

Connect

THE ICE WALES CYMRU NEWS MAGAZINE

ice
Institution of Civil Engineers

PROJECT PROFILES

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New footbridge & cycleway p19

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Deteriorating Economic Conditions Cast Clouds Over Civil Engineering

Sustainability Top of Agenda

Chairman's Report

ALUN GRIFFITHS

SUCCESSION

I am very honoured to be your Chairman for the 2009/2010 period and am grateful to all who attended the AGM in October and the ensuing incoming Chairman's Address, it was very nice to see so many friendly faces.

As your incoming Chairman I have to tell you that matters are moving very quickly both at One Great George Street (OGGS) and here in Wales. My following narrative will elucidate, but firstly I would like to give a big vote of thanks to immediate past Chairman Professor Bob Lark for his commitment and energy to the Region at a time of sweeping budget cuts from the Centre; he has been a Herculean representative on behalf of us all endeavouring to protect our interests in the face of unilateral reductions to a number of initiatives, particularly the Severn Gateway Project.

ECONOMIC BACKGROUND

My year of office commences amidst an air of considerable economic uncertainty. Coming from a Contracting background the industry side of our profession is enduring (outside the London Olympic bonanza) unprecedented levels of inactivity and where industry trade body CECA is warning of a second downturn with all but a few company's reporting collapsing workloads.

The consequences of this are low tender prices in a bid to bid to stay in the market and an emerging pool of surplus labour. In the UK some 1 million people under 25 are now unemployed and in Wales we have suffered the largest rise in UK unemployment accounting for almost one half of the total UK increase between July and September.

These are deadly serious circumstances added to which curtailed budgets impinge on local authority technical departments, consulting engineers commissions and in turn there from contractors workloads, no budget, no design, no contract equals increasing unemployment, and rapidly.

This manifests itself as mentioned not only in the mature age group, but also in the graduate and apprentice market and, whilst civil engineering has been undergoing a renaissance in University entrance, these circumstances will undoubtedly have its repercussions at a future date when it is seen there is no subsequent employment. The Institution's proposals of a National Infrastructure Bank are most worthy in these circumstances and here in Wales we will be pressing the Minister when we have our direct meeting in January for more infrastructure spending. You may be aware that the CBI maintains every £1 spent on construction brings £2.84 back into the economy, 92 per cent of which is spent in the UK. Why are we waiting?

THE YEAR AHEAD

I hope you have reviewed the Combined Calendar of Events, this is an excellent bibliography of events going on across the whole of Wales where interesting and stimulating events and lectures are taking place. I would urge all to attend as often as is appropriate. There is something for everyone here and we are most grateful to those who give their time and effort preparing and delivering the events. Additionally of course, you gain CPD and network with other professionals.

During my inaugural address I affirmed that I intended to continue themes either initiated or developed by my predecessors. This was

for two reasons, number one I thought them very worthy subjects and two because and in taking the line of Past President Roger Sainsbury you cannot set new initiatives every year as in quite a short time there would be so many none would be effective. Hence the support for WATT is proceeding and meetings with representatives of the University of the Heads of the Valleys are arranged and following somewhat negative negotiations with OGGS, we are now seeking independent charity status for EFOD as we are determined that it survives and prospers.

In the short space of time that I have been in Office I have attended two Panel for Historical Engineering Works (PHEW) events – one at the Alderman Davies Junior School, Neath in recognition of Patent Examiner Rhys Jenkins and where Katherine Jenkins is current star past pupil and most recently at Cardiff Barrage where a plaque was unveiled, as is shown in my headline photograph, commemorating the 150th anniversary of the deaths of Brunel and Stephenson who both had competing involvement with the ports of Penarth and Cardiff, and there is more about this elsewhere in the bulletin. Both Keith Thomas and Stephen Jones put an enormous amount of effort into these events, and they and the event are truly marvellous examples of best practice on behalf of ICE Wales Cymru for which we are very grateful.

Our programme of business breakfasts is now rolling with the first on Asset Management delivered by Robert Baldwin and sponsored by Halcrow in November and the second on Social Responsibility in December and sponsored by Contractor Dean and Dyball Civil Engineering. We are grateful to our sponsors and are still keen for further sponsorship for Business Breakfasts in 2010 and upon which any support would be gratefully received by our Director Keith Jones.

STATE OF NATION REPORTS

On Friday 20th November President of the Institution Professor Paul Jowitt launched at OGGs the latest of the Institution's State of the Nation Reports, this time on Low Carbon Infrastructure. This was attended by myself, Director for Wales Keith Jones and Chairman's Apprentice Matt Jones.

We here at ICE Wales Cymru have followed this up with a Welsh version launched by myself at the Senedd on Thursday 26th November in the presence of the Minister for Environment, Sustainability and Housing Jane Davidson AM on the occasion of one of our regular Fellow meetings.

Low carbon attainment is at the heart of our sustainability objectives and in Wales the Welsh Assembly Government have set a zero carbon goal with a 3 percent year on year decrease to achieve an 80% reduction by 2050 using

1990 as a base. This challenge will need the participation of each one of us.



FESTIVE SEASON

We approach the end of another year and I would like to thank Director for Wales Keith Jones and his closely knit staff of Cherry Cronly, Felicity White, Karyn Thompson, Bob Gilchrist, Mike Foster and Bob Polden for all their efforts and hard work making ICE Wales Cymru the force it is together with all our honorary officers and representatives ensuring the affairs and voice of ICE Wales Cymru are upheld.

I would also like to congratulate Denys Morgan our immediate past Director on his appointment to Council. Denys was the creator and driver of what we now have in ICE Wales Cymru and we are all delighted at Denys' success in this election.

It remains now for me to wish you all, A Merry Christmas and a Happy New Year. Nadolig Llawn a Blwyddyn Newydd Dda.

New Chairman's Apprentice

MATTHEW JONES HAS BEEN APPOINTED AS THE NEW CHAIRMAN'S APPRENTICE.

Matt, who is 27, works for Halcrow Group Ltd as an Assitant Engineer in the Transportation business group working on major UK highway schemes.

He will be shadowing Alun Griffiths and attending ICE Wales Cymru Committee in addition to attending a number of events including seminars and conferences. Matt will also be able to get involved with the visit to Cardiff next year of the ICE President Paul Jowitt.

Matt is keeping a blog during his time as apprentice – you can read it at <http://icewales.blogspot.com>



Annual General Meeting



Prof Bob Lark hands over the badge of office to incoming Chairman Alun Griffiths

Welsh Engineer Awarded Prestigious Institution Medal

EMERITUS PROFESSOR BEN BARR, OF CARDIFF UNIVERSITY, HAS BEEN AWARDED THE PARKMAN MEDAL FOR HIS PAPER UK CIVIL ENGINEERING EDUCATION IN THE TWENTY-FIRST CENTURY.

The Parkman medal is a great achievement, being awarded for the best paper published by the Institution in the previous year on the practical aspects of the control or management of the design and/or construction of a specific scheme.

Professor Barr said the winning paper was written as a result of his increasing concern regarding trends in secondary and higher education.

"I was an active member of the Joint Board of Moderators for ten years and was Chair of its International Committee for three years. I was the ICE Representative on the Engineering Accreditation Board of the Engineering Council for three years and also a member of the Accreditation Board of the RIBA.

"These activities gave me an opportunity of visiting a wide range of Universities and made me aware of the need to inform the Profession of the major changes taking place

in the education of the next generation of Civil Engineers."

ICE Wales Cymru director Keith Jones congratulated Professor Barr's achievement, saying:

"I am particularly delighted that Ben has won the prestigious Parkman medal. As one of his former students it is of great personal pleasure to offer my congratulations along with the congratulations of ICE Wales Cymru. Ben has given a wealth of service to the Institution of Civil Engineers over the years and this medal is due reward."



Professor Barr was presented his medal at the annual Institution of Civil Engineers Awards Ceremony by ICE president Jean Venables, at the ICE headquarters in Westminster.

News in Brief

FELLOWS SUCCESSES

Congratulations to Angela Gray and Eric Cocker who have recently been accepted to the Institution as Fellows. Congratulations also to John Mosedale of the Environment Agency, Dr Peter Jones of the Welsh Assembly Government and Wyn Pritchard of ConstructionSkills who have been invited to become Fellows by the President of the Institution.

NEW COMMITTEE MEMBERS ELECTED

Congratulations to Debbie Booth and Dr Eric Wu who have been elected to the ICE Wales Cymru Committee.

Many of you will now know Eric, who works for Mottmac, as past Chair and recently as Honorary Secretary of ICE Wales Cymru's Ground Engineering Group (GEG). He is also a Supervising Civil Engineer. Despite working

overseas for 6 months. Eric intends continuing his new role as Elected Member via email and telephone

Debbie is an Incorporated Engineer who passed her professional review in the Autumn of 2008. Debbie works for WS Atkins in the field of Water and Waste Water Engineering.

Dr Eric Wu



Debbie Booth



Director's Comment



KEITH JONES

As this is the first "Connect" of the new session, I would like to offer my congratulations to Professor Bob Lark and the ICE Wales Cymru Committee for a great 2008/2009 year. Next, of course, it gives me great pleasure to welcome Alun Griffiths as the new Chairman for 2009/10 and to offer both my support as Director and the full support of the team at Bay Chambers and across Wales – Cherry Cronly, Felicity White, Karyn Thompson, Bob Gilchrist, Mike Foster, and Bob Polden.

It was a very successful year and I look forward to the continuing success into 2010. We have built an exciting programme of interesting and informative evening lectures both in South and North Wales, together with events in the West. Attendance at evening lectures has been fantastic. Details can be found in the Combined Calendar of Events booklet or on our website ice-wales.org.uk. Please ensure that you let us know if you wish to attend an event so we can make the necessary catering arrangements. We have also planned a number of site visits in 2010 so there will be different opportunities available.

Our major conferences this year will focus on "Waste Management" (11th February 2010); "Flooding in Wales" (18th March 2010), and Transport (20th May 2010 NB new date!). Later in the year the further major conferences will feature "Severn Tidal Energy" and "Regeneration in Wales".

We had a successful Welsh launch of our State of the Nation report on Low Carbon Infrastructure in the Senedd on 26th November 2009. This issue is of primary importance to us all in the Institution of Civil Engineers as it must be at the heart of our policies for the future. Looking into 2010 we will be preparing further State of the Nation Reports: a repeat of the Infrastructure scorecard in June 2010 and a Resource management (Waste) Nov 2010.

We will be welcoming our new ICE President Professor Paul Jowitt when he visits Cardiff in May and North Wales in September 2010. I will be working with the team in Bay Chambers and the North Wales Branch to prepare a great series of events to welcome Paul and I hope you will have an opportunity to attend one of the events.

Our Annual Dinner and Awards goes from strength to strength and once again will be held at the Marriott Hotel in Cardiff on Friday 7th May 2010. Details will be available on our website (ice-wales.org.uk) along with all the other events. The closing date for entries is Friday 29 January 2010, full details and the application form are in the Awards section of our website.

Turning to membership, we are going from strength to strength and our numbers are increasing year on year. We have over 3,500 members in Wales but wish to broaden and deepen in two areas.

Firstly, Technician Membership numbers are still low and we can all help to promote and sustain this very important grade of membership. Applicants with a National Certificate (ONC, HNC, HND) or vocational qualification (NVQ level 3) are eligible to apply for this grade of membership. In addition, Civil Engineering Technicians with some years service without the necessary academic qualifications are also eligible via the Technical Report Route. EngTech TMICE is recognition to you, your employer or, indeed, your prospective employer that you have been independently assessed by the world's premier Engineering Institution and have made the grade. Please help us in promoting this to your colleagues, friends etc. who may be interested.

Additionally, Fellowship of the Institution is also under-represented in Wales. It is the ultimate accolade that ICE can award to an individual and we need to recognise that in Wales we should be leading the other countries and recognising our primary members. If you would like discuss Fellowship of the Institution of Civil Engineers, please contact me.

I am delighted to wish you all a successful 2010. I am very keen to meet as many members (and prospective members) across Wales and can offer you help and support from both my team and from me. If you wish to discuss any issue raised please contact me (contact details on the back page).

Autumn Review Successes

CONGRATULATIONS TO ALL WALES REGION CANDIDATES WHO PASSED THEIR PROFESSIONAL REVIEWS:

- Chartered Engineer Grade
- Katalin Andradi CEng MICE
- Kate Attwood CEng MICE
- Andrew Brunsdon CEng MICE
- Piers Burroughs CEng MICE
- Robin Campbell CEng MICE
- Daniel Davies CEng MICE
- Huw Jones CEng MICE
- Sophie May CEng MICE
- Paul McVeigh CEng MICE
- Lee Murphy CEng MICE
- Gwion Parri CEng MICE
- Nicola Stockbridge CEng MICE
- Anthony Williams CEng MICE

MEMBERSHIP GRADE

- Dale Crutcher IEng MICE
- Reginald Hinchcliffe IEng MICE
- Lisa Perrett IEng MICE
- Madhu Santhira Sekeran IEng MICE

CPD Shouldn't be Seen as a Chore

BY DAVID LLOYD ROACH, ICE DIRECTOR OF MEMBERSHIP

There is a common assumption that crops up time and time again - that CPD is all about 'filling out forms and attending events'. This really couldn't be further from the truth and is a misconception I would very much like to put to bed.

Earlier this year, ICE council approved a new CPD strategy which stresses the importance of CPD in maintaining and developing professional competence and standards, rather than just ticking boxes and recording the number of hours one has spent at various lectures.

These days it is essential for civil engineers to continue expanding their knowledge and skills base to keep up with rapid technological advances and remain employable in the industry. It has been said that more new knowledge has been developed over the last 30 years than over the previous 500, and that up to ten percent of an engineer's knowledge becomes obsolete each year. These, combined

with changing patterns in the workforce (members can now expect to change their jobs multiple times during their career), are the reasons why CPD is so important.

CPD is a way of demonstrating your ongoing professional commitment to civil engineering and personal development to your clients, employers, and peers. It shouldn't be seen as an annual chore to tally your hours of attendance on courses, rather it is a way of planning your next career steps and make sure that you are equipped to achieve your goals.

It is also about maintaining very high standards across the profession, something ICE is serious about. We want to secure the ongoing credibility of ICE's professionally qualified membership.

The new strategy will see the introduction of a CPD monitoring programme. This will enable ICE to demonstrate how members are maintaining and developing their competence.

From 2010, members should expect to be randomly audited and one percent of the professionally qualified membership subjected to a full review each year. This will mean, in the first year, supplying a Development Action Plan for the current year.

Time will tell, but I seriously hope that some of the misconceptions about CPD are now being put aside. We would like to see members taking their professional development into their own hands, recognising it is for their own benefit and that of the profession at large. Don't just sit back and wait for your employer to offer a 'CPD approved' course for you to attend. Talk with your colleagues, read books and journals, research new technologies and practices, and plan for the next steps of your career. Those who don't are ultimately only deluding themselves.

Download ICE 3006: Continuing Professional Development from www.ice.org.uk/joining/document_details.asp?Docu_id=1082&faculty=14

ICE Virtual Library – All You Need to Know

One of the largest digital projects that the ICE Group have commissioned, the new ICE Virtual Library contains all the published knowledge of the Institution of Civil Engineers and Thomas Telford Ltd. back to 1836, furthering ICE's aim of disseminating knowledge and best-practice throughout the industry.

The ICE Virtual Library provides major new advances for both members and non-members when it comes to accessing civil engineering information, from Timperley's account of the construction of the Hull docks in 1836, through to the latest issue of Civil Engineering.

WHAT'S IN THE ICE VIRTUAL LIBRARY?

- 23 journals
- 345 new ebooks, with more coming soon
- 766 hard copy books available

WHY DID WE NEED TO DO IT?

With ever-increasing demands on the time of both engineers and researchers, it was vital to make accessing the knowledge of the Institution as simple and intuitive as possible. We wanted to put all our information in one

place, open up the archives, launch a new range of ebooks, and add innovative functionality for members and customers. The ICE Virtual Library allows us to do that by bringing together information which was previously spread across eight websites, available only in printed books and journals, or archived on CD.

WHAT'S IN IT FOR MEMBERS?

Access to all technical knowledge online, ideal for regional members who can't get to One Great George Street Demonstrates ICE's commitment to raising the profile of engineers and disseminating their work Member offers: all journals 1836-1900, up to 85% discount on journals Seamless access from ICE site (now and in future) Customizable updates: email alerts, RSS feeds, social bookmarking and saved searches.

The new range of ebooks means that engineers and researchers can access useful information in



exciting new ways: on ebook readers, iPhones and Blackberrys, and online wherever they are. Customers can also purchase individual articles and ebook chapters, so they can buy just what they need for their project or paper.

ICE Wales Cymru News

TEG UPDATE

The Transportation Engineering Group (TEG) has organised two joint evening meetings with IHT and CILT. Both were well attended with audiences of approximately 60 people: "Active Traffic Management - M42 Case Study" on 17 September, speaker Andrew Arlow, Mott MacDonald and "Road Death Investigation - Management of Risk" on 19 November, speaker Peter Dixon, TRL.

Hon Secretary Suzanne Pritchard will be on maternity leave in the New Year, although she will continue with the role. She will still be contactable on her work e-mail during this time, although will obviously be checking it less frequently! Best wishes Suzanne!
e: suzanne.pritchard@arup.com

PONTCYSYLLTE VIADUCT UPDATE

UNESCO is now partnering with the online travel giant TripAdvisor.com to promote World Heritage Sites. North Wales may receive a boost in visitors travelling to view the engineering masterpiece that is Pontcysyllte Viaduct, which was recently awarded World Heritage Site status.

GEG NEWS

Marga Quince has taken over the role of Hon Secretary for the Ground Engineering Group (GEG) following the resignation of Dr Eric Wu, who is working in Singapore for 6 months.

Marga is a past Chair of GEG(2005-6) and works part-time at the University of Glamorgan and also works with a voluntary organisation with links in Uganda (PONT).
e: geg.member@gmail.com

Annual Brunel Luncheon 2010

The 2010 Brunel Luncheon will be held at Margam Orangery on Sunday 17 October 2010. Entertainment will be provided by the internationally renowned, award winning Bridgend Male Voice Choir. Booking forms for the luncheon are available from:
Graham Copus t: 01656 662370
e: gdpmcopus@dsl.pipex.com

REG ADVANCE DATE

The Retired Engineers Group (REG) Annual Luncheon will be held on Monday 12 April 2010. The Guest Speaker will be Gavin Maxwell-Hart, Director of Laing O'Rourke Construction who was responsible for the 'civil' work on T5 at Heathrow Airport. He will give an illustrated talk on the project. Gavin Maxwell-Hart takes an active role in ICE and is a Member of the Management Board, MERIT Working Party and CEMYA Working Party, and has also represented ICE on working parties with several kindred Institutions. Booking forms for the luncheon are available from:
Graham Copus t: 01656 662370
e: gdpmcopus@dsl.pipex.com

AME News in Pictures



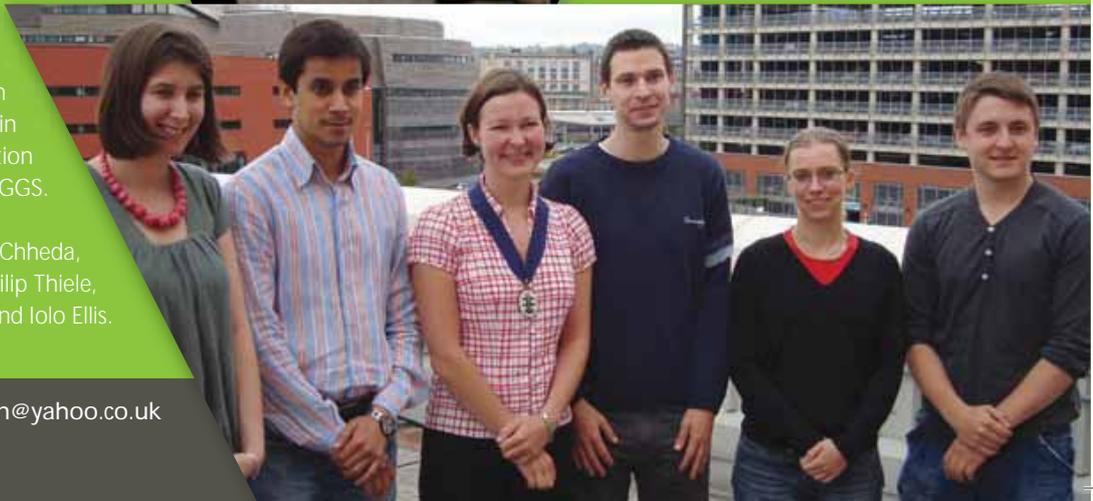
Incoming AME (South Wales) Chairman for 2009/10, Barbara Modrzejewska-Baudin with immediate past Chairman, Richard Daly pictured at the AME South Wales AGM 2009.



Following the AME (South Wales) AGM, members and guests attended a technical site visit courtesy of the contractor Dean and Dyball Civil Engineering to Cardiff Whitewater Centre and the Pont y Werin Bridge over the River Ely which provides a walking and cycling route between Penarth and Cardiff Bay.

Also present at the AGM, were the team from Arup Cardiff who were runners-up in the national final of the ICE Communication Competition 2009, held the day before at OGGS.

From left to right: Virginia Hooper, Poorav Chheda, (Barbara Modrzejewska-Baudin), Philip Thiele, Kate Mann and Iolo Ellis.



AME contact e: robert_polden@yahoo.co.uk

Engineers for Overseas Development (EFOD)

KATALIN ANDRASI

At the end of 2009 I can confirm that Engineers for Overseas Development had their best year to date!

The Medical Centre which the EFOD volunteers have been building since 2005 in the Ugandan town of Soroti saw the first doctor examining local children within its walls in October this year. This much needed building is now waiting for the necessary equipment to arrive from the UK in anticipation of the official opening in February 2010.

The Medical Centre was the first larger-scale project undertaken by EFOD and after long years of fundraising, design and construction we are all proud to see the finished building and the prospects and hope it brings to the local community. It will include duplicate surgeries for doctors, dentists and optometrists enabling volunteer medical professionals from the UK to work alongside Ugandan medical staff, developing skills and facilitating the training of others while providing free treatment for the most needy in the community.

The construction of the Care and Share Shalom Orphanage in the outskirts of Soroti is also underway and the plan is for the orphans to move in by March 2010. The orphanage complex comprises of four dormitories, two toilet blocks, an administration building and a central block, which will serve as both kitchen and dining area. The design of the orphanage started in December 2008 and to date over 20 construction professionals from

Wales have travelled to Soroti to supervise the construction. In addition, one EFOD member has taken a seven-month sabbatical between May and December this year to spend it in Soroti allowing continuous EFOD representation on site. This project is funded by the Care and Share Foundation UK (CSF) and the design and construction of the orphanage complex have been managed by EFOD. However, the cost of travel for the EFOD members was covered by the Welsh Assembly Government, whereas their subsistence and accommodation was paid by the members themselves. The Orphanage will be operated by a recently registered Ugandan Non-Governmental Organisation funded by CSF named The Care & Share Shalom Orphanage (CASSO).

The EFOD volunteers undertake all design work in their own time in the UK and take annual or unpaid leave to travel overseas in pairs to spend two weeks on site. They supervise the construction, order materials, ensure safe working practices and deal with the financial side of the projects such as recording expenditure and cost profiling. Through their involvement with EFOD they further improve their engineering and project managerial skills, able to see projects through from securing funds to design and construction and learn about a totally different culture.

Elouise Smith said after returning from Uganda in August: 'Personally, I was in two minds about travelling to Soroti. On one hand I was nervous because I had never been to Africa before, but on the other hand I was extremely eager to finally see the project come together. Throughout my education and since my graduation I have always had the desire to be involved in projects which help alleviate poverty. The great progress we have made so far makes me feel proud to be part of something which will make a difference in these children's lives.'

If you would like to learn more about EFOD or wish to get involved, please visit www.efod.org.uk or email either Katalin Andrasi at katalin.andrasi@mottmac.com or Matthew Bloodworth at matthew.bloodworth@arup.com

One of the male dormitories within the orphanage complex



The Medical Centre



Dr Joan Drayton, a paediatrician from Cardiff, examining a child in the medical centre in October this year.

The Medical Centre



North Wales Branch

ICE PRESIDENT VISIT

During her time as President Jean Venables enjoyed her visit to meet the North Wales Branch members on 8 September, despite the atrocious weather. A visit to the recently opened Snowdon Summit Buidling Hafod Eryri had been planned, but Snowdonia's infamously fierce weather meant that the Snowdon Mountain Railway in Llanberis had been closed down for the day.

Nevertheless, presentations from Peter Trumper of Snowdonia National Park Authority, Geraint Bowen of Arup and Ian Entwistle and Chris Hogan of Carillion kept Jean entertained. The audience learned about how the project came about due to the delapidated state of the existing facility and the many challenges of designing and constructing such a unique building in such a harsh environment.

Jean also presented CEEQUAL awards to the Welsh Assembly Government, Aktins and Jones Brothers Ruthin Ltd for their roles in the Parc Cybi mixed use site development project at Holyhead. CEEQUAL is the awards scheme



Parc Cybi Project Team receiving their CEEQUAL Certificates from ICE President Jean Venables

for assessing the environmental quality of civil engineering projects, publically recognizing high environmental and social performance beyond legal and environmental minima. The Parc Cybi project has achieved the highest ever CEEQUAL score.



A470 (T) Blaenau Ffestiniog to Cancoed Improvement Project Team

In December, Director Keith Jones presented CEEQUAL certificates to the A470 (T) Blaenau Ffestiniog to Cancoed Improvement Project. The project received a "Very Good" Whole Project Award, following an Interim Award in February 2008. The Project Team was Transport & Strategic Regeneration, Welsh Assembly Government; Gwynedd Consultancy, White Young Green; Carillion; Gifford and Richards; Moorehead; and Laing Ltd.

NORTH WALES TEAM CHALLENGE

The Team Challenge is designed to promote engineering, construction, manufacturing and technology as career options for post-16 students. The event was extremely popular with 384 students attending from Bangor, Deeside, Newtown and Brecon.

This year the students were challenged to design, build and operate a model of a motorised and controllable RETRACTABLE roof for a sports stadium.

Having constructed a roof they had the option of using a pulley system, geared motors and switching mechanisms controlled by an electric controller, the students were judged on their design and innovation. The results were very impressive.

State of the Nation Senedd Launch

ICE Wales Cymru launched the Institution's latest Station of the Nation report "Low Carbon Infrastructure" at the Senedd 26 November 2009, along with ICE Wales Cymru's Wales Briefing Sheet.

Chairman Alun Griffiths outlined the report and recommendations, whilst Minister for the Environment, Sustainability and Housing Jane Davidson AM outlined how Wales is leading the way on moving towards a low carbon society with a stringent target 3% reduction year on year to achieve an 80% reduction by 2050.

The launch, the first that ICE Wales Cymru has staged for a State of the Nation report, was extremely successful and was attended by Assembly Members, Institution representatives, representatives of other Institutions, Constructing Excellence in Wales and Fellows.

Jane Davidson
AM Minister for
the Environment,
Sustainability and
Housing



Thomas Telford Trophy 2009

BY DAVID THOMAS

After a gap of sixteen years the TTT Tournament returned to Wales and to the course that in early October 2010 will resonate to the sound of 40,000 cheers - if Europe can beat the US and win back the Ryder Cup - the Twenty Ten Course at Celtic Manor resort, Newport.

The course itself opened in May 2008 after Sir Terry Matthews, the Welsh IT entrepreneur and owner of the Celtic Manor complex, funded the course redevelopment at a cost of £20m, including a totally new £6m clubhouse.

Initial approaches to Celtic Manor to host the TTT event were favourable, but in accepting the event we had to sign a contract – a rather substantial contract which required a 10% deposit and stage payments, but we didn't have any money or even sponsors at the time. So it was a great leap of faith when we signed up. Would we have signed if the recession had hit three months earlier – I wonder.

Our saviour turned up in the form of Alun Griffiths (Contractors) Ltd - the firm that had been a major player in the redevelopment of the Twenty Ten Course. Their commitment to our event was incredible not only in financial terms, but also in wanting to ensure that the event became a showcase for the Civil Engineering profession in Wales.

The organisation involved virtually monthly meetings from October 2007 when ICE Wales Cymru were first invited (or rather had their arm twisted in Royal Portrush) to be the 2009 hosts.

It was only in early 2009 that we began to realise that this was not just any old golf day we were organising, it was the Thomas Telford Golf Day involving two rounds for 64 players from 16 Regional Teams: sorry, said Celtic Manor, no organisation with that number of golfers has ever played two rounds in one day on this course – you just won't fit it in.

The problems were compounded by the fact that to make financial ends meet we had to fit in up to ten corporate teams playing one round and of course the TTT Veterans, the number of which we had no idea of at that stage.

Various permutations were drawn up and rejected as either being impracticable or not in the spirit of the TTT eg morning 9 or 12 hole



Left to right: Prof Bob Lark TTT 2009
Winners North East Team, Alun Griffiths
and Chris Gray

foursomes. Course utilisation diagrams were prepared which were discussed, modified and finally accepted by Celtic Manor management. This meant utilising two tee starts at the 1st and 6th for the regional teams morning and afternoon with 6th tee starts for the Veterans and Corporates between 11am and 1pm. Buggies would have to be used by everyone as the first tee is nearly as far from the clubhouse as the 6th.

Only one thing was left to organise and this was totally beyond our control – the weather. After the wettest August for many years the auguries for September were not initially good until at last a high over the Azores finally brought good weather to Wales during the second week – our prayers had been answered.

So to the tournament itself. The reception was held in the Chairman's marquee and on the terrace of the Lodge Clubhouse overlooking the Roman Road Course where we were splendidly entertained by Cor Caerdydd (Cardiff Choir) and enjoyed a superb buffet supper.

The tournament day dawned bright and clear if a little chilly with an easterly breeze as the Regional Team members started arriving at the clubhouse from 7:00am to be relieved of their cars and clubs, the latter then turning up as if by magic on the correct buggy, each marked up informing players which tee they would be starting from, their starting time and which other Region they were playing with.

The military precision with which the 60 or so buggies were loaded, directed and timed out etc by the Twenty Ten staff was a sight to behold in itself.

The timings for the morning St Andrews foursomes worked incredibly well and enabled the Veteran groupings and Corporate Teams to slot in as planned. Lunch followed in the Spike Bar before the afternoon session when morning regional pairings were retained, but played with a different region and from the alternate tee for the singles round.

Daylight was drawing rapidly to a close when the last of the golfers returned to the

Thomas Telford Trophy 2009 Prize Winners

The **morning foursomes** was won by the North East pairing of Paul Musgrave and Andy Jackson with 36 points beating their fellow regional team members Clive Oliphant and Derek Smith (35 points). Allan Campbell and Stewart Evans of East Anglia were third with 34 points.



The **afternoon singles** was won by Julian McFarland (London North) with 34 points also winning him the **Scott Quaich**. Second was David Dickson (Glasgow & West of Scotland) also with 34 points and third was Andy Jackson

(North East) with 32 points. Andy also won the **Longest Drive Competition**.

The morning performances of the North East players (total 71 points) gave them a 12 point cushion for the afternoon round over both East Anglia and Northern Ireland (= 59 points). Another 107 points from the North East team in the afternoon saw them retain the **Thomas Telford Trophy** with 178 points for another year. East Anglia with Allan Campbell, Stewart Evans, James Glover and Stephen Foster managed to half their morning deficit with a strong 113 points performance in the singles to score a total of 172 points securing second place. London North with Julian McFarland, Colin Leather, Ken Duguid and Dino Nicola were third with 154 points.

The **Veteran's Competition** was won by John Walker of the Chilterns with Jack McFarland of Northern Ireland second who also won the **Nearest the Pin Competition** for the Regions and Veterans.

The **Corporate Team Competition** was won by the team from W.M. Clarke Ltd of Cardiff pipping ENCON on count back with C.D. Gray Associates third.

Players from our main sponsors team (Alun Griffiths Ltd.) Brian Kemp and Andrew Morris picked up the prizes for the **Corporate Nearest the Pin** and **Longest Drive Competitions** respectively.

clubhouse, unfortunately Sir Terry hadn't installed flood lights for the last two holes – perhaps by the next time!

The event ended with the presentation dinner in the Augusta Suite of the Lodge Clubhouse with prizes being presented by our major sponsor and incoming Chairman of ICE Wales Cymru, Alun Griffiths OBE.

To round off the event Paul Musgrave Golf Captain ICE North East Region invited the other regions to participate in the 25th Thomas Telford Trophy to be held at de Vere Slaley Hall, near Newcastle on 5th & 6th September 2010.

The ICE Wales Golf Committee are indebted to our main sponsor Alun Griffiths (Contractors) Ltd, Thomas Telford Ltd. (prize sponsors), The Civil Engineers Club (commemorative glassware), ICE Wales Cymru Office (logistical support), other co-sponsors and organisations who supported the event, and Howard Barrett (TTT Captain 1993), for overseeing the Nearest the Pin Competition throughout the day. Also a special thanks is due to the 16 Regional Golf Captains / Organisers who distributed information to their team members and responded on time to deadlines for entries etc in the run-up to the event.



North East Team



Best Dressed Team
ICE Wales Cymru

THOMAS TELFORD TROPHY 2009 ORGANISING COMMITTEE

Chairman: Chris Gray Secretary: David Thomas Committee: Idris Thomas (TTT Captain 1992 Royal Porthcawl); Ian Davies; Barry Jones; John Coles (Main sponsor's representative)

Historical Engineering Works

BY **KEITH THOMAS, CBE, FICE,**
WALES PANEL MEMBER

RHYS JENKINS [1859-1953] ENGINEER AND ENGINEERING HISTORIAN

A plaque was presented by our chairman-elect, Alun Griffiths, on 29th September to the Alderman Davies Primary School in Neath to commemorate the 150th anniversary of the birth of Rhys Jenkins, founder member of the Newcomen Society, and one of the first examiners of the Patent office.

The school was pleased to accept the plaque to record the association of its former pupil. So much so, in fact, that the school has instigated an annual event and prize for the best science pupil of the year. One of the guests at the unveiling was Jenkins' great grandson who enlightened us with additional facts about the family history and that two of his sons became civil engineers.



Left to right: Stephen K Jones (ICE Wales Cymru); Dr David Jenkins (Rhys Jenkins' great grandson); Adrian Parker (Chairman of Governors) with pupils of Alderman Davies Church in Wales Primary, Neath holding a photograph of Rhys Jenkins.

The Patents Act in 1883 introduced the requirement that every application be referred to an examiner. The Patent Office recruited him in 1884 as one of the first to be appointed. At the Patent Office he became one of 16 senior examiners in 1914. From the time of his first appointment he made a systematic collection of notes, transcripts and extracts from printed and manuscript sources relating to engineering history, the classification and arrangement of which occupied his leisure hours for the next sixty years. He retired in 1919.

In September 1919, at a conference in Birmingham to commemorate the centenary of the death of James Watt, the idea of forming



Left to right: (back row): Alun Griffiths, Chair ICE Wales Cymru; Cllr Howells, Cardiff Harbour Authority; Simon Lander, Regional ICE Council Member; Keith Thomas, ICE PHEW Wales Member; Stephen Jones, author of Brunel trilogy and ICE Wales Cymru volunteer; (front row): Keith Jones, Director ICE Wales Cymru; Emlyn Williams, Vale of Glamorgan Mayor; John Fraser Penarth Town Mayor.

a society devoted to the study of the history of engineering was suggested. He was involved from the outset as a member of the committee which planned the inaugural meeting in London on 4 June 1920, which founded a society which became the Newcomen Society for the study of the History of Engineering and Technology.

He was elected a vice-president in 1921 and president 1924-6. In 1936, as a tribute to him, the Newcomen Society published a volume of his collected papers entitled *Links in the History of Engineering and Technology from Tudor Times*. He continued to contribute papers and his wide knowledge was available to others until his death in 1953.

I K BRUNEL AND ROBERT STEPHENSON 150TH ANNIVERSARY

November saw the last of three plaque presentations to commemorate the anniversaries of the deaths of two of the most famous Victorian engineers. I K Brunel and Robert Stephenson both died in the autumn of 1859, 150 years ago. Brunel died on 15 September and within a month Stephenson had passed away on 12 October. The Stephenson anniversary was being marked throughout Britain and in Wales we decided we should take part. Stephenson's major work in Wales was the Chester & Holyhead Railway with the innovative and world beating tubular bridges at Conwy and Menai Straits. The construction of the whole route however posed many other challenges over its length.

Whilst Brunel's professional contact with Stephenson, and indeed other contemporaries, was wide ranging, the instances of them

working together are few. The professional rivalry between Brunel and Stephenson is evident from the beginning of their engineering careers. But despite this they remained on excellent terms, supporting each other's engineering projects with their presence and practical advice. This was evident when Stephenson invited Brunel and another great Victorian engineer, Joseph Locke to the floating out of the first iron tube of the Britannia Bridge across the Menai Straits. Brunel reciprocated with an invitation to the erection of the tubes for the Chepstow Railway Bridge. We thought it appropriate therefore to find common ground for commemorative plaques.

A plaque was arranged to be placed at Holyhead Station to commemorate Stephenson and his work on the Chester & Holyhead Railway. This was presented to Arriva Trains Wales on 17th September. A link with Brunel was found in that his ship the "Great Eastern" took shelter in Holyhead Harbour also 150 years ago during the great storm, known as the Royal Charter storm where this ship was wrecked off Anglesey with the loss of over 400 lives. A second plaque was prepared and presented to the Holyhead Maritime Museum commemorating the anniversaries of the two engineers and the visit of the "Great Eastern".

In November, in South Wales our chairman presented a plaque to the Cardiff Harbour Authority to record Brunel's association with the area and particularly his plans for a dock in the Ely Estuary during his work on the Taff Vale Railway. This was another occasion where Stephenson and Brunel met professionally, Brunel representing the Taff Vale Railway and Stephenson the Bute Dock Company. Brunel's scheme did not come to fruition until much later. It was some years before proposals

for Penarth were resurrected and the dock constructed. Working on the construction of the dock in the 1860s was a young engineer by the name of Henry Marc Brunel, Brunel's youngest son.

We were also aware of another link between Brunel and Penarth. On 6 February 1886

Brunel's ship the "Great Britain" made her last commercial voyage from Britain after her conversion from a passenger steamship to a sailing cargo ship a few years earlier leaving Penarth with a cargo of coal for Panama, a voyage that would take her round Cape Horn. As we all know the voyage was never completed. The vessel encountered a severe

storm in the South Atlantic which resulted in her being abandoned in the Falkland Islands, from where she was eventually rescued and returned to her home port of Bristol and the dry dock in which she was built and launched in 1843. The plaque is at the Penarth end of the Cardiff Bay Barrage.

ICE Wales Cymru Events

Our events programme goes from strength to strength with 5 conferences planned for 2010 and a programme of events organised by the main committee and sub groups. See the Combined Calendar of Events and ice-wales.org.uk/events for details.

MALAYSIAN FLOODING EXPERT VISITS WALES

Flooding Expert Dato' Ir. Hj. Ahmad Husaini Sulaiman visited Wales on 14 October to share his experiences of coping with regular flooding in Malaysia. Mr Husaini is Director General, Department of Irrigation and Drainage for the Ministry of Natural Resources and Environment in Malaysia.

ICE Wales Cymru hosted the visit to Wales with The Chartered Institution of Water and Environmental Management (CIWEM) so that Wales could learn from the Malaysian experience of frequent heavy downpours. It was learned that coping with the rapid fall and dispersal of a summer downpour is more complicated than making sure the current drainage system is working properly or upgrading it. New thinking in terms of design and short-term storage of run-off have been required.



Above: Dato' Husaini presents ICE Wales Cymru Director Keith Jones with a commemorative book about the Malaysian Flooding solution.

Events News In Brief

TRANSPORT CONFERENCE 2010

The National Transport Conference 2010 will be held on 20 May, not 6 May as previously advertised, at Cardiff County Hall, Cardiff Bay. The date was moved at the request of the venue (possibility of a clash with the forthcoming General Election!) A booking form can be downloaded from the events section on our website ice-wales.org.uk

NEW! NORTH WALES EVENT

We are please do be co-hosting an event not previously included in the Combined Calendar of Events:

Coastal Adaptation and Clean Energy Symposium - Friday 26th February 2010, at 3pm Llandudno Town Hall. The event will be preceded by site visits to West Kirby Marine Lake, Towyn Sea Defences, Rhyl Foryd Harbour, Colwyn Bay, Great Orme.

For further information contact:
Cllr Dr Stuart Anderson
e: cldr.dr.stuart.anderson@conwy.gov.uk

CONFERENCES 2010 ROUND UP

11 FEBRUARY 2010: National Waste & Climate Change Conference County Hall (CIWM & CIWEM joint conference)

18 MARCH 2010: National Flooding Conference County Hall (CIWEM & Cardiff University joint conference)

20 MAY 2010: National Transport Conference County Hall (CILT & IHT joint conference)

DATE TBC: Severn Tidal Power Conference County Hall

DATE TBC: National Regeneration Conference County Hall (on behalf of Regeneration Skills Collective Wales)

Graduates & Students (G&S) News

BY BEN COGSWELL, SECRETARY OF G&S COMMITTEE

Whilst our Chair, Gemma Hancock, and Vice-Chair, Mark Legge, are volunteering overseas - supervising the construction of an orphanage in Soroti, Uganda as part of their involvement with Engineering for Overseas Development (EFOD) - I've been left to provide an update on what has been a busy period for the committee. Two site visits, a five-part lecture series and the ever popular Pub-Olympics Networking Event have been held in recent months!

The hard work is currently continuing with more events being organised for the New Year and support from G&S committee members given to Keith Jones (Director ICE Wales Cymru) for his talks promoting ICE to students at the universities in Cardiff, Swansea and Glamorgan.

We've also found time to set up the first Welsh G&S City Group in Swansea. Gemma mentioned in the August newsletter her desire for graduates from other Welsh Regions to get involved with the committee, and after excellent work by Mark Legge, the Swansea City Group held their first meeting at the Atkins office on 18th November, with a number of local graduates attending. This group is still in its infancy and requires the support of Swansea graduates to flourish. It is not too late to get involved and is an excellent opportunity for graduates to enhance their CVs whilst ticking off multiple Development Objectives and gaining experiences that can be taken all the way to Professional Review. Please contact Mark (details below) if you can contribute in any way.

Our site visits to Pontsticill Dam and Church Village Bypass both received positive feedback. Thanks must go to Richard Terrell of United Utilities for organising the visit to the Dam and to Dŵr Cymru for their support in allowing us on site. Thanks also to the IHT and Costain for organising the Church Village visit. This latter visit complemented our recent five-part lecture series entitled "A Guide to the Delivery of Major Projects". Over 140 graduates signed up for the weekly lectures that took attendees through this major infrastructure project from Feasibility to Implementation. Thanks should go to Matt Mercer for his part in organising the event and to Jamie Evans (Principal Engineer, Capita Symonds), Barry Woodman (Project Manager, Costain), Dave Osborn (Design Manager, Atkins), Lee Holman (Temporary Works Co-ordinator, Costain), Dan Powrie (Construction



Aesthetic Bridge Design winners of the Cardiff University *Design, Make, Test* Trophy with Keith Jones (front) and Prof Bob Lark (rear)

Manager, Costain) and the other guest lecturers for their insightful talks.

Even though we find ourselves in the middle of a recession, 9 companies (Arup, Atkins, Capita Symonds, Costain, Halcrow, Hyder, Mann Williams, MultiTech Contracts Ltd. and Parson Brinckerhoff) took part in the 5th Annual Pub Olympics, highlighting the continual desire of Welsh businesses to support students. Over 130 students turned up to the event in Cardiff in October.

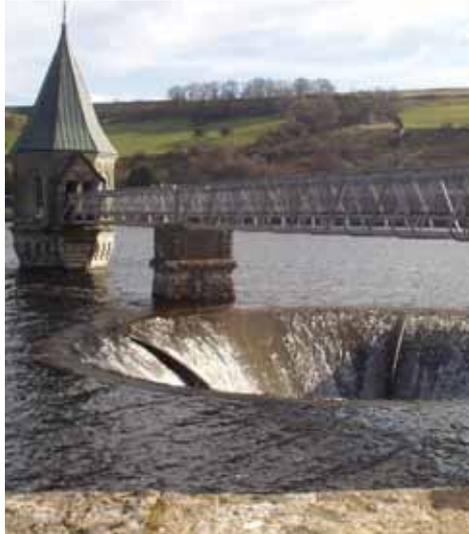
Future events include our regular 5-a-side football tournament, scheduled for the 30th January at the Gŵl Football Centre with the national event awaiting the winners; and the Written Assignment Group which aids graduates with the written part of the Professional Review. The Group is planned to run from the 12th January until the 16th March, culminating in a half day seminar.



Keith Jones and Prof Bob Lark with winners of the Cardiff University *Design, Make, Test* Trophy Strongest Bridge Design

With 2010 predicted to be a difficult year for all involved with the industry - especially new graduates looking for employment and students coming to the end of their studies in June - the G&S's role in supporting graduates' & students' development will hold more importance. While economic conditions remain challenging we are hopeful that the need for businesses to ensure that the best young engineers maintain their desire for a career in the Civil Engineering will mean that engineering companies continue to support future events hosted by the G&S committee.

The committee is always keen for new enthusiastic members to continue the excellent work of previous years, and especially those determined to meet the current challenges head on. Now is the perfect time for fresh ideas and innovation, so if you are interested in contributing in any way please contact either myself or Gemma.



Pontsticill Dam: ICE G&S organised a site visit to the tower, built in 1927, which has an average output of 75 megalitres per day.

To finish, in previous newsletters it is often the Chair who writes these articles which means that the contribution that they make throughout the year cannot be fully appreciated. Gemma's tireless efforts have made the committee such a success and I fully expect this to continue into the New Year.

Graduate and Student Paper Competition 2010

The annual Graduate and Student Paper Competition (GSPC) encourages graduate and student members of ICE to submit papers on any civil engineering related topic and compete for the top prize of £1500 cash! The winner will also receive an Institution Medal. Second prize is £500 and third prize is £250.

The GSPC, this year sponsored by Atkins, is run in two stages:

- Each region hold heats and announces a winner
- The regional winning papers are reviewed by the GSPC Panel which selects three papers to battle it out at the final at Leeds University in June 2010.

ICE Wales Cymru is now calling for entries to the Wales Regional Heat! Papers should preferably be about work personally undertaken by the author or with which she/he is associated. They can be adapted from Quarterly Reports, Review Reports or even University Projects.

To enter, submit the application form ICE 3159, which can be downloaded from www.ice-wales.org.uk/awards, together with a synopsis of your paper to katalin.andrasi@mottmac.com by 12th February 2010.

The final manuscripts will be required by 19th March 2010 and the presentations and judging will take place on Monday 12th April 2010.

For further information please contact Katalin Andrasi katalin.andrasi@mottmac.com or visit www.ice-wales.org.uk/awards



Photos by Richard Terrell, United Utilities working in partnership with Dwr Cymru Welsh Water.

G&S Contacts

G&S EVENTS

www.getchartered.com

EFOD

www.efod.org.uk

SWANSEA CITY GROUP and/or

5-A-SIDE FOOTBALL TOURNAMENT

e: mark.legge@atkinsglobal.com

WRITTEN ASSIGNMENT GROUP

e: michael.hanbury@arup.com

G&S COMMITTEE

e: ben.cogswell@capita.co.uk

e: gemma.hancock@arup.com

Codi proffil Pont Britannia

GAN BOB DAIMOND

Bydd y fynedfa i safle arteffactau Pont Britannia yn cael ei wella'n gynnar yn 2010, gan fod Cyngor Gwynedd am greu llwybr cyhoeddus newydd i'r safle. Ar hyn o bryd gellir cerdded yno ar llwybr cyhoeddus o bentref Treborth, ond mae'n bosib hefyd cyrraedd yr arteffactau drwy gerdded llwybr answyddogol a garw o Erddi Botaneg y Brifysgol, a thrwy goedwigaeth ar lan Afon Menai.

Fel rhan o brosiect Llwybr Arfordirol, bwriad y Cyngor, gyda chytundeb y Brifysgol, yw datblygu'r llwybr answyddogol i un a hawl tramwy cyhoeddus ac sydd mewn cyflwr addas i amryw o ddefnyddwyr. Bydd yn bosib wedyn i gerdded ar lan y Fenai o'r bont grôg ym Mhorthaethwy, hyd at Bont Britannia, ac yno weld darn a gedwid o'r tiwb gwreiddiol, rhan o'r jac a fethodd pan oeddynt yn codi'r tiwbiau i fyny'r tyrau yn 1849, un o'r llewod enwog a hefyd ymweld â throed tŵr y bont ar lan yr afon. Bwriedir creu man gwyllo hefyd ger safle trychineb HMS Conway fel rhan o'r prosiect, encil fydd yn wych i edmygu'r bont grôg.

Bydd Ymddiriedolaeth Trefnadaeth Gymunedol Porthaethwy yn cydweithio gyda Chyngor



Pont Britannia a'r darn tiwb a gedwir

Britannia Bridge and the preserved piece of tube

Gwynedd i baratoi taflenni gwybodaeth i'w gosod mewn sawl man, taflenni fydd yn adrodd hanes y ddwy bont enwog sy'n croesi'r Fenai, digwyddiadau HMS Conway yn y 1950au, ac elfennau eraill o hanes a bywyd y Fenai. Bydd yr wybodaeth yma yn cydreddeg â chynnwys yr Arddangosfa yng Nghanolfan Thomas Telford. Bydd mwy o deithiau tywysedig i'r ddwy bont yn cael eu trefnu fel canlyniad i wella'r llwybrau.

Ask the Team

Send questions to wales.cymru@ice.org.uk with "Newsletter Ask the Team" as the subject

This issue's question is answered by Bob Gilchrist, Membership Development Officer

Q. Fellowship is the ultimate award that ICE can bestow on an Engineer; I understand that we are under represented in Wales despite having some of the very best Civil Engineers in the UK. Is there a method of 'testing the water' to see if I would be eligible?

A. Yes, the Fellowship panel at One Great George Street is pleased to consider initial enquiries on a confidential basis, just email your CV to fellowship@ice.org.uk If you would like to discuss this in more detail any of the Membership Development Officers or Director Keith Jones will be pleased to advise you.

Britannia Bridge to Raise its Profile

BY BOB DAIMOND

The access to the site of the Britannia Bridge artefacts will be improved early in 2010, when Gwynedd Council creates a new public footpath to the site. At present there is a public right of way on foot between Treborth village and the site, and it is possible to reach it by walking along an unofficial rough path from the University Botanical Gardens through the woodland alongside the Menai Straits.

As part of the Coastal Path project the Council's intention, with the University's agreement, is to develop the unofficial path as a public right of way in a condition suitable for a range of users. It will then be possible to walk from the Menai Suspension Bridge alongside the Straits to Britannia Bridge and to view the preserved piece of original tube, part of the jack that failed when they were raising the tubes up the

towers in 1849, one of the famous lions and also go to the foot of the tower on the bank of the Strait. It is intended to provide a viewpoint near the site of the HMS Conway grounding where there will also be a splendid view of the suspension bridge.

Menai Bridge Community Heritage Trust will be working with Gwynedd Council in preparing information boards in various locations to relate the history of the two famous bridges crossing the Menai, the HMS Conway events in the 1950s and other elements of the history and life of the Menai Straits. This information will complement the material in the Exhibition in Canolfan Thomas Telford. More guided walks to both bridges will be programmed in view of the improved access.



Engineering Team Challenge 2009

ALAN PERRY

The Challenge, an established initiative now in its eleventh year in South Wales, is intended to encourage 14-year-old pupils to consider a career in Engineering at professional level. Since it started almost 3000 pupils have taken part and over 100 graduates from a dozen consultancies have guided and encouraged the pupils.

Challenges in previous years have included hydroelectricity, aircraft wing design, foundation engineering, environmental engineering, earthquake engineering, tower construction, renewable energy and tower crane construction. This year's Challenge was bridge construction. About 250 pupils took part in the Challenge, which was held on 9 and 10 November at the University of Glamorgan, on 12 November at Swansea University and on 13 November at the Halliwell Centre of Trinity College, Carmarthen.

At each venue, Engineering Graduates gave a talk "What is Engineering?" This was followed by an explanation of the Challenge and then the Challenge itself - a practical task in which the pupils "bought" materials, constructed their bridges and answered appropriate questions.

The Challenge lasted 1¼ hours and the winning team at each of the four venues was found from a combination of economy of construction, deflection before failure and answers to the questions. Gift token prizes were awarded to the members of the winning, second and third teams at each venue. All winners also received a signed Certificate. After the Challenge, pupils were taken on a tour of the Civil Engineering departments at the University of Glamorgan and Swansea University.

The South Wales Institute of Engineers Educational Trust generously provided a special award of £150 for each school represented by the pupils in the overall winning team from all four venues. The overall winning team took part at the University of Glamorgan on 9 November and represented the following schools: Llanedeyrn High, Cardiff; Pen-y-Dre Comprehensive, Merthyr Tydfil; Whitchurch High, Cardiff; West Monmouth, Torfaen. I have decided to step back from the Challenge

and a Board of Graduates has taken over the organisation of this year's Challenge and will be laying out plans for succeeding years.

The Board comprises Dave Cousins and Mark Legge of Atkins, Gemma Hancock of Arup, Tom Corcoran of PB and Rebecca Whewey and Corinne Trobe of Halcrow. The chairman, Dave Cousins, can be contacted at: leader@engineering-team-challenge.co.uk. Further information on the Challenge can be found at www.engineering-teamchallenge.co.uk



Building bridges - South Wales pupils accept the Challenge

Annual Dinner and Awards

The Annual Dinner of ICE Wales will be held at the Cardiff Marriott Hotel on Friday 7 May 2010 at 6-45pm for 7-30pm. Members will be received by ICE President Paul Jowitt BSc(Eng) PhD DIC CEng CEnv FICE FIPENZ FRSA FGCI FRSE and ICE Wales Cymru Chairman Alun Griffiths OBE CEng, FICE, FIHT.

Seating will be at circular tables of 10 (a very limited number of table for 12 are available) although parties of less than 10 and individuals can be accommodated.

Tickets are £75 (£25 Graduate & Students).
Dress: Black tie.

Application forms can be downloaded from ice-wales.org.uk and must be returned by Friday 2 April 2010

For further information please Contact:
Assistant Secretary Functions David Crompton
e: davidmrompton@btinternet.com
t: 01446751490



NB: ICE Wales Cymru Project Awards applications forms and guidance notes can be downloaded from the Awards section of ice-wales.org.uk

Project Profiles

HAFOD ERYRI, SNOWDON SUMMIT BUILDING – A LOGISTICAL CHALLENGE

BY ROB EVANS, ARUP

Client: Snowdonia National Park Authority
Project Manager and QS: Jacobs Babbie
Architect: Ray Hole Architects
Civil, Structural, Mechanical and Electrical Engineer: Arup
Contractor: Carillion



Copyright Ove Arup & Partners Ltd

The building is the highest in Wales. Its remote location presented a unique challenge to the project team – a case of building difficult things in difficult places.

Hafod Eryri was designed to withstand and be constructed in the following conditions:

- 150mph winds
- 5m annual rainfall
- +30°C / -20°C temp range (-50°C in wind-chill)
- 5m snow drifts
- Rime ice

Logistically, Hafod Eryri was challenging. There are no roads to the Summit therefore all plant, labour and material had to reach the summit by foot or train. This dictated the material choices as well as design and construction methodologies. An example of this is the choice of precast concrete foundations, as the journey time to the summit by train forced the project team to minimise the use of in-situ concrete where possible.

Prior to the commencement of the site operations, a trial erection of the steel frame was undertaken in a warehouse in the Corus

site at Deeside. The wall cladding, roof and glazing elements were also fitted to ensure lack-of-fit issues were eradicated prior to transporting the materials to site. The erection was undertaken using the equipment which would be available on site. This also meant the building had to be easy to dismantle as well as erect. Extensive use of off-site fabrication reduced the amount of work needed on site.

Hafod Eryri is an iconic, landmark building which will provide a safe and comfortable environment for all visitors to enjoy the stunning views from Wales' highest mountain.

PONT CALZAGHE BRIDGE – WORKING WITH THE COMMUNITY TO PROVIDE A SAFE CYCLING AND PEDESTRIAN ROUTE

BY DAVE PRICE, CAPITA SYMONDS

The Pont Calzaghe Bridge is a key part of the Newbridge Regeneration Programme which aims to re-establish the town centre as a focus of economic and social activity while broadening the town's socio-economic and cultural base. It provides an important link for pedestrians and cyclists, including full disabled access, between Newbridge Town Centre, Newbridge Comprehensive School, the nearby leisure centre and the new local Ebbw Valley Railway station, recently designed & managed by Capita Symonds.



Photograph: Capita Symonds

Client: Caerphilly County Borough Council
Designer: Capita Symonds
Contractor: Alun Griffiths (Contractors) Ltd

The scheme is notable for the successful partnership with a number of departments within Caerphilly County Borough Council including Education, Urban Renewal and Highways; The Newbridge Community Partnership, Local Members and the local School.

The scheme development was initiated with a workshop attended by school pupils and staff, our Road Safety Officers and Client Officers. The involvement of pupils has always been a key part of the approach to engage with them and encourage them to take long term ownership of the scheme.

Students were involved in many ways. A scale model of the suspension bridge was made as a GCSE project by one student with assistance from the structures team. A group of students had the opportunity to use "TRAK" analysis to check how

different designs would cater for bus movements within the school as all local Junior schools utilize the Leisure Centre. The schools environment group participated in the ecological field work and our ecology team helped them establish the presence of various mammals and reptiles. The ICE Wales Cymru Bridge, a scale model of the Second Severn Crossing, was used at the comprehensive school for the junior feeder schools to build the model with assistance from Construction Ambassadors from the Cwmbrian Capita Symonds offices. While developing the scheme, a great deal of thought was given to maximise its potential usage by the community, whilst maintaining and increasing the security to the school. Lighting had to be carefully planned for security, whilst minimising its impact on otters - which inhabit the river - and for bats which follow the river corridor when feeding.

The scheme was constructed by Alun Griffiths (Contractors) Ltd and the bridge fabricated by Rowecords. The construction phase was carried out very sympathetically with no complaints received from any of the parties. A visit was also made to Rowecords during the fabrication stage. The £3.2m Pont Calzaghe Bridge in Newbridge was officially opened in September by the world boxing champion Joe Calzaghe, his father Enzo, and the Welsh Assembly Government's Deputy First Minister and Minister for the Economy and Transport, Ieuan Wyn Jones.

Project Team: Capita Symonds, Caerphilly County Borough Council, Alun Griffiths (Contractors) Ltd, the bridge fabricator was Rowecord Engineering Ltd.

Waste Management & Climate Change Conference Wales

Thursday 11 February 2010, 10am to 3.30pm
County Hall, Cardiff Bay

A One Day Conference & Exhibition organised by
Institution of Civil Engineers Wales Cymru

In conjunction with

- The Chartered Institution of Water & Environmental Management
- Chartered Institution of Wastes Management, and
- Chartered Institute of Environmental Health

Keynote Address by Jane Davidson AM, Minister for Environment, Sustainability & Housing

Delegate rate £85 + VAT
Student rate £42.50 + VAT
Exhibitor rate £200 + VAT (includes one delegate).

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t 029 2063 0561

f 029 2063 0666

e wales.cymru@ice.org.uk



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Connect is produced by

ICE WALES CYMRU

Suite 2 Bay Chambers, West Bute Street
Cardiff Bay, CF10 5BB

ice-wales.org.uk

t 029 2063 0561

e wales.cymru@ice.org.uk

NEWSLETTER CONTRIBUTIONS

Should be sent to: Karyn Thompson
Marketing Communications Executive

e karyn.thompson@ice.org.uk

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