity but also from the Professional Networks (PNs) initiative that creates a link for networking and raises knowledge in diverse disciplines that are of relevance to all members' backgrounds. We have 35 PNs that are delivering a high-quality programme and give an awareness of local and large-spectrum conferences for sharing updated information and establishing professional networking. There is no charge for this service and the information available is substantial.

The membership has also recently voted that we should become a certificating body for both incorporated engineers and for technicians aspiring to Eng. Tech. status; this means that we can now certificate engineers across the full spectrum. As with all things in business, further major changes may be on the horizon.

The formation of a new institution from the IEE and IIE is being discussed and voting by members of the two institutions is taking place as I write. I personally find the prospects of an institution with even greater strength and diversity very exciting. This is an opportunity to strengthen our partnership working with other institutions and organisations to improve the services offered to members and our industry. It is a bold step into uncharted waters. I believe it is important and timely for the 40-plus disparate professional engineering bodies to move together into fewer, but larger, groupings.

Jon Field

Cumbria's future

Rheged Centre, Penrith,
6 October 2005, 10.30 for 11 a.m.

Please reserve places for the talk and lunch @£14 each. I enclose a cheque for £..... made payable to "Friends of the IEE Lancashire & Cumbria Branch"



Name(s)

Address

Email Tel

Please indicate your choice of menu overleaf and return to: Robert Hardman, Pippins, The Knoll, Hest Bank, Lancaster LA2 6BU.

Closing date 22 September.

Booking confirmation and directions will be sent.



Elizabeth I - her life and times

Netherwood Hotel, Grange over Sands,
1 December 2005, 10.30 for 11 a.m.

Please reserve places for the talk and lunch @£16 each. I enclose a cheque for £..... made payable to "Friends of the IEE Lancashire & Cumbria Branch"



Name(s)

Address

Email Tel

Please return to: George Heaton, Garth Cottage, Yealand Conyers, Carnforth, Lancs. LA5 9SG. Closing date 18 November.

Booking confirmation and directions will be sent.



Cumbria's future

Rheged Centre, Penrith, 6 October 2005

Lunch menu

	Person			
	1	2	3	4

Drink of wine or juice preceding meal

Main course options

(all dishes served with a selection of vegetables and potatoes)

Steak and Cumberland ale pie with shortcrust pastry

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Baked fillet of codling with traditional parsley sauce

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Italian vegetable pasta with olives, tomatoes and peppers

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Dessert options

Apple and blackberry crumble with warm custard sauce

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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White chocolate mousse

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Cheddar cheese and biscuits with celery and grapes

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Freshly brewed tea or coffee



Retired members and guests at Keswick Mountain Rescue Headquarters (see page 13).

Forthcoming events

“Nuclear fuel production”,

Jon Field, Chairman, IEE Lancashire & Cumbria Branch

Wed 21 Sep, 7 for 7.30

Novotel, Bamber Bridge

Contact Jon Field: 01772 762830,
jon.h.field@springfields.com

“From ice to fire - the birth, life and death of our solar system”,

Dr. Robin Catchpole

Wed 21 Sep, 7 for 7.30

Forum 28, Barrow in Furness

Our solar system was formed from a vast cloud of dust of assumed uniform composition. Our speaker, recently retired from Cambridge University and the Royal Observatory, will explain where this “stardust” came from, how it started to collapse onto a spinning disc, how the dust formed into clumps and then into planets, and how physical and chemical processes created the sun at the centre, four terrestrial (rocky) planets, two gas giants, two liquid giants, the Kuiper Belt and finally the Oort Cloud (potential comets). He will consider the geological processes, which made Mercury, Venus, Earth and Mars so different from each other. Finally, he will look at the

likely demise of the sun in about 5 billion years time (give or take a few weeks!!). Joint with IMechE & CMI

Contact Ralph Hobson: 01229
583762, ralph@thehobsons.co.uk

“Cumbria's future”,

Rt. Hon. Lord Inglewood DL

Thu 6 Oct 10.30 for 11.00

Rheged Centre, Penrith

We are delighted that Lord Inglewood, a local farmer, landowner and businessman from Hutton-in-the-Forest, has agreed to speak to us in October. Lord Inglewood (Richard Vane) is a fascinating speaker, drawing on an impressive range of interests and responsibilities.

Lord Inglewood was appointed Deputy Lieutenant for Cumbria in 1993, after being a member of the North West Water Authority and the Lake District Special Planning Board. He succeeded his father in 1989 and joined the House of Lords, where he has been a Government Whip and the Minister responsible for Broadcasting and for Tourism. He is one of the hereditary peers elected to remain in the House of Lords in 1999. He has also been a Member of the European Parliament.



In addition, he is Chairman of the CN Group and Chairman of the Reviewing Committee on the Export of Works of Art. Lord Inglewood is a Barrister, Chartered Surveyor and a Fellow of the Society of Antiquaries (FSA).

The Rheged Centre is an all year round, visitor attraction with ample car parking and excellent facilities. It has easy access, being less than 1 mile from Junction 40 (Penrith) of the M6 Motorway.

Tea/coffee will be served at 10.30am, and lunch will be available after the talk, with a choice of meal. The cost of the meal is £14 per person. All members, partners and guests are very welcome. To book (and for the chance to win a bottle of champagne), please return the reply slip on page 5 by 22 September. Please indicate your choice of meal on the reverse of your reply slip. Booking confirmation and directions will be sent.

Contact Robert Hardman: 01524 822828

“Replacing hips, knees and other joints”,

Andrew Smith, Barrow Hospital
 Wed 12 Oct, 7 for 7.30

Forum 28, Barrow in Furness

Our speaker, consultant orthopaedic surgeon at Barrow Hospital, will discuss joint replacement including the engineering aspects of joint

design, materials used, compatibility with body fluids, expected life of the joint etc. Joint with PESC.

Contact Ralph Hobson: 01229 583762, ralph@thehobsons.co.uk

“Hovercraft and hovercraft racing”,

Tony Broad

Thu 13 Oct, 7 for 7.30

Swallow Hotel, Samlesbury

Joint with IPlantE.

Contact Jim Hindle: 01282 771355, jim.hindle@btopenworld.com

“Lifeskills : CV compilation”,

Younger Members Section

Wed 19 Oct, 7 for 7.30

Westlakes Science Park, Ingwell,

Moor Row, Whitehaven

The perfect CV:

If you are looking for a job, then it's very important that you understand how to offer yourself the best way to an employer. This is done by writing a “CV” of your life story.

By the end of the session the delegate will be able to

- Recognise and develop a targeted, chronological and functional CV.
- Select a presentation style.

An employer may have several hundred applicants for a single job,

he or she will only choose a few people to interview - make sure one of them is YOU.

Contact Craig Brannigan: 01946 785805, craig.brannigan@bnfl.com

“Nuclear fuel production”

Geoff Burnett, BNFL
Wed 23 Nov, 7 for 7.30
Crooklands Hotel, Kendal

Contact Jon Field: 01772 762830, jon.h.field@springfieldsfuels.com

“Elizabeth I – her life and times”

Dramalogue presentation by Lizzie Jones, local historian

Thu 1 Dec,
10.30 for 11

Netherwood
Hotel, Grange
over Sands



Lizzie Jones returns (after a great reception at Whalley Abbey) to tell us all about Elizabeth I. This is her most elaborate presentation; where in period dress she tells us about ‘Elizabeth I - her life and times’. Combined with the characterful Netherwood Hotel at Grange-over-Sands, where we have previously enjoyed a warm reception and good food, this should be a top-level event. Make sure you apply for places early or you will be disappointed!

The Netherwood Hotel is in an impressive setting, overlooking Morecambe Bay. A cup of coffee/tea will be available on arrival from 10.30 a.m. and the presentation will commence at 11.00 a.m. Afterwards a Christmas lunch, with coffee, will be available in the Dining Room at a cost of £16 per person. Disabled facilities and lift access are available.

On this occasion, due to limited space, the talk will only be available to those who book lunch. The cost of the meal is £16 per person. All members, partners and guests are very welcome. To book (and for the chance to win a bottle of champagne), please return the reply slip on page 5 by 18 November. Booking confirmation and directions will be sent.

Contact George Heaton:
01524 736554,
rgheaton@btopenworld.com



Recent events

Cockpit Design from the Spitfire to the new Typhoon

Ms. Katharine Wykes repeated her well-received talk at Longlands Hotel, Carnforth on 29 March. She introduced the subject by showing a slide of the Wright brothers' aircraft and pointed out the lack of a cockpit on this machine, the flying position was the equivalent being astride a bike with all the inherent luxuries. The first cockpit as we would recognise it today was that of the Sopwith Pup; this was equipped with light switches of the day for the magnetos and a bubble vial for the bank indicator - a giant leap forward from the Wrights but still very basic compared with the Spitfire. This fighting machine had to be developed quickly to satisfy the needs of the time. Head clearance within the canopy and sufficient room to enable the pilot to clamber out in case of emergency were all new aspects, as was the new instrumentation. Later, with the advent of ejector seats, the cockpit needed further refinement so that in the event that the pilot did take the quick route out of the aircraft all his body parts went with him as opposed to being wrenched off by protruding parts of the structure.

As new aircraft were designed more instrumentation was needed to monitor and control the flying

functions. Companies designed special instruments for particular cockpits depending who may be the final user. The tailor-made approach whilst giving the end user a bespoke design could not be cost effective. Head up displays were introduced to enable the pilot to monitor certain aspects whilst maintaining forward vision without refocusing his eyes. The evolution continued with introduction of more visual display screens which were not without their own inherent problems. With the use of bubble canopies there were times when the bright sunlight would wash out the VDU and conversely at night they would be too bright! Helmet mounted displays were introduced.

With regard to the new Typhoon the cockpit layout is more clinical and spacious. There are no protruding parts and the arms and legs are all restrained and gathered in during ejection. The instrumentation features multifunctional displays and switches, which with the aid of software, by multiple or sequential operation will bring up different tasks. In one array five switches operated by one hand whilst say controlling the throttle may have up to 125 different functions this in contrast to the Spitfire where one button did one job and all the instruments were dedicated!

Chris Webster

Mountain Rescue

A long time ago, so long ago that some of us can hardly remember, even though it was only in May of this year, over seventy members of the Retired Members Section with their wives, partners, and guests from around Lancashire and Cumbria, gathered at Braithwaite Memorial Hall near Keswick to attend a talk on mountain rescue.

The talk was given by Paul Cheshire CEng MIEE, himself a most active member of the Keswick mountain rescue team, and a member of our Institution and Chartered Engineer, with his own business in Keswick. Paul is one of a dedicated team of caring, public-spirited, and philanthropic individuals who have the welfare of the likes of us, who come to Lake District and its mountains, at their hearts.

Paul started by outlining the circumstances that led in 1947 to the formation of the Keswick team, and the continuous improvement in working facilities, equipment, and techniques that have evolved to those in use today. As expected, the location, time of year, weather, daylight or darkness, all play an important part in the successful conclusion of any incident, with the mountain rescue team being fully integrated with the usual emergency services, the Keswick team being one of seven independent teams which serve the Lake District.

In 1997, (its 50th Anniversary year) the team moved into a new purpose-built headquarters building, funded by donations from many friends and supporters. After the buffet lunch at Braithwaite, members and guests then moved on to Keswick to receive a guided tour of the KMRT Headquarters accommodation, the incident control room and communication apparatus, as well as the response vehicles fitted out with all types of rescue equipment.

As a direct result of the IEE visit, the Keswick Mountain Rescue Team has benefited from donations approaching £600, and the KMRT has expressed their appreciation for the generosity of the donations. The KMRT is totally funded from public donations and does not receive any form of local authority or state financial assistance.

The Retired Members Committee would particularly wish to thank Pat & George White for arranging such an excellent event which was received with great enthusiasm by all those who attended. The venue in the particularly pleasing northern extremities of our Branch area, coupled with the excellent hot & cold buffet laid on by local caterers, ensured that the event maintained the usual high standards of interest and hospitality that we have now come to expect as the norm from the Retired Members Section.

Brian Flynn



Younger Members' Children's Lecture: Funtastic Engineering!

The Younger Members' annual Children's Lecture took place at the University of Central Lancashire on 20 May 2005. The lecture is aimed at capturing the interest of school children and encouraging them to think about a career as an engineer. Children's entertainer Johnny Ball returned to Preston to entertain and enthuse children from primary

schools across Lancashire with an exciting talk on the application of maths and engineering through the ages. The event was organised by Younger Members and supported by SETNET, BAE Systems, BNFL, Datel Defence, North-West Aerospace Alliance, the Learning and Skills Council and the University of Central Lancashire



Johnny Ball: Funtastic Engineering!

Boeing 787 Dreamliner

Thursday 9 June saw the branch's annual Guest Evening at The Crofters, Cabus. Guest of honour was IEE President, Prof. John O'Reilly; the main speaker was Kevin Bruce, Boeing Regional Marketing Director, who gave an

illustrated talk on the Boeing 787 Dreamliner, "more than an airplane" to a large audience.

Three 787 variants are in development with extensive international cooperation, including

Rolls-Royce, QinetiQ, Smiths and Messier-Dowty in the UK. The Dreamliner is intended to exploit increased demand for air travel from regional airports, creating new non-stop routes such as Glasgow-Los Angeles, Birmingham-Delhi and Manchester-Hong Kong. A range of advanced technologies will make this possible, including largely composite aerostructures and advanced aerodynamics, engines and avionic systems leading to improved maintainability, greater fuel efficiency and reduced acoustic emissions. Other features are designed to aid comfort for passengers, including advanced in-flight entertainment and communications systems as well as

the biggest windows available - all part of Boeing's plan to "put the fun back into flying".

First flight is due towards the end of 2007, and we can expect the Dreamliner to enter service some time in 2008.

Kevin's talk was followed by dinner at the Crofters after which John O'Reilly spoke with enthusiasm about plans for the new institution - the Institution of Engineering and Technology.

This session's Guest Evening will be on Friday 9 June, once again at the Crofters. Bookings will be taken from April - see April's newsletter for further details.



Kevin Bruce: "Boeing 787 Dreamliner, more than an airplane"



Lancashire and Cumbria Branch

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