



Collective inspiration

Lancashire and Cumbria Network

Newsletter Vol. 6 No. 2
January 2010



www.theiet.org/lancsumbria

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Cover picture:

Taff Stone talks to the public at the end of a fabulous Waddington Airshow 6th July 08 weekend, Copyright Murray Wetton

“

Welcome to the second part of the session. The next newsletter will be in September 2010 so events until June 2010 are covered in this newsletter.

Please look at the website as there will be additional events that are notified by e-mail and on the website. I hope that you have found the previous newsletters to your satisfaction and that we keep you informed about the Local Network.

”

The Editor

Next Issue

The next issue of the IET Lancashire and Cumbria Network newsletter will come out in September 2010.

Please send copy to the editor
at mbell@theiet.org by 1 July 2010.

Disclaimer IET Lancashire and Cumbria arranges lectures, site visits and other events of professional and general interest to members and their guests. In doing so the IET endorses neither the opinions of speakers nor products and services supplied by them or by their companies.

I N T R O D U C T I O N

“

As we start the second half of our programme, I am pleased to report we have had good attendances at our meetings with over 100 attending our first lecture on 'The Universe - How it Evolved'.

We also had a presence at The Northern Aerospace Forum, where speakers from industry gave presentations and answered questions from the delegates.

I hope the topics for 2010 will continue to attract good support from the membership and their friends.

You will note we have a new venue for one of our February meetings, this being the Darwin Lecture Theatre, at the University of Central Lancashire (UCLan), Preston.

Energy is a subject of topical interest, and we are fortunate to have a presentation on Tidal Power, which should give us an insight in to one the 'green' solutions to our future energy needs.

Our day time lectures continue to enjoy support and I have volunteered to give a presentation at the February meeting. While the topic of the Development of the Steam Locomotive is the same as my Chairman's Address, the content will be somewhat different.

We are always looking for new members to join our committee, or members to give us new ideas for topics or visits.

Please feel free to contact me with any questions or ideas you may have.

I look forward to seeing you at our events.

”

Jim Hindle - Chairman

Registration for Events

The Network will be using the Plus! For Events online registration system to collect pre-registration details for the events. This enables members and non-members to register for events. The network has used it previously for visit registration and it has worked well. There is no need to register for the event but it will help in organizing the event if you do. You can still attend the event without registering. For events which have a meal after the event then it is important to ensure that the booking form is returned to the organizer.

This system was introduced to help Networks extend their reach and increase their audiences. The online registration system also makes life easier for the Network by:

- Collecting metrics information automatically
- Producing sign-in sheets quickly and easily
- Gathering feedback from attendees after an event

As a result of networks using the online registration system the Network will be able to send emails to non-members as well as members to alert them to Local Network events that are happening in their area. When a non-member registers their interest in attending a Local Network event using the online registration system we get their agreement and their details are stored. Staff are then able to add them to the circulation list for every promotional email that goes out on behalf of the Network in the future.

IET Local Network Prize for Student Excellence

Each year the Lancashire and Cumbria Local Network offers the engineering departments of colleges within the network area, Burnley College, Accrington & Rossendale College, Furness College, Preston College, Runshaw College and Cumbria University the opportunity to put forward a student for an award of £250 from the IET.

This year we received two nominations from Accrington & Rossendale College and Preston College for the award. These were presented to William Lawson and Stephen Paul Mault at the start of the meeting on the 29th September at the Swallow Hotel by the Network Chairman, Richard Harrison, and the Speaker, Dr Robin Catchpole.

The Network looks forward to awarding nominated students at the end of this academic year from the Colleges.



IET Connect, the IET Benevolent Fund, gives access to financial and other welfare support to IET members, former IEE members and their dependants who are facing difficult circumstances. It helps individuals and families, many of whom are affected by illness, disability or unemployment.

Its work is funded entirely by members' donations and legacies. It provides a free legal helpline and money advice service and can refer members to a vast range of specialist organisations. Specialist staff provide independent and impartial advice to help deal with the stresses and strains of life. Advice on personal legal issues, employment rights and redundancy is available through IET Connect's legal advice helpline. Staff can also provide information on careers advice and retraining, living with a disability, housing options and details of other helpful organisations.

Information on eligibility for state benefits and a money advice service is also available for people who need help in balancing their budgets. Funding is available to help with everyday living costs, home adaptations, special equipment, respite breaks and care home fees. Around £450,000 is distributed annually in over 1,000 grants.

IET Connect also provides high quality accommodation and care to retired members and their dependants at Speirs House in Surrey. IET Connect's work is entirely funded by donations and legacies from members.

How IET Connect has helped

- A regular respite care grant for a member with Alzheimer's disease
- A grant towards daily living costs for a young widow and her family after the sudden death of her husband
- A holiday grant for an elderly woman to have her first holiday in years
- Travel costs and respite care for a severely disabled member
- A grant that allowed for a young member to buy a wheelchair-accessible property and a specially adapted vehicle after a diving accident left him paralysed

Please call 0845 685 0685 for impartial and professional advice or visit www.ietconnect.org to view our range of advice and fact sheets.

Forthcoming Events

For latest news on local network activities go to www.theiet.org/lancscumbria

West Coast Route Modernisation

Date: Wednesday 13 January
Time: 7.00 for 7.30
Speaker: Simon Maple from
Network Rail, Joint with
I Mech E & ICE
Venue: Swallow Hotel,
Samlesbury, PR5 0UL
Contact: Mike Bell at
mbell@theiet.org
Tel 07870 666917

The West Coast Main Line is the most important rail artery in the country. Having been electrified in the 1960s, by the 1990s it was in need of major renewals. This coincided with privatisation, and an over ambitious upgrade was committed to.

This talk will describe some of the issues, the programme outputs and some of the 250+ individual projects that were completed in October 2009.

Simon Maple worked at British Aerospace for 15 years on Guided Weapons design and project management, and 17 years with British Rail, Railtrack and Network Rail. He was on the West Coast Route Modernisation for 11 years, with 4 years as the Sponsor, and finished as Programme Director for the close out. he has been an IEE/IET member for 35 years.

Energy Systems in New Schools

Date: Wednesday 30 January
Time: 6.30 for 7.00
Speaker: Frank Mills BSc(Hons)
FCIBSE MIMechE
MASHRAE MASHE
Joint with I Mech E
Venue: New School in Burnley
(actual school tbc)
Contact: Mike Bell at
mbell@theiet.org
Tel 07870 666917.

Please watch the website for further details of the school. Guests welcome.

Power from the Sea

Date: Wednesday 3 February
Time: 7.00 for 7.30
Speaker: Angela Robotham,
Engineering Director,
Marine Current Turbines
Joint with UCLan
Venue: C&T Building, Darwen
Lecture Theatre,
University of Central
Lancashire
Contact: Simon Platt:
Tel 01772 893341,
spplatt@uclan.ac.uk

The presentation will cover, the tidal resources available around our coastline.

- History and structure of MCT
- Design challenges
- Design methodology
- Construction highlights
- Installation challenges
- Operational results

Car parking at the University of Central Lancashire

The Lancashire and Cumbria Network organises events at venues which offer free car parking. At UCLan, members and guests attending IET events may park free of charge on university car parks on display of a special flyer on the car dashboard. Flyers are available at all events or by email in advance on request. For more details please contact Simon Platt, spplatt@uclan.ac.uk.

From Fleming to Penryn - Celebrating Over 100 Years of Electronics

Date: Tuesday 9 February
Time: 6.00 for 6.30
Speaker: Brian Mann
Joint with IOP
Venue: Lancaster University
Cavendish Room,
Colloquium Room,
Faraday Complex, John
Creed Avenue, LA1 4YW
Contact: Richard Harrison,
Tel 01524 733898,
rharriso@globalnet.co.uk

In November 1904, Prof. Ambrose Fleming patented the device we now know as the diode valve. This lecture celebrates that event, which is generally accepted as the beginning of electronics.

Significant inventions and personalities are highlighted. Up-to-date electronics are emphasised with reference to the very high performance and level of integration of the current Intel chips. Recent technological developments are discussed, including the move to the 300 mm silicon wafer, the "Penryn" processor and the move to 45 and 32 nm gate technology with materials such as Hafnium.'

Intel Penryn processor



Applications of LEDs

Date: Wednesday 10 February
Time: 7.00 for 7.30
Speaker: Graham Round, Marl International Ltd.
Venue: Forum 28 ,Duke Street,
Barrow, LA14 1HH
Joint with PESC
Contact: Ralph Hobson:
Tel 01229 583762,
ralph@thehobsons.co.uk

Marl International specialise in the design, manufacture and supply of light emitting diodes, or LEDs. The company was formed in Ulverston in 1972 and has grown steadily since, always being at the forefront of LED design. LEDs offer numerous benefits over conventional filament lamps, long life, rough service capability, and not least low power needs leading to considerable carbon footprint savings.

Graham will tell us about LED design, manufacture and their applications at home and in industry and commerce, and will bring along many examples to show us.

The Other Mr Faraday

Date: Monday 15 February
Time: 10.00 a.m.
Speaker: Richard Harrison
Venue: The Chase Hotel,
Inkerman Terrace,
Whitehaven, CA28 8AA
Contact: Richard Harrison,
Tel 01524 733898,
rharriso@globalnet.co.uk

Born and raised in Lancashire, this son of a Kirkby Lonsdale shoemaker might have been far more famous had he not been a contemporary of Michael Faraday.

As it was, he read the mass of work done in the fields of electricity and magnetism and developed his own investigations from that starting point. These experiments led to the working electric motor, the telegraph and many other practical devices in use today.

His memorial reads, 'Inventions of the highest value which he freely gave to the world'. This talk explores his background, life and work.

Development of the Steam Locomotive

Date: Thursday 18 February
Time: 10.30 for 11.00 a.m.
Speaker: Jim Hindle
Venue: Mytton Fold, Whalley Road, Lango, Blackburn, BB6 8AB
Contact: Brian Flynn, 53 Wilderswood Close, Whittle-le-Woods, Chorley PR6 7SH
Tel 01772 330278.

We return to Mytton Fold Hotel for Jim's talk about steam locomotive development from the early 19th century through to the end of steam in the UK in 1968. We will see how engines got bigger and more efficient to cope with increased loads and speeds. They need large amounts of water to make steam and we will be shown how this was collected into the tender without stopping. We will also see the development of the carriages.

The preparation of the engine and fire has to be done before every journey, with cleaning out at journeys end. Jim, in his younger days, always wanted to be an engine driver - not always a glamorous job! Parking and disabled facilities are available at the Mytton Fold Hotel.

A cup of tea/coffee will be available on arrival from 10.30 am and the talk will commence at 11.00 am. This will be followed by an optional 3-course lunch, costing £17. Please advise of any special dietary needs. All members, their partners and guests, are very welcome. Please send all applications before February 12th to Brian Flynn, 53 Wilderspool Close, Whittle-le-Woods, Chorley PR6 7SH using the flyer included with the newsletter

The Spruce Goose and the Princess

Date: Thursday 11 March 2010
Time: 7.00 for 7.30
Speaker: Tony Wilson
Venue: Crooklands Hotel,
Organised: Joint with K&DES
Contact: Richard Harrison,
Tel 01524 733898,
rharriso@globalnet.co.uk

Flying boats in the 1930s became "THE LINERS OF THE SKIES" offering the only way to make long Trans-ocean Flights. With few runways and airports, water was the obvious take-off and landing medium. This illustrated presentation tells the story of their development and of the world's greatest seaplane projects.

Tony Wilson was trained at Leyland Motors and worked in their R & D dept until 1958. Having been in REME and RNVR he was called up for National Service as an Engineer Officer in the Royal Navy until 1961. After leaving the service he spent 32 years with Michelin Tyres.



Visit to Springfield Fuels, Salwick, Preston

Date: Wednesday 3 March
Time: 5.30 pm
Venue: Main Gate, Springfields Fuels Ltd, Salwick, Preston, Lancashire, PR4 0XJ
Contact: Tom Kerfoot on
Tel 07985 629361..

Members and non-members are invited to discover the manufacturing facility producing nuclear fuel which supplies AGR power stations

in the UK. The evening visit will begin with an introduction, light refreshments and finger buffet followed by an escorted tour of the Oxide Fuels Complex on site at Springfields. All PPE will be provided.

Visitors will be required to register in advance using the website and visitors over 14 years of age to bring photo ID (passport or photo driving license) with them on the day of the visit. Company ID will not be accepted. Any foreign nationals wishing to visit must bring passport ID.

**WEDNESDAY, 13 JANUARY 2010, SWALLOW HOTEL,
SAMLESBURY, 7.00 FOR 7.30 P.M.**

WEST COAST ROUTE MODERNISATION

Simon Maple from Network Rail (Joint with I Mech E & ICE)
Talk at Swallow Hotel, Preston New Rd, Samlesbury, Preston, PR5
OUL

Contact Mike Bell at mbell@theiet.org or Tel. **07870666917**

**WEDNESDAY, 20 JANUARY 2010, BURNLEY COLLEGE
6.30 FOR 7.00 P.M.**

ENERGY SYSTEMS IN NEW SCHOOLS

Frank Mills BSc(Eng) FCIBSE MIMechE MASHRAE MASHE
(Joint with I MechE)

Talk and Visit at a Burnley School (tba) (See website)
Contact Mike Bell at mbell@theiet.org or Tel. **07870666917**

**WEDNESDAY, 3 FEBRUARY 2010, UCLAN, PRESTON
7.00 FOR 7.30PM.**

POWER FROM THE SEA

Angela Robotham, Engineering Director, Marine Current
Turbines Ltd (Joint with UCLan) Talk at C&T Building, Darwin
Lecture Theatre, University of Central Lancashire
Contact Simon Platt: at spplatt@uclan.ac.uk or Tel. **01772893341**

**TUESDAY, 9 FEBRUARY 2010, LANCASTER UNIVERSITY
6.00 FOR 6.30PM.**

**FROM FLEMING TO PENRYN - CELEBRATING OVER
100 YEARS OF ELECTRONICS**

Brian Mann Talk at Lancaster University Cavendish Room,
Colloquium Room, Faraday Complex, John Creed Avenue, LA1 4YW
(Joint with IOP)
Contact Richard Harrison at rharrison@globalnet.co.uk
or Tel. **01524733898**

**WEDNESDAY 10, FEBRUARY 2010, BARROW
7.00 FOR 7.30PM.**

**THURSDAY 18 MARCH 2010, WHITEHALL COUNTRY CLUB
7.00 FOR 7.30 P.M.**

ROSSENDALE AND PENDLE MOUNTAIN RESCUE

Dinner and Talk at Whitehall Country Hotel, Darwen, BB3 2JU,
Contact Jim Hindle, 20 Cowley Crescent, Padiham,
Lancs. BB12 8SX, or Tel. **01282771355**

**WEDNESDAY 24 MARCH 2010 , BARROW
7.00 FOR 7.30PM.**

MARINE ENERGY DEVICES

Michael Todman, Tidestream Partnership Ltd (Joint with PESC)
Talk at Forum 28 ,Duke Street, Barrow, LA14 1HH
Contact Ralph Hobson at ralph@thehobsons.co.uk or Tel. **01229583762**

**THURSDAY 25 MARCH, LEYLAND
10.30 FOR 11.00 A.M.**

**WORDS ACROSS THE OCEAN –
FROM CABLE TO SATELLITE**

Professor Nigel Linge Talk and Lunch at the Wellington Park,
Leyland, PR25 3AB

Contact George Heaton, Garth Cottage, Yealand Road, Yealand
Conyers, Carnforth LA5 9S or Tel. **01524736554**

**TUESDAY, 11 MAY 2010, UCLAN, PRESTON
5.00 TO 8.00 P.M.**

**ROUTES TO REGISTRATION
PRESENTATION EVENING**

Talk at C&T Building, Room 101, University of Central Lancashire
Contact Michelle Busson, at mbusson@theiet.org
or Tel. **01524733898**

**WEDNESDAY, 12 MAY 2010 PRESTON
12.00 TO 8.00 P.M.**

APPLICATIONS OF LEDS

Graham Round, Marl International Ltd. (Joint with PESG)
Talk at Forum 28, Duke Street, Barrow, LA14 1HH

Contact Ralph Hobson at ralph@thehobsons.co.uk or Tel. **01229 583762**

MONDAY 15 FEBRUARY 2010, WHITEHAVEN 10.00 AM

THE OTHER MR FARADAY

Richard Harrison

Talk at The Chase Hotel, Inkerman Terrace, Whitehaven, CA28 8AA

Contact Richard Harrison at rharrison@globalnet.co.uk
or Tel. **01524733898**

THURSDAY 18 FEBRUARY 2010, MYTTON FOLD, LANGO, 10.30 FOR 11.00 A.M.

DEVELOPMENT OF THE STEAM LOCOMOTIVE

Jim Hindle, Talk and Lunch at the Mytton Fold, Whalley Road, Lango, Blackburn, BB6 8AB

Contact Brian Flynn, 53 Wilderswood Close, Whittle-le-Woods, Chorley PR6 7SH or Tel. **01772330278**

WEDNESDAY 3 MARCH 2010 SPRINGFIELD FUELS.

VISIT TO SPRINGFIELD FUELS, SALWICK

Contact Tom Kerfoot Tel. **07985629361**

THURSDAY 11 MARCH 2010, CROOKLANDS HOTEL, KENDAL 7.00 FOR 7.30 P.M.

THE SPRUCE GOOSE AND THE PRINCESS

Tony Wilson (Joint with K&DES)

Talk at Crooklands Hotel, Nr Kendal, LA7 7NW

Contact Richard Harrison at rharrison@globalnet.co.uk
or Tel. **01524733898**

ROUTES TO REGISTRATION CLINIC AT THE TICKLED TROUT HOTEL

Tickled Trout Hotel, Preston New Road, Preston, PR5 0UJ

Contact Michelle Busson, mail to getregistered@theiet.org
or Tel. **01438767658**

WEDNESDAY 19 MAY 2009, HALLMARK HOTEL CARLISLE (FORMERLY THE LAKES COURT HOTEL), 7.00 FOR 7.30 P.M. THE DEVELOPMENT OF THE STEAM LOCOMOTIVE – CHAIRMAN'S ADDRESS

Jim Hindle, Talk at Hallmark Hotel Carlisle (Formerly The Lakes Court Hotel), Court Square, Carlisle, CA1 1QZ

Contact Mike Bell at mbell@theiet.org or Tel. **07870666917**

THURSDAY 20 MAY 2010, BRAITHWAITE NEAR KESWICK, 10.30 FOR 11.00 A.M.

KILIMANJARO CHALLENGE – AN ENGINEER'S POINT OF VIEW

John Cowburn, Talk and Lunch at the Braithwaite Memorial Hall

Contact George White, 21 Lakeland Park, Keswick, Cumbria. CA12 4AT or Tel. **01768774705**.

THURSDAY, 27 MAY 2010, UCLAN, PRESTON 6.00 FOR 6.30 P.M.

YOUNGER MEMBERS' PRESENT AROUND THE WORLD COMPETITION

Talk at C&T Building, Room 101, University of Central Lancashire

contact Simon Platt: at spplatt@uclan.ac.uk or Tel. **01772893341**

WEDNESDAY 2 JUNE 2010, CROFTERS HOTEL, CABUS, GARSTANG 6.00 FOR 6.30 P.M.

GUEST EVENING, VULCAN IN THE SKY

Kevin (Taff) Stone, Crewchief for the Vulcan XH558

Talk and Dinner at the Crofters Hotel

Contact Mike Bell at mbell@theiet.org or Tel. **07870666917**

Full details and event synopses are given in the January 2010 newsletter and online at www.theiet.org/lancscumbria. Maps and directions can also be found online.

The events are open to all with all talks being free unless otherwise stated Programme Secretary: Barry Lewthwaite: 01539 733767

Rossendale and Pendle Mountain Rescue

Date: Thursday 18 March 2010
Time: 7.00 for 7.30
Speaker: from the Mountain Rescue Team
Venue: Whitehall Country Hotel, Darwen, BB3 2JU
Organised: Joint with BES
Contact: Jim Hindle, 20 Cowley Crescent, Padiham, Lancs. BB12 8SX, 01282 771355.

The speaker will give guidance about walking in the hills, demonstrate the equipment that the Mountain Rescue Team use and tell us of some of the incidents they have responded to.

Dinner is at 7.30 p.m. and will be followed by the talk; it is possible to attend the talk, which will start at approx 9.15pm without the meal if desired. Booking for the meal is essential. The cost of the meal is £19.00 each. Bookings to Jim Hindle, 20 Cowley Crescent, Padiham, Lancs. BB12 8SX, 01282 771355. using the flyer enclosed.

Marine Energy Devices

Date: Wednesday 24 March 2010
Time: 7.00 for 7.30
Speaker: Michael Todman, Tidestream Partnership Ltd
Venue: Forum 28 ,Duke Street, Barrow, LA14 1HH
Organised: Joint with PESC
Contact: Contact: Ralph Hobson:
Tel 01229 583762,
ralph@thehobsons.co.uk

Developing useable renewable energy from tidal streams (and the enormous financial benefits available for those who are successful) has attracted the attention of a good number of inventors and entrepreneurs for the last few years. The talk will cover the basic problems involved with extracting useable energy - environmental, mechanical, and commercial, and the many approaches being taken to overcome these. The trials and pitfalls early stage developers meet will be discussed along with information on testing and evolution of the latest TidalStream "Triton" platform - a 10MW capability single installation for deep waters. It will conclude with views on the long-term future of the exciting new industry.

Michael Todman is a founding partner in TidalStream - a company formed in 2005 to develop a different approach to extracting energy from tidal currents. He was previously Chief Engineer at Roll-Royce Industrial & Marine power, involved in both marine propulsion turbines and power generation systems from concept design to in-service support. He subsequently became CTO at Pursuit Dynamics plc - a technology innovation company where he developed novel propulsion and processing systems

Words across the Ocean - from cable to satellite

Date: Thursday 25 March 2010
Time: 10.30 for 11.00 a.m
Speaker: Professor Nigel Linge of Salford University
Venue: Wellington Park, Leyland, PR25 3AB
Organised: by Retired Members
Contact: George Heaton, Garth Cottage, Yealand Road, Yealand Conyers, Carnforth, LA5 9SG 01524 736554

The great telecommunications revolution began in 1858 with the completion of the first trans-Atlantic telegraph cable. Although only short lived, that cable was the catalyst to wire up the world and by 1901 a telegram could indeed be sent all the way around the globe.

Today's internet may be based on fibre optics rather than copper cables carrying Morse Code signals, but the routes taken by submarine cables have changed little. Nigel, the Professor of Telecommunications at the University of Salford, will tell us the heroic story of that first trans-Atlantic cable and show how this feat of engineering and achievement has led to our modern digital world.

Plenty of parking, and disabled facilities are available at Wellington Park. A cup of tea/coffee will be available on arrival from 10.30 am and the talk will commence at 11.00 am. This will be followed by an optional 3-course lunch, costing £17. Please advise of any special dietary needs. All members, their partners and guests, are very welcome.

Please send all applications before March 20th to George Heaton, Garth Cottage, Yealand Road, Yealand Conyers, Carnforth, LA5 9SG, using the flyer included with the newsletter

Routes to Registration Presentation Evening

Date: Tuesday, 11 May 2010
Time: 5.00 for 5.30 p.m.
Speaker: Louise Parfrey of IET
Venue: C&T Building, Room 101, University of Central Lancashire
Contact: Contact Michelle Busson, at Tel. 01438 767658 or mailto: mbusson@theiet.org,.

Getting registered as a Professional Engineer is about more than getting letters after your name, Increasingly, employers are placing value on registration as CEng, IEng, Eng Tech and ICT Tech. The IET has recently introduced changes in the process to make things simpler.

If you want to know more about registration and the changes being introduced then we can help. Louise Parfrey from the IET will be making a presentation covering membership, the route to registration (UKSPEC), and how the IET can help you develop your career. The event is aimed at engineers working in large and small companies in Lancashire and Cumbria, students from Engineering Departments but all are welcome. Pre-registration is not necessary. There will be the opportunity for one-to-one informal interviews with a registration adviser

The presentation will begin at 1730. Light refreshments will be served. Parking is available immediately behind the venue.

For further information on the above events please contact Tony Gill (tonyandgeorgiagill@tiscali.co.uk) or 01200-425911.

Car parking at the University of Central Lancashire

The Lancashire and Cumbria Network organises events at venues that offer free car parking. At UCLan, members and guests attending IET events may park free of charge on university car parks on display of a special flyer on the car dashboard. Flyers are available at all events or by email in advance on request. For more details please contact Simon Platt, spltatt@uclan.ac.uk.

Routes to Registration Clinic

Date: Wednesday 12 May 2010
Time: 12.00 to 8.00 p.m.
Speaker: Louise Parfrey of IET
Venue: Tickled Trout Hotel, Preston
New Road, Preston, PR5 0UJ
Contact: Michelle Busson, at
Tel. 01438 767658 or to
getregistered@theiet.org with
the heading "Preston - 12 May"

As a follow-up to the presentations, or simply to support those individuals seeking to develop their careers, for example via CEng, IEng, or Eng Tech we are offering one-to-one advice. The expert from IET HQ will be available, along with local membership and mentoring advisors.

If you are interested in booking an appointment, please send an email to getregistered@theiet.org with the heading "Preston - 12 May" in the subject line.

You should provide details of the level of professional registration you wish to apply for, together with a contact telephone number; your membership number (if applicable); and an approximate time for your appointment.

We will do our best to match the requested appointment time.

For further information on the above events please contact Tony Gill (tonyandgeorgiagill@tiscali.co.uk) or 01200-425911.

The Development of the Steam Locomotive Chairman's Address

Date: Wednesday 19 May 2010
Time: 7.00 for 7.30
Speaker: Jim Hindle
Venue: Hallmark Hotel Carlisle
(Formerly The Lakes Court Hotel), Court Square, Carlisle, CA1 1QZ
Contact: Mike Bell at mbell@theiet.org or Tel 07870 66719.

The talk will start by showing the developments in design from the 1820s and show how the power of the loco' is dependent on its ability to make steam.

We will progress though the 1800s and show how loco's got bigger as loads and speeds increased.

In the early 1900s superheating the steam showed significant improvements in coal and water consumption.

This brought requirements of better lubrication and piston valves started to replace slide vales as the method of admitting steam to the cylinders.

To run non stop for long distances, most railway companies placed troughs containing water between the rails at intervals of about 60 to 80 miles.

A pickup scoop in the tender collected water from the troughs while the train was running at 60 mph.

The later designs of loco's made maintenance easier, but they were still very labour intensive and hard work for the crew on long round.

Kilimanjaro Challenge - an engineer's point of view

Date: Thursday 20 May 2010
Time: 10.30 for 11.00 a.m.
Speaker: John Cowburn
Venue: Talk and Lunch at the Braithwaite Memorial Hall
Contact: George White, 21 Lakeland Park, Keswick, Cumbria. CA12 4AT.
Tel 017687 74705.

Kilimanjaro is the highest peak in Africa. Standing at 19,000 ft it is the highest free standing mountain on earth. Recent reports seem to indicate that the effects of global warming are causing the snow and glaciers at high level to melt dramatically.

John and his wife recently climbed the mountain and experienced temperatures ranging from +30C at ground level to -25C at the summit. He will show us stunning pictures of their climb and consider the effects of global warming and the stress on the human body.

A cup of tea/coffee will be available on arrival from 10.30 am and the talk will commence at 11.00 am. This will be followed by an optional buffet lunch, costing £12. We have visited Braithwaite Memorial Hall before and have always enjoyed a plentiful and varied buffet. All members, their partners and guests, are very welcome.

Please send all applications before May 14th to George White, 21 Lakeland Park, Keswick CA12 4AT using the flyer included with the newsletter.

Guest Evening, Vulcan in the Sky

Date: Wednesday 2 June 2010
Time: 6.00 for 6.30.
Venue: Kevin (Taff) Stone, Crewchief for the Vulcan XH558
Venue: Crofters Hotel, Cabus Garstang
Contact: Mike Bell at mbell@theiet.org or Tel 07870 66719.

The Vulcan Bomber last saw action in the 1982 Falklands conflict and was taken out of service shortly after in 1984. If you've ever seen the awe-inspiring sight of the Vulcan Bomber roaring overhead you'll know how important it is

Present Around the World Competition

Date: Thursday, 27 May 2010
Time: 6.00 for 6.30.
Venue: C&T Building, Room 101, University of Central Lancashire
Contact: Contact Simon Platt: 01772 893341, spplatt@uclan.ac.uk

Students and Young Professionals entering the Present Around the World competition are required to give a presentation lasting ten minutes on an engineering subject of choice and should be prepared to answer questions for a further five minutes. Presenters do not have to be current members of the IET. Subjects covered could be those studied as part of a degree or a project you've been involved in at work. The judging is split 25% technical content, 75% presentation skills - enabling Younger Members at varying levels of study or career to participate. The prize for the winning presentation is £150, a year's free membership of the IET and the opportunity to compete in national and international competitions.

Car parking at the University of Central Lancashire

The Lancashire and Cumbria Network organises events at venues which offer free car parking. At UCLan, members and guests attending IET events may park free of charge on university car parks on display of a special flyer on the car dashboard. Flyers are available at all events or by email in advance on request. For more details please contact Simon Platt, spplatt@uclan.ac.uk.

for the world of aviation to preserve this plane. This lecture describes some of the challenges and joys of restoring XH558 - the world's only airworthy Vulcan."

The talk is open to all members and guests without charge. The cost of the meal, which is open to all and held after the talk, is £19.00 per person. The closing date for applications is 30th May 2010

Please send your application to Michael Bell, 52 South Park, Lytham, Lancs FY8 4QQ Tel: 07870 666917 (mbell@theiet.org) using the flyer included with the newsletter.

JOINT EVENTS

Many local network events are organised in conjunction with other organisations in our area. Each is identified by its initials in the events list, as follows:

CIBSE:	Chartered Institution of Building Services Engineers
CMI:	Chartered Management Institute
IMechE:	Institution of Mechanical Engineers
IOP:	Institute of Physics
KDES:	Kendal and District Engineering Society
PESC:	Professional Engineers South Cumbria
UCLan:	University of Central Lancashire

FEATURES

Become a Mentor with the IET Mentoring Service

Demand for mentors is growing fast. The IET need 160 new mentors throughout the UK to meet current demand and will need more in 2008. Could you spare one or two hours a month? Would you like to share your knowledge and experience to the benefit of others? If yes, read on! If you or anyone you know might be interested in this exciting opportunity to encourage, support and guide other engineers at key stages within their careers we would be pleased to hear from you.

Most members applying for a mentor through the Mentoring Service are hoping to achieve Professional Registration (CEng, IEng or EngTech). If you are CEng, IEng or EngTech-registered and would like to support other members towards achieving Professional Registration, contact us today. Full training and support will be provided.

Web: www.theiet.org/mentoring

Email: mentoring@theiet.org

Tel: 01438 767647

NEWS

Big Bang Fair

11-13 March 2010, Manchester Central



The Big Bang Fair is the biggest young people's science and engineering event of the year in the UK. Over 15,000 visitors are expected over the 3 days, which will include the finals of the National Science & Engineering Competition, exhibitions from industry and leading edge science organisations, as well as huge stage shows including 'Brainiac', and 'Bang Goes the Theory'

In March 2010 the Big Bang Fair comes to Manchester for the first time, at Manchester Central (formerly G-Mex). Lots of volunteers are required to make the event a success, and there are a range of roles available, including expert guides, offering careers advice and information, and helping with logistics. You can commit for as much or as little as you like, and training will be offered before the event. If you would like to get involved in this, as a volunteer, then please contact the Lancs & Cumbria IET Schools Liaison Officer, Kevin Burke (kevin.burke@stemnet.org.uk).

For more information on the Big Bang Fair visit www.thebigbangfair.co.uk

Nuclear Power talk attracts and informs our members

The talk on December 1st about 'The life of a Nuclear Power Station Director' certainly attracted member's interest. Over 100 members and their guests gathered at The Netherwood Hotel, Grange over Sands, where Gwen Parry-Jones, Director of Heysham No1 Nuclear Power Station, told us about her many responsibilities of managing such a complex operation. She is the named nuclear licence holder and her responsibilities include all technical and personnel operations of the Station. Her talk and the many questions she received covered her daily operational duties, the retirement of existing stations, new build planning, staff development, waste management and many other aspects. Her direct presentation style impressed all who were present.

She had just returned from a holiday in Egypt where she had taken part in a 6-day sponsored trek that she said was much more demanding than her previous participation in the London Marathon. We are very pleased to be sending her a cheque for the Alzheimers Society for £200 given by those present. Her talk was followed by another excellent seasonal lunch up to the usual high standard of the Netherwood.

We welcome all members and their guests to our daytime meetings that are very popular so early application is advised.

The Universe and Everything - How it Evolved

The network had two lectures in Preston and Barrow by Dr Robin Catchpole on the 29th & 30th September 2009. These events were well attended. It is hoped that he will give another lecture in September 2010.

The Universe and Everything - How it Evolved was not an easy subject to tackle in just over an hour but Dr Catchpole coped amazingly well.

Some 13.7 billion years ago an event occurred in which unimaginable amounts of energy started the process of forming matter from energy and radiation. At 10^{-44} seconds and 1040 oK adiabatic expansion started and by 10^{-34} seconds the temperature had dropped to 1032 oK and all the Baryons and anti Baryons were being formed, though it seems for every 10^9 anti Baryons there was one extra Baryon, which why we are here.

Within 3 minutes anti/ +ve annihilation was virtually complete, fusion had stopped and 75% Hydrogen and 25% Helium was left. Gravity then formed these huge quantities of atoms into massive stars. Fusion restarted in these stars and led to the formation of elements through to Iron (Fe). This is not a nuclear fuel so the cycle then stopped until their death throes in which the heavier elements were formed.

As the Universe expanded further, the time now being only 6,000 million years ago, the spacing allowed transparency and the formation of smaller stars and galaxies. In our own case the clouds of dust and gas in our part of the galaxy allowed our Sun to have it's own attendant planets. The time was by now 4,700 million years ago and our rocky planet was formed a mere 200 M years later. A relatively minor collision with another body left us with a beautiful moon to keep us from wobbling too much.

This fact along with the presence of water, a suitable temperature, chemical composition and a stable orbit gave the conditions for primitive life defined as; 'A self sustaining chemical reaction capable of Darwinian Evolution'. The key factor in development of higher life forms seems to have been when the proportion of Oxygen reached 20% or so at 200 million years ago. From then on complex life formed and the next critical point was the arrival of the 'Mind' or self-awareness; this was about 800,000 years ago. Animals can use tools but man can carry out complex thought and manual processes.

The universe now appears to contain 4% matter, 23% Dark Matter and most intriguingly, 73% 'Vacuum Energy'

Even if we wipe ourselves all out the earth still has at least 4 more opportunities for similar development before the Sun becomes too hot and envelops us all.

CONTACTS

Chairman

Jim Hindle

Tel: 01282 771355

Email: jim.hindle@btinternet.com

Honorary Secretary

Mike Bell

Tel: 07870666917

Email: mbell@theiet.org

Treasurer

Bevis Mulholland

Tel: 0161 839 8392

Email: b.mulholland@waterman-group.co.uk

Programme Secretary

Barry Lewthwaite

Tel: 01539 733767

Email: jblewthwaite@theiet.org

Newsletter Editor

Mike Bell

Tel: 07870666917

Email: mbell@theiet.org

Younger Members Contact

Rich Grant

Tel: 07769 728722

Email: rgrant@theiet.org

Retired Members' Chairman

Brian Flynn

Tel: 01772 330278

Email: bflynn@theiet.org

Retired Members' Secretary

Doug Howe

Email: dfhowe@theiet.org

IET Connect

Dr. Peter E Roberts

Tel: 0771 8058299

Email: pe.roberts@theiet.org

South Cumbria Convenor

Ralph Hobson

Tel 01229 583762

Email: ralph@thehobsons.co.uk

Kendal Convenor

Richard Harrison

Tel: 01524 733898

Email: rharriso@globalnet.co.uk

West Cumbria Convenor

Iain Messenger

Tel: 01946 824756

Email:

themessengers@btinternet.com

**Local Network
Development Executive:**

Deborah McKenzie

PO Box 251
Sale M33 2ZY

Tel: 0161 973 3812

Fax: 0161 973 8634

Email: dmckenzie@theiet.org

**Local Network
Co-ordinator:**

Michelle Busson

Michael Faraday House,
Six Hills Way,
Stevenage, SG1 2AY,

Tel: 01438 767658

Email: mbusson@theiet.org,