Institution of Civil Engineers

International Update

December 2011
Issue 30

In this issue

Chairman's welcome

Alan Stilwell
Vice President International

Dear Colleagues

I am delighted to be making my first contribution to *International Update*, following my appointment as an ICE Vice President, leading on our International agenda. The International Policy Committee has been in the very capable hands of David Balmforth over the last two years, and I hope that I can continue the excellent leadership he has shown. I chaired the first meeting of the new International Committee on 12 December, with several new International members of Council present, and I was impressed by the professionalism and dedication of the International Committee members at what was also my first meeting.

Many of you will have heard or read Richard Coackley's address at his inauguration as ICE's 147th President, on the subject of 'Harnessing the Energy'. Richard has thrown down the challenge to each of ICE's panels and committees in channelling their energy to drive the Institution forward in strengthening membership, maximising the value of our knowledge, and raising the profile of civil engineering. The issue was picked up at the International Committee on 12 December, and the outputs from the excellent debate will be reported back to the President. I look forward to continuing the discussions on this important initiative.

Members of the International Committee were also asked for contributions to Council's first Annual Strategy Meeting (ASM), which took place on 13 December, after the regular Council meeting. Views were sought on the strategic issues facing ICE in the next 10-20 years, and the 13 December meeting focused on Council behaving strategically, with very helpful training and workshop sessions to help us practise strategic thinking. The meeting wasn't about setting strategy, but about the process of setting ICE's strategy over the next twelve months.

The feedback from the panels and committees, of particular importance to the International Committee, included –

- Membership – What is our international remit?
- Membership – ICE's role in International Development
- Learned Society – Ensuring regional and international engagement
- Public Voice – How can ICE provide a voice for members outside the UK?

I would be delighted to hear from you, if you have any questions or comments on the strategy-setting process.

I am very much looking forward to my first year as Vice President and as Chairman of the International Committee. I have worked closely with Ruth Dennett and her ICE colleagues in my first six weeks or so in post, and I'm very grateful for their help in developing my understanding of the international agenda (though I'm sure there is still lots for me to learn!). We have much to do in the next twelve months, but I'm sure everybody involved will engage with the same enthusiasm that we've come to expect from ICE members and staff. I wish you all the very best for 2012.

Director of Membership's welcome

Dear Colleagues

We are now nearing the end of 2011. Peter Hansford's very successful Presidential Year is now over. During his year, Peter travelled to many countries, including Indonesia, Malaysia, Hong Kong, China, Poland, Greece, Australia and New Zealand and met many ICE Members. He greatly appreciated the hospitality extended to him during his visits and the chance he had to meet many of you.

Richard Coackley, our 147th President, was inaugurated on 2nd November. You can find a copy of Richard's Presidential Address on the website: http://www.ice.org.uk/About-ICE/People/President

Richard has set "harnessing energy" as the theme for his Presidential Year: harnessing new sources of sustainable energy from our natural resources, harnessing the skills and talent of our engineers and future engineers, as well as harnessing the energy of our partnerships with industry and government so that the frameworks are in place to achieve a prosperous future. Many international visits are planned for Richard including America, Dubai, Portugal and Hong Kong. While on his travels, he looks forward to meeting as many of you as possible.

We also have a new Director General. Tom Foulkes, our Director General for very nearly the past 10 years, will be retiring from his post at the end of December. Our new Director General and Secretary, Nick Baveystock, is already in post and is shadowing Tom for his remaining time here.

Nick's background is with the British Army and the Ministry of Defence. He will have overall accountability for leading ICE and TTL, as well as engaging ICE Members, sharing the Institution's knowledge and expertise among senior stakeholders and government, and raising the profile of civil engineering. During his first two months, much of Nick's time will be spent meeting ICE's key external contacts to ensure the strong relationships that Tom has developed are passed on.

The World Federation of Engineering Council (WFEO) conference took place in September in Geneva. In conjunction with this we hosted an exceptionally well attended Commonwealth Engineers Council reception. Paul Jowitt, our President of 2009/10, is now the President of the Commonwealth Engineers Council (CEC). Daphne Guthrie, our International Development Manager, now has the role of Secretary to CEC on top of her usual duties.

This year has seen a record number of Professional Reviews held in Hong Kong. There has also been significant interest in our Training Agreements and Company Approved Training Schemes amongst several international companies. In Brunei, the Brunei Public Works Department has indicated that they are hoping to develop more of their engineers to professional qualification. In Dubai, The Roads and Transport Authority (RTA) are planning to register an increasing number of engineers onto our scheme. In Australia and New Zealand, and in recognition of the migration of UK engineers with partially completed Training Agreements, more companies are looking to set up their own schemes. Following the Gulf Mini Summit, we are seeing more interest in South Africa for our professional qualifications. We have been working more closely with SAICE representatives to discuss cooperation and ways forward.

I would like to offer special thanks to our International Representatives for their assistance with the Learned Society research project that we carried out. Your input was invaluable in identifying areas of expertise around the world. David Balmforth has taken the results with him to his new role as Vice President Learned Society. He will be working with the Engineering Innovation

and Policy Department, as well as with us, to extend international engagement amongst our Expert Panels.

We are continuing to deliver ICE's international strategy and enhance our global engagement. All of this hard work is facilitated and coordinated through the International Membership Department here at ICE and delivered by our International Representatives and volunteer Members. I would like to say a special thank you to Ruth, Daphne, Kathryn, Brian, Rebecca, Salima and Allyson for their continuing hard work and of course a huge thank you to all our Representatives out there and for all your hard work and continued support. The Institution is its membership and without your enthusiasm and commitment there would be no ICE outside of the UK.

My very best wishes to you and your families for a peaceful and prosperous 2012.

ICE International Representatives - New appointments (more on the way)

EGYPT

Dr Karim Attallah

Dr. Karim Attallah, Managing Director, Consulting Engineering Center LTD (CEC), Egypt

Karim is a chartered civil engineer with an interest in sustainability engineering applications. Karim is a graduate from Ain Shams University, Egypt with BSc (Honours) degree in civil engineering and has finished his PhD from University of Leeds, United Kingdom with topic: "Three-Dimensional Finite Strip analysis for Laminated Prismatic Panels". His research deals with introducing new 3D analysis that can reduce cost and risks while designing these laminated composites. One of the objectives of his research is to encourage the use of composite materials in civil engineering applications, such as buildings, water/wastewater pipes, ports, bridges, tunnels … etc, especially for the structures that are exposed to severe environmental conditions. The composite materials can deliver sustainable development in the construction field besides they can be tailored and designed in any order to give the ideal function of a structure with low maintenance cost.

Karim leads his company's team for quality integrated system accreditation according to ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 standards from SGS international, where it is the first consultancy office in Egypt that succeeded to achieve the last two certifications, which relates to environmental and health & safety applications, respectively.

He joined the ICE in 2009 as a Graduate member and achieved Chartered status in the spring reviews in 2011.

INDIA (DELHI)

Rajesh Rohatgi

Rajesh Rohatgi is a Chartered Civil Engineer, having 17 years experience in the Transport sector. He has worked in India, Malaysia, United Kingdom

and Ireland, primarily with consultants and developers, in varying capacities. He is currently employed by the World Bank as a Senior Transport Specialist with their South Asia Sustainable Development Unit.

He joined the ICE in 2005 via the ICE's Mutual Exemption Agreement with the Institution of Highways and Transportation. He holds a BEng in Civil Engineering from University Engineering College Kota (1992) and a Masters in Planning (Traffic and Transport Planning) from the School of Planning and Architecture India (1994).

He likes travelling, photography and listening to music. He currently lives in Gurgaon (Haryana) with his wife and two sons.

KENYA

Yolanda Chakava

Yolanda Chakava is a Chartered Civil Engineer with considerable experience in the water industry. Yolanda is currently pursuing a full-time PhD (scholarship) at Cranfield University and works as an independent consultant in community water supply and sanitation.

She joined the ICE in 2002, became an Incorporated Engineer in 2006 and a Chartered Member in 2009.

Previously, she was permanently employed as a Senior Consultant by AMEC (Entec) Environmental Engineering Consultants Ltd up to June 2011. She performed as a staff manager and project manager working as part of a multidiscipline team, delivering projects for a range of clients including regional development agencies, waste companies and pharmaceuticals. Prior to joining AMEC, she worked for Atkins Consultants Ltd as a graduate and project engineer. She was born in Nairobi, Kenya and moved to England to pursue her degree in Civil and Environmental Engineering from Leeds University, where she graduated with honours in 2002.

She works as a volunteer for Haki Water – a charitable organisation she founded in 2009 with the aim to conduct research and develop innovative engineering solutions to promote sustainable water management in developing countries, starting in Kenya. Yolanda's passion for engineering stems from her memories growing up in Nairobi where poorly maintained roads, inadequate water supplies and decrepit telecommunication services persistently impressed upon her daily life. Her desire to stimulate positive change originates from the extent of poverty in developing cities such as Nairobi. In working with the Institution of Civil Engineers (ICE), Yolanda has demonstrated her dedication to help deprived communities in Nairobi's slums gain access to clean water through her projects in Kayole-Soweto, ongoing research in Mukuru-kwa Njenga and Kibera (the largest slum on sub-saharan Africa).

Throughout her professional and personal career to date, her commitment to international development has been recognised through her achievements as a recipient of the ICE Eloise Plunkett Scholarship for 2007 and nomination as Civil Engineering 'Future Star' Inspire Award Finalist for 2008 and recipient of the RIBA ICE Bursary for 2010.

LEBANON

Mr Ramy El-Khoury holds a BEng in Civil Engineering from Imperial College, London (1993). He has worked on projects in the UK, Cyprus, Lebanon, UAE and Iraq.

He is currently Branch Manager for Rafik El-Khoury & Partners Consulting in Abu Dhabi as well as General Manager for the same firm in Lebanon.

He joined ICE in 1989 as a student member, became a graduate in 1992 and became

Chartered in 1997. In addition to his ICE Membership, he is a Member of the Order of Engineers and Architects in Beirut, Graduate Member of the Institution of Structural Engineers, Member of the Society of Earthquake and Civil Engineering Dynamics (SECED), United Kingdom, Member of the American Society of Civil Engineers (ASCE), Member of the American Concrete Institute (ACI), Member of the Construction Specifications Institute (CSI), USA, and Member of the British Standards Institution (BSI), United Kingdom.

SIERRA LEONE

Trudy Morgan

Miss Trudy Morgan holds a BEng (Hons) in Civil Engineering from the University of Sierra Leone (1989) and an MBA from the Cranfield School of Management, UK (2001).

She has over 20 years experience of project based assignments, successfully applying her engineering, consulting and project management skills to a wide range of business problems enabling implementation of practical and cost effective solutions. She has worked in the construction, health and transportation sectors and has recently been involved in delivering project management expertise to private and public sector clients. She has combined logic and analytical skills from her engineering background with business management, commercial and team leadership skills to provide a financial and strategic capability that is relevant to today's ever-changing business environment.

She has worked in over 17 countries worldwide and is currently focusing on developing strong links with engineering institutions worldwide to support the Sierra Leone's emerging and strengthening engineering environment.

She joined ICE as a graduate engineer in 1989, becoming a Member in 2002 and is also a member of the Association of Project Managers.

SOUTH AFRICA

Dr Hylton Macdonald

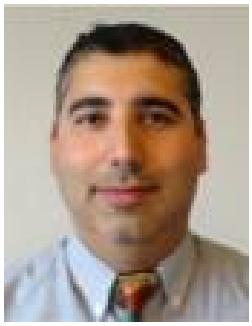
Dr Hylton Macdonald holds a BSc(Hons) (Cum Laude) in Civil Engineering from the University of Witwatersrand, SA(1976), a PhD in Civil Engineering from the University of Witwatersrand, SA (1982), a PMP from the University of Witwatersrand, SA (1984) and an AMP Harvard Business School (1994).

He currently holds the position of Group Risk Manager for Aveng Limited in South Africa and sits on various industry related boards and committees.

In 1980 he joined LTA as a site engineer and has held various senior management positions through the Group for the past 31 years, including that of Director of LTA Limited, Director of Grinaker-LTA Limited, Managing Director, Grinaker-LTA Civil plus Earthworks and Managing Director of Grinaker-LTA Engineering. In August 2011, he completed his term as Chairman of Cement and Concrete Insurance and as from November 2011 he took up the reins of Chairman of ICE-South Africa.

He joined ICE in 1996 and became a Chartered Member the same year. In addition to his ICE membership, he is a Fellow of the South African Institute of Civil Engineers (FSAICE), a Member of the Concrete Society of South Africa (MCSSA), a Member of the Society of Professional Engineers (MSPE), Associate Member of the Institute of Arbitrators (AAArb) and Fellow of the South African Academy of Engineers (FSAAE).

SYRIA



Dr Omar Hamza

Dr Omar Hamza holds a BSc(Hons) in Civil Engineering from Aleppo University, Syria (1993) and a PhD in Geotechnical Engineering from the University of Dundee, UK (2004).

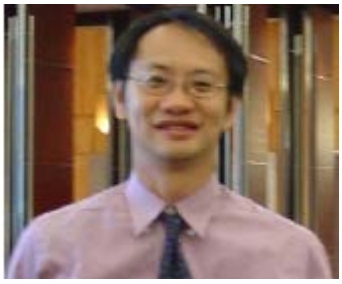
He is currently working as a Lecturer within the Faculty of Civil Engineering at Aleppo University. He has worked on projects in Syria, the UK, Danish North Sea and South Africa. For over four years during his previous employment for the consultant Atkins, he provided technical leadership in the development of sustainable design solutions for several major highway, railway, offshore and flood defence schemes in England and other parts of Europe. He participated in the design check for many key infrastructure projects such as Olympic Park and M25 widening. Before that, between 2003 and 2006 – he worked for Nottingham and Dundee Universities where he planned and managed research work of British and European funded academic projects. He also enjoyed teaching undergraduates and supervision of post graduate Civil Engineering students.

Throughout his academic and industrial work he has been making major contributions to the application of the key methods used in geotechnical engineering. These contributions brought benefits to the following: geo-hazard assessment of natural slopes affected by global warming, the stability of highway and railway slopes influenced by vegetation and the stability of deep excavations.

He has published several journal and conference papers covering the academic and industrial projects that he has been involved with. His current research interests lay broadly in Sustainable Geotechnics particularly the application of Rock Mechanics in CO2 storage and geothermal energy.

He joined ICE in 2004 and became a Chartered Member in 2009. In addition to his ICE membership, Dr Hamza is an Associate Member of the British Geotechnical Association (BGA).

TAIWAN



Dr Benson Hsiung

Dr Benson Hsiung holds a BEng in Civil Engineering from Tamkang University Taiwan (1993). In addition he also holds an MSc in Civil Engineering from the University of Illinois (1996) and a PhD in the subject from the University of Bristol (2002).

On completion of his PhD he worked for Faber Maunsell in the UK for 18 months prior to returning to Taiwan. He is an Associate Professor at the National Kaohsiung University of Applied Sciences in Taiwan.

He joined ICE in 2001 as a Student Member and achieved Chartered status in 2007. In addition to his ICE membership Dr Hsiung is also a member of the British Geotechnical Society, the Taiwanese Geotechnical Society and the South East Asia Geotechnical Engineering Society.

BRUNEL INTERNATIONAL LECTURE

8th Brunel International Lecture

Keith Clarke, Chief Executive, Atkins delivered the inaugural Lecture at Great George Street on Tuesday 25 May 2010 on 'The Delivery of a Low Carbon Society – Beyond Rhetoric' to an audience of over 200. The lecture has now been delivered in Luxembourg in November 2010, New York in December 2010, Chennai, India in January 2011 Dubai, Abu Dhabi, United Arab Emirates in March 2011, Hong Kong and Shanghia, China in August 2011. He will be delivering the lecture in Australia, New Zealand and Singapore in February 2012. South Africa is still being considered for 2012. To keep up to date with locations as they are confirmed or watch the London lecture online: www.ice.org.uk/brunel

OVERSEAS NEWS

Africa and Middle East News

Nigeria

Engineering Half Hour

The Nigerian Society of Engineers, Asaba branch is jointly Sponsoring and organising a Television Program in Delta State with the ICE Representative (for Nigeria) actively participating called ''Engineering Half Hour''. This programme started on Sunday 23rd October 2011 and is aired weekly. This programme celebrates the achievements of Engineers and enlightens the Society on Engineering activities globally.

United Arab Emirates

Graduates and Students Forum

The first Graduate Forum of the year was held in the head office of the Roads and Transportation Authority (RTA) in Dubai and was opened by Mohammed Hussein, (Road and Transport Authority) and Mr Mark Jamieson, the ICE Representative. The aim of the forum was to introduce the G&S Committee to the Graduates and Students of the UAE and to launch the Graduate Forum meetings. The event proved very successful with an audience of 35 attending and included graduates, students, senior engineers and Managers. A second graduate forum on the topic of Health and Safety was held in April attracting an audience of 14 participants.

Essay groups have been established in the Emirate of Abu Dhabi for graduates wanting to brush up on their essay writing skills before sitting their Professional Reviews. The essay groups have been

run on a monthly basis from the early part of 2011 and continue to be well attended by the Graduates of the UAE.

The first UAE G&S Papers Competition (MacMillan Papers Competition) was held in April this year and attracted four excellent papers from Graduates within the Emirates. The papers covered topics from Sustainability to Communication with all four entrants producing highly commended papers and presentations. The event was won by Mr Ishtiyaq Gull who presented his paper on the "Testing of Strength of Recycled Waste Concrete and its Applicability". The Committee looks forward to repeating the success of this event next year and will look to link it with the same event in the UK.

To promote the value of the ICE and to encourage students joining the ICE, the Committee has continued to support the work of the main committee by visiting numerous Universities. This work has been invaluable and has resulted in the first student members joining the committee, becoming ICE student representatives.

Now the summer break is over, the Committee looks forward to re-energising its activities, continuing in the same positive direction which it established in the early part of 2011. The committee looks forward to the challenges ahead and establishing a formal events calendar which the graduates and students of the UAE will look to each year.

GCC Mini Summit 2011 -

ICE UAE hosted the GCC mini Summit 2011 with both the outgoing and new ICE Council Members for the Middle East and Africa present; in addition the summit benefited from the attendance of past president Jean Venables and led to strong debate on the needs for the region. The summit also provided a Forum for discussing the proposed theme for next year's MEA Convention – Furthering Education, the need for professional qualification. Membership numbers have stayed reasonably stable during the year with recent transfers of staff to Qatar by UAE companies countered by new intakes from the UK and elsewhere. UAE market is certainly struggling with Abu Dhabi being less willing to invest in the real estate market at present and a freeze on a number of large, headline projects noted over the past 3 months.

Learned events continue to be supported on a monthly basis with seminars in both Dubai and Abu Dhabi and ICE members able to freely attend events staged by PCE UAE, IStructE, ICES and other organizations as well as ICE's own ones.

2012 will of course see the arrival of new President Richard Coackley in the UAE for the 2012 Convention which will be open to members and already has the support of the Road and Transport Authority following the recent visit of Honorary Fellow, HE Mattar Al Tayer, to One Great George Street.

Mark Jamieson – ICE Representative for UAE

Qatar

There have been several well attended activities in this period - Evening Talks, Site Visits and Study Groups.

- Revisit to Doha North Sewerage - Pumping Station 70 on 22 October 2011
- The Project comprises construction of two sewage pumping stations on a single site.
- A 40m deep 40m dia Lift Pumping Station and a high level Forwarding Pumping Station each equipped with 8 No pumps rated at 1316l/s and delivering via triple 1600mm dia DI rising mains to the under construction Doha North Sewage Treatment Works approximately 27km distant. Works are nearly complete including the HV and Standby Generator building and Administration, Workshop/Store buildings plus Odour Control facility. The 25 visitors were impressed by the progress since the last visit in February 2010 when excavation for the structures was still in progress.
- ICE Representative gave a presentation on 'Compulsory CPD - How to get it' to 30 members on 25 October.
- The Study groups restarted with renewed enthusiasm with 7 attending on 30 October and 20 attending on 29

November, with several members coming forward to be mentors.

- On 22 November David Moss, the Head of Mcgrigors Construction & Engineering team gave a comprehensive presentation 'NEC3 – A Cultural Shift in Contract Management' . The presentation on the NEC3 Contract, included the Option clauses to be inserted as appropriate, was attended by nearly 40 people. It was followed by lively questions and interactive debate session especially on the challenges/ opportunities it creates when used in the local environment in Qatar.
- A revisit to Lusail Development is planned for 3 December 2011 with 30 attendees.

Jon Holland, ICE Representative for Qatar

Other News

Jordan

Sierra Leone

In November and December, the ICE signed two, three-year Agreements of Cooperation with the Jordan Engineers Association and the Sierra Leone Institution of Engineers. The two institutions are based in two very different countries, with different histories, cultures, languages and challenges for the future. However the spirit of the Agreement of Cooperation that ICE has established with them is the same: to develop and strengthen mutual ties in the interests of furthering understanding, knowledge exchange and mutual cooperation. ICE would like to sincerely thank the ICE Representative for Jordan, Hani Abunameh and Trudy Morgan, ICE Representative for Sierra Leone, who represented the Institution at the signing ceremonies.

Sierra Leone - Technical Advisory Panel

Made up primarily of engineering and technical professionals with an interest in Sierra Leone, Technical Advisory Panel (UK), (TAP) was set up in May 2011 to provide objective technical advice on policies and strategies to enhance the professional standards and practice of engineering as well as facilitate the delivery and operations of technical projects and facilities in Sierra Leone.

The panel includes experienced engineers from the conventional disciplines of civil, mechanical, electrical and all the other areas that come under the umbrella of the UK Engineering Council. In addition, it includes technical support disciplines that contribute to the delivery of infrastructure projects including project management, commercial management and construction management.

TAP has the following aims and objectives:

- to create links with international professional Institutions
- to share knowledge, experience and ideas in workshops and conferences in Sierra Leone and to create and contribute to online forums
- to contribute to SLIE's publications
- To provide mentorship and training for graduate and other engineers in Sierra Leone
- to support the activities of SLIE and seek practical assistance to enhance its role.

TAP's mission statement is:

"We are working towards a sustainable Sierra Leone by applying our engineering and technical experience, knowledge and ideas"
TAP worked with the ICE's International Development team to identify an ICE member for the Role of ICE Representative for Sierra Leone. TAP has facilitated formal links with the Sierra Leone Institution of Engineers (SLIE) and the ICE through an Agreement of Co-operation.

For further information on the Technical Advisory Panel, please contact either Laurence Pratt Lawrence.pratt@sky.com or Modupe Williams dupe.williams@sky.com

AMERICAS

ICE Americas Convention

The third ICE Americas Convention will take place in New York City between 22nd and 24th March 2012. The Convention is intended to provide a forum for knowledge-sharing, discussion and networking, bringing together engineers from across the region and is open to both ICE members and non-members.

The convention will include a technical conference day on Friday 23rd March under the theme 'The Challenges of Urbanisation', with a wide range of high-profile speakers present. Topics so far selected include:

- Urban infrastructure maintenance & renewal
- City planning and urban regeneration
- Minimizing disruption during urban construction (traffic, communities and utilities)
- Urban transportation (rail & transit)
- Buildings

The event is being hosted by the ICE New York Metropolitan Area Local Association at the New York Academy of Sciences at 7 World Trade Center, (http://www.nyas.org/). The 2012 convention will offer a fascinating opportunity to meet, interact and network with both local and international industry leaders. Delegates will also be able to observe the latest developments in the reconstruction of the World Trade Center site. The organisers have also recently confirmed the convention's keynote speaker as Steve Plate of the Port Authority of New York and New Jersey. Mr

Plate is the Director in charge of construction at the World Trade Center site. The new ICE President, Richard Coackley will be delivering an opening speech and the new Director General, Nick Baveystock will also be in attendance.

Triennial Conference

Coincidentally, the ICE Convention will be immediately followed by the Triennial Conference, being held 230 miles southwest of New York at the Renaissance Capital View Hotel in Washington DC from the 25th to 26th March. The Triennial conference takes place every three years and is a joint event between the ICE, ASCE (American) and CSCE (Canadian) with each Institution hosting the event on a rotating basis. This time around the conference is being held in the USA. The details of the programme are still to be worked out but the main theme will be around Sustainability with opening addresses from the Presidents of all three institutions on 'A Sustainable Future for the Planet - Progress Since 2006'.

Brian da Cal, Area Manager, Middle East, Africa and Americas

West Indies Local Association (ICEWILA)

ICE West Indies Local Association (ICEWILA) was ratified by the ICE in July 2010 to serve Members residing in the West Indies. The current membership stands at 251 members in 21 countries within the West Indies. The Association is committed to promoting the activities of the ICE in the West Indies by building a strong network to sustain the exchange of ideas and knowledge among civil engineers, graduates, technicians, associates and students in the region. The Association is dedicated to encouraging and supporting its members to become professionally qualified and thus increase their contribution not only to the region but to the world. The Association's core objective is to enhance and preserve the profession of civil engineering by building a sustainable future in the West Indies.

How does the Association plan to carry out its mission?

The Association has had three exciting seminars in 2011 with relevant and current topics such as professional qualification, structural dynamics and infrastructure in the energy industry. The feedback received at the seminars was positive with the last seminar yielding an audience of seventy participants comprising of both junior and senior professionals in the local construction industry. The Association is also advancing its voluntary efforts in producing equally exciting seminars for 2012. Additionally, the Association is involved in mentoring to candidates for the upcoming 2012 Professional Reviews. The candidates are being coached using the ICE 3000 Series Documents and they are making steady progress towards the attainment of their first milestone: a successful career appraisal. Ten candidates are being currently trained by two mentors.

In 2012, the Association will establish new and dynamic ways of reaching out to its membership via a proposed essay competition, prizes for students and graduates for academic excellence as well as the establishment of branches in member countries with associated representation. The Association has also begun discussions with local and international engineering associations within the region in order to have joint hosting of seminars. The Association plans to visit local schools and universities in order to get the younger generation excited about the profession of civil engineering. The Association is also pleased to announce that the ICE West Indies Representative, Professor Timothy Lewis will be attending the ICE Americas Conference 2012 in New York where he will make an attempt to bid for hosting of the 2014 Americas Conference in Trinidad and Tobago. The Association is of the

view that Trinidad and Tobago with its convenient geographical location at the centre of the Americas as well as safe and easy access to air transport, hotel and modern conferencing facilities makes it the ideal location for the next Conference.

In conclusion the ICE West Indies Local Association is ensuring that its Members are adequately served and that the profession of civil engineering takes its rightful place in the West Indies as a profession worth pursuing. The Association is currently discussing with the ICE the potential of having a Professional Review session conducted in Trinidad and Tobago in 2012. There has been increased and keen interest by members to become chartered/incorporated and the Association is of the view that having the Professional Reviews session in Trinidad and Tobago would not only serve existing applications but foster new applications thus increasing the number of chartered/incorporated civil engineers in the region.

The Association is currently served by the following officers:

Professor T.M. Lewis - Chairman / ICE Regional Representative
Don Samuel - Honorary Secretary
Leighton Ellis - Graduate and Student Officer
Naeem Hasnain - Honorary Treasurer

The Association can be contacted by one or more of the following forms of communication:

Email: icewind.la@gmail.com
Facebook: https://www.facebook.com/#!/ICEWILA
ICE Website: http://www.ice.org.uk/nearyou/The-Americas/West-Indies

Don Samuel - Civil Engineer
Honorary Secretary of ICE West Indies Local Association

Asia Pacific News

Australia

President's Visit to Sydney

A fairly full agenda awaited ICE President, Peter Hansford when he arrived in Sydney on 28 September. As planned, he spent the following morning and lunch with Merv Lindsay, President of Engineers Australia, an institution with which we have common interests. This was followed by a visit to Sydney University where he spoke on 'Delivering Value' to staff, students and practising engineers.

Peter Hansford with Merv Lindsay, President of Engineers Australia

In the evening nearly 90 local ICE members and their partners joined Peter and his wife for a gala dinner and to hear his talk on 'Value for Money, Value for Carbon: the challenge for the 21st Century Engineer'. The following day a small group of us took a tour of Sydney's new Desalination Plant led by the plant's Operations Manager, Ian Gabriel. The plant produces an average of 250 ML/d – up to 15% of Sydney's potable water supplies. Although highly efficient in its use of electricity, power consumption is offset by renewable energy from a wind farm elsewhere in New South Wales.

Operations Manager, Ian Gabriel, with Peter Hansford in the Reverse Osmosis building at Sydney's Desalination Plant

ICE Committees Working Together Across Countries

In October the ICE NSW Committee hosted a delegation from ICE Hong Kong who visited Sydney as part of a study into Sustainable Development for a 'Civil' Society.
Sydney is one of the few cities which has started actively practising sustainable development. In 2007 the City of Sydney launched an initiative called Sustainable Sydney 2030 which focussed on sustainable energy use.

The delegation had a packed schedule during their visit including a workshop with City of Sydney representatives, a site visit to a Sydney Water treatment plant, a Networking Reception and a Roundtable Discussion event with Engineers Australia.

The ICE Hong Kong Association delegation at Engineers Australia in Sydney

Upcoming Events

On 16 February we shall be hosting the Brunel lecture in Sydney. Before that we are looking forward to our Christmas function on Wednesday 7 December at the Kirribilli Club overlooking Sydney Harbour Bridge. Though primarily a social event (and guests are very welcome), it will also provide the opportunity to hear James Aldred speak on 'Burj-Khalifa – a new high for high performance concrete', the subject of his 2011 George Stephenson Medal award. For details and ticket purchase, see the flyer on the Australia NSW page: http://www.ice.org.uk/nearyou/Asia-Pacific/Australia/New-South-Wales

Geoff Amblin, MICE, Sydney

Malaysia

Report on 21st Annual Professor Chin Fung Kee Memorial Lecture "Engineering and Entrepreneurship: Is It An Oxymoron?" Delivered by Tan Sri Dato' Dr. Francis Yeoh Sock Ping

The 21st Annual Professor Chin Fung Kee Memorial Lecture was held successfully on 5th November 2011 at JW Marriott Hotel, Kuala Lumpur, Malaysia. The Memorial Lecture was jointly organized by The Institution of Engineers, Malaysia (IEM) and The Engineering Alumni Association of the University of Malaya. The event was supported by The Institution of Civil Engineers (ICE). Over 400 participants from the engineering industry

attended the lecture delivered by Tan Sri Dato' Dr. Francis Yeoh Sock Ping, CBE FICE, Managing Director of YTL Corporation Bhd. Malaysia on the subject of "Engineering and Entrepreneurship: Is It An Oxymoron?"

The lecture is an important IEM annual event. Students from ICE Student Chapters from the University of Nottingham Malaysia Campus (UNMC) and the University of Tenaga National (UNITEN) together with students from the University of Tunku Abdul Rahman (UTAR) and Taylor's University were invited to attend the lecture. The registration began at 10.00am and light refreshment was served at 10.30am. Organizing chairman, Ir. Yee Yew Weng gave his welcoming speech and invited the speaker, Tan Sri Dato' Dr. Francis Yeoh to deliver his lecture.

The speaker examined the complex correlation between engineering and entrepreneurship, arguing that they are intertwined. Contending that engineering carries its true worth only if it could be capitalized upon to help transform and better societies and individuals, the acid test he applies for all engineering is practical application, commercial viability and long term sustainability.

He emphasized the importance of excelling in the engineering profession which could bring great benefits to the society. He revealed the rationale, criteria and process that can be used to earmark and adopt engineering technologies to ride with and excel in. He illustrated the points of combining engineering and entrepreneurship by quoting key past projects that the YTL group has done successfully such as using slip forming technology in the Kuala Lumpur Tower, gas from petroleum waste to power the Independent Power Production at Paka Power Station, low unit cost for KLIA Express Rail Link, award winning sustainable development at Wessex Water Management in the United Kingdom and state-of –the-art 4G 'YES' Broadband ICT in Malaysia.

In conclusion he urged that "Engineer has to continue to innovate with entrepreneurship to provide clients/customers with affordable beautiful and creative products."

Group photo UNMC Students and Lecturers at the Lecture

Dr Ooi Teik Aun with students from UNITEN ICE Chapter at the Lecture

Nepal

International Conference on Sustainable Development of Transport System
Soaltee Crowne Plaza, Kathmandu, Nepal
(19-22 Oct., 2011)

Nepal Engineering College (NEC) in collaboration with the Ministry of Physical Planning and Works (MOPPW), the Ministry of Local Development (MOLD), the Ministry of Environment (MOE), the Nepal Engineers' Association (NEA) and UK's Institution of Civil Engineers (ICE) organised an international conference on Sustainable

Development of Transport System. The conference was inaugurated by Rt. Hon. President of the Federal Democratic Republic of Nepal Dr. Ram Baran Yadav. Dr Yadav urged the participants to work out solutions for minimising transport related carbon emission, preserving environment and reducing road accidents. Hon. Minister for Physical Planning and Works Hrideyash Tripathi raised the issues of transportation infrastructure in developing countries including financing and land acquisition.

More than 160 participants from Nepal, India, Bangladesh, Australia, USA, UK and Canada participated in the conference. Ten papers were presented ranging from constructing regional transit facilities, evolution of transport policies, traffic congestion, socio-economic impact of transport infrastructure and replication of the best practices. The representatives of the Institution of Civil Engineers (ICE) from India, Bangladesh and Nepal also presented their papers.

The technical sessions were chaired by the Members of Parliament, Former Ministers, Former Vice Chairmen of the National Planning Commission and other outstanding personalities. All co-chairs were selected from the private sector. Senior government and non-governmental officials acted as reporters.

While concluding the conference Hon. Minister of Environment Mr. Hem Raj Tater highlighted the need of continual efforts of the professionals and academicians for developing appropriate policies and creating environment for implementing them efficiently. Dr Dinesh Chandra Devkota, the former Vice Chairman of the National Planning Commission suggested forming a think tank in the transportation sector.

The unedited articles are uploaded on the conference home page (http://www.sdts11.org). The papers are being reviewed now and will be published as conference proceedings cum journal in Institution of Civil Engineers (ICE) format.

Rt Hon President of Nepal inaugurating the Conference

Prof Dr Chandra Shrestha, the Conference Convenor giving the vote of thanks

Chandra Shrestha, ICE Representative for Nepal

New Zealand

The New Zealand Region is delighted that Tim Warren was successful in his quest to become Asia Pacific's representative in Council. Tim has worked tirelessly to promote the ICE in New Zealand for many years, and he'll bring this enthusiasm to bear in his new role. It leaves us with a gap to fill.

For the area, health and safety has been a focus of late. Inspections and demolitions are well underway in Christchurch, and safety of workers is paramount. Two recent projects which resulted in fatalities, Pike River Coal Mine and a water main in Auckland, have resulted in prosecutions being brought by the Department of Labour.

We've had a busy few months. In early September, we had the President's Visit, where he delivered his address in Auckland, Wellington and Christchurch. Starting in Auckland, the President had a tour of Victoria Park Tunnel, just before it opened to traffic. Whilst in the country, he also met with the British Council, and the Institution for Professional Engineers New Zealand.

Presidential Party surveys the ruins of Christchurch Cathedral

Barry Davidson, Tim Warren, Asia Pacific ICE Council Representative, Prof. Thomas O'Rourke of Cornell University at the Auckland presentation of the 2009 Rankine Lecture

In late September, Professor Thomas D. O'Rourke, of Cornell University delivered the 2009 Rankine lecture, again in the 3 centres of Auckland, Wellington and Christchurch. This lecture was very well received, and we had lots of positive feedback from attendees on the quality of ICE lectures!

In November, we held a joint meeting series with CIOB, where Derek Salkeld gave an entertaining lecture on the use of risk analysis in projects – again this was delivered in Christchurch, Wellington and Auckland.

Thanks to an active committee, we are able to support graduate members preparing for CPR, and essay groups are held online as well as in person. We have been working with Connect, the IPENZ women in engineering initiative, to jointly support and co-host meetings. We have established ICE Company Champions in a number of leading companies, and are assisting and advising where we can.

Sarah Sinclair – Honorary Treasurer Trans Tasman

Sri Lanka

Eminence in Engineering

Dr Mervyn Gunasekera receiving his Award

At the IESL award ceremony held at the Waters Edge on 5th October 2011, Dr. Mervyn Gunasekera was recognized with award of Eminence in Engineering, the highest award an Engineer in Sri Lanka could be accorded.

This award was made in recognition of his outstanding accomplishments and achievements in the field of Engineering, professionalism and for his pursuit of eminence in the practice of his chosen profession.

Starting as a Civil Engineering graduate of the University of Ceylon, he later obtained his Masters degree in Construction Management from Loughborough University of Technology, UK and was one of the distinguished personalities to obtain a Ph.D in Business Administration from the Postgraduate Institute of Management of University of Sri Jayawardenepura.

This outstanding engineer commenced his Entrepreneurial activities as the Managing Director of his own Project Management Company; LAN Management Development Service. He also serves as the Chairperson of Union Chemicals Lanka Plc and as a non executive Director of Seylan Developments Plc.

After Graduating with honours from the University of Ceylon in BSc (Eng) Civil Engineering in 1975 and serving in varied engineering positions he also served in the Sri Lanka Air Force as a Volunteer Officer with the rank of Group Captain in the Air Field Construction Regiment.

He served as a visiting lecturer in the Universities of Peradeniya, Moratuwa, Sri Jayawardenepura and Kelaniya and other major academic Institutions such as The Institution of Engineers Sri Lanka, Sir John Kotelawala Defence Academy, The Postgraduate Institute of Management and the Institute for Construction Training and Development.

A distinguished Fellow of the Institution of Engineers Sri Lanka, a Fellow of the Institution of Civil Engineers UK and a Fellow of the National Academy of Sciences Sri Lanka he served as the President of The Institution of Engineers Sri Lanka in 2000/2001. In addition he has been actively involved in the various institutions associated with the Engineering Profession thereby contributing to the growth and development of the various aspects of the profession. He is currently the President of The Institute of Project Managers Sri Lanka and was the President of the Sri Lanka branch of the Institution of Fire Engineers, (UK), the Association of Consulting Engineers Sri Lanka and the Federation of Engineering Institutions of South and Central Asia, as its President from 2000 to 2003 – he was the first and only Sri Lankan to be elected to that post. He also serves in many national Boards, Councils, Foundations, institutes and think tanks which contribute to the technical, qualitative and futuristic development of the country.

In addition to all these he is a humanitarian involved in his old schools Bomiriya Maha Vidyalaya, St John Bosco's College Kaluaggala and Issipathana College Colombo as an active old boy, served as the president of the alumni associations of the Engineering Faculty of Peradeniya and the local chapter of Loughborough University of Technology UK and a Sunday School teacher at his village temple at Bomiriya.

ICE Fellow becomes University Chancellor

Professor Dayantha Wijeyesekera

We are proud to announce that Professor Dayantha Wijeyesekera has been appointed as the first Chancellor of a new Sri Lankan university.

About Dayantha
He is an ICE Fellow and has been the ICE Representative for Sri Lanka for 12 years. As an eminent civil engineer and a Fellow of four other professional bodies, he was one of the youngest Presidents of the Institution of Engineers, Sri Lanka. He was elected in 1992 and was the first Vice Chancellor to be appointed to two Universities in Sri Lanka. Sir John Daniel, the President of the Commonwealth of Learning called him "one of the most dynamic university heads in the world".

Dayantha and the university
The University of Vocational Technology, established in 2009, provides technical and vocational education. He promotes applied research and seeks to establish links to national and international higher education institutions and professional bodies, as well as local industry.

ICE would like to congratulate Professor Dayantha Wijeyesekera on this prestigious appointment.

Thailand

A Record Flooding in Thailand – Bangkok Underwater

Monsoon rains are normally welcome passing through India, Bangladesh, Myanma into Thailand. This time the rains seemed coming from the Pacific Ocean pounding Cambodia, Lao, Southern Vietnam and Thailand since mid-July. One third of provinces in Thailand are covered with water from Northern Chiangmai down to the mid-land Nakorn Sawan and southward to Ayothaya the ancient capital city. The height of water varies from 1.0 metre to 3.0 metres in depth destroying farmland and industrial estates forcing tens of thousands of people to be evacuated. The water is receding slowly after almost three months, it is now reaching the City of Bangkok affecting the population of some 10.0 million people. The second largest Don Muang Airport has closed. Many Bangkok residents are moving out of Bangkok and they left their cars on the elevated motor ways as shown in the picture (The Atlantic News, 10 November 2011) to prevent those cars being submerged into the water. All public car parks are full and jammed, and public transport has been interrupted except the underground and elevated trains are running normally. The City is criss-crossed by rivers and irrigation canals have been threatened by encroaching water for weeks as the Bangkok authority tries to block the passage of water with sand bags to divert water through canals and at the same time trying to pump the water into the Chao Praya and other rivers. There are growing concerns on the health problems of large amount of polluted water trapped-in up to chest height flowing through the densely populated suburbs of the city. To date (20/11/2011) the very centre of Bangkok is free of water.

The Engineering Institute of Thailand (EIT) joined with numbers of scientists including engineer from ICE to advise people to avoid contamination with polluted water and how to use portable toilet made of plastic bags and collection of garbage to be collected by the municipality with a special unit from the arm forces. An attempt to improve the condition of water with lime and chemical were used by the rescuers, proved impractical on such a large scale of flood. The rescue pumping operation to drain the water is most complicated and difficult. As the country's natural contour for water flow is unknown and rice field has been controlled by sluice gates for irrigation and the

topography of numbers of cities were changed by individual industrial estates with man-made structures from the north to the south for flood protection with dykes and polders to blocking the passage of water- flow. The construction of existing drains in the city have no proper gradient to direct the flow. It posed huge engineering problem to the engineers. Economic damage of this event with catastrophe will indeed pose great challenges to engineers to fix the problem when the flood water retreats.

C Lilavivat CEng FICE FEIT FCS (ICE Representative for Thailand)

Trans Tasman

Congratulations to Tim Warren and Farewell to Mike Polin

Tim Warren, ICE Representative for New Zealand, for the past six years was recently elected to ICE Council as the International member representing Asia Pacific. Congratulations Tim! His term on Council begins in November 2011 for three years. We are sure Tim will do an excellent job representing the views of Asia Pacific on Council and we wish him well in his new post.

Current ICE Council member for Asia Pacific Mike Polin stepped down in November after serving for three years. Mike was the first Asia Pacific Council member elected when international members on council were introduced in 2008. We would like to thank Mike for his hard work representing the Asia Pacific region on Council and appreciate the time and effort he put into fulfilling this role. We wish Mike all the best in his future endeavours and look forward to staying in touch with him at local ICE events.

Europe News

European Council of Civil Engineers (ECCE)

Aspendos Roman amphitheatre and aqueducts, Antalya

54th European Council of Civil Engineers

The 54th ECCE general meeting was held in Antalya, Turkey on 28th-29th October 2011. The event was attended by the Area Manager Europe, Salima Hernandez, and the Chairman of the European Sub-Committee, David Howell.

The ECCE meeting was opened by the current President Goradz Humar and the President of the Turkish Chamber of Civil Engineers, Sedar Harp. He explained that a recent governmental decree transfers the functions of the Turkish Chamber to a department within a ministry. As a result of this, the Chamber becomes non-functional. TCCE sought help from ECCE and ECEC to press the Turkish government for the Chamber to keep its autonomy like the rest of European national chambers.

Professor Ersoy gave the keynote address on "Civil Engineer's Role in Heritage Conservation". Over the course of the day five standing committees made presentations on Education & Training, Environment & Sustainability, Knowledge &

Technology, Professional Recognition & Mobility, and Development & Business Environment. Discussions included the promotion of cooperation with other Pan-European organisations in the construction industry; the upcoming European Engineers' Day in Brussels; a suggestion on adding social network; a review of standing committees' structures & procedures; a new book project on footbridges in Europe; and minimum and maximum caps in subscription fees. The latter was endorsed by the General Assembly.

That evening the delegates were taken into the city of Antalya for the official dinner with views over the marina. The next day there was an excursion to see the Aspendos Roman amphitheatre and aqueducts.

The ECCE event was followed by a Conference on Seismic Protection of Cultural Heritage jointly run by ECCE, the World Council of Civil Engineers and the Turkish Chamber of Civil Engineers.

ECCE, together with ECEC, will host the 1st European Engineers' Day in Brussels on 8th December 2011. This initiative aims to demonstrate the critical role and contribution of Chartered Engineers to society, serving the public interest and building life quality and sustainable environment.

There is more information about ECCE and the European Engineers' Day on the ECCE website.

Denmark

Lincs Offshore Wind Farm Foundations Project

Lincs OWF foundation installation passes midway point

By the end of October 2011, Danish contractor MT Højgaard had installed approximately half of the 75 monopile foundations for the Lincs Offshore Wind Farm, which is located off the coast of Lincolnshire in England. The remaining foundations are to be installed between now and the first half of 2012.

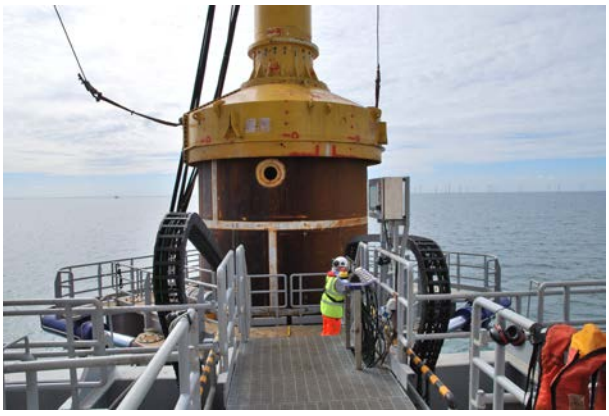
The foundations consist of monopiles, which are hollow steel pipes approximately 5m diameter and between 37 and 46 metres long, with variable wall thickness typically between 52mm and 84mm and weighing between 291 and 391 tonnes. The monopiles are driven between 17 and 26 metres into the seabed (which is mainly weathered chalk), using a hydraulic hammer on board the jackup vessel Resolution, operating from Great Yarmouth outer harbour.

Specially designed hydraulic pile gripper and pile follower

The monopiles have been optimised in length to be as short as possible, and this, combined with the height of the jackup vessel above water level, requires the use of an 80 tonne pile follower to make the overall length sufficient for temporary stability during the initial stages of piling, while the top of the monopile / follower is held by a specially designed hydraulic pile gripper mounted at the stern of the jackup vessel.

Upending Monopile from cradles on deck of jackup. Transition Pieces visible in foreground and background

Placing Pile Follower on Monopile (Monopile is resting on seabed and is held by Pile Gripper)



Hammer on Pile Follower, Pile Follower held by Pile Gripper

On top of each monopile, MT Højgaard installs a transition piece, which is 24 metres high, weighs around 280 tonnes and functions as a support structure for the wind turbine itself.

The total weight of the steelwork in the foundations is about 46 thousand tonnes.

Conical grouted connections

Recent developments in design of offshore foundations have required a conical grouted connection between the transition piece and monopile, which increases the complexity of design, fabrication, and installation from the earlier cylindrical connections used in the industry. MT Højgaard is among the world's most experienced companies in installing foundations for offshore wind turbines. There is a substantial amount of development and design and logistics work involved in the project, since the sea depth in the area varies from 8 to 16 metres. Each monopile is unique and designed and fabricated for the precise location where it will be installed. The steel foundations are fabricated in Holland and Belgium and sailed to Great Yarmouth.

MTH and consultant Rambøll have been working on the turnkey design and fabrication of these foundations for two years, and the design is a synthesis of current best practices for both permanent and temporary works.
The Lincs OWF client is a consortium of Centrica, DONG Energy and Siemens Project Ventures. The 270 MW wind farm will supply electricity to 200,000 British households.

Ed Garvey, ICE representative for Denmark

Germany

Agreement of Cooperation between the Institution of Civil Engineers and Bundesingenieurkammer

The Institution of Civil Engineers and the Bundesingenieurkammer (BIngK) in Germany have entered into an Agreement of Cooperation to promote the development of a closer working

relationship, to the mutual benefit of their members and in the interests of the engineering profession.

Members of each institution who are temporarily resident in the other country can now enjoy facilities made available to them in line with conditions applicable to members of the host Institution. These facilities include the use of the host institution's buildings (for example, the Library) and attendance at meetings and activities of the host institution.

Peter Hansford hosted a meeting with the German delegation at the ICE President's office for the official signing of the Agreement of Cooperation and a photo to commemorate the event. The delegation was composed of Hans-Ullrich Kammeyer, BIngK Vice President International; Thomas Noebel, BIngK Managing Director; and Hamish Douglas, ICE Representative for Germany and Council member for Europe. Afterwards, the German delegation made a presentation in the ICE Council Room, covering training and qualification of engineers in Germany.

Luxembourg

ICE Luxembourg Local Association Visit to the Moselle Navigation and the Grevenmacher barrage-lock.

ICE members and colleagues had a technical visit to the Grevenmacher barrage and lock on Friday 30th September 2011 organised by the Service de la Navigation de la Moselle.

The Moselle river provides the eastern border of Luxembourg with Germany. Upstream the river is in France and downstream in Germany. In 1956 an agreement was signed by the three countries to cooperate on the development of the river to open up the potential for navigation and hydro-electricity.

Three barrage-locks were built on the Luxembourg section jointly with Germany. These together with appropriate dredging works would allow passage of ships of up to 3 metres draught, implying a maximum load of about 4000 tonnes. Other works on the adjacent sections in France and Germany would open up the Moselle from near Nancy to the confluence with the Rhine at Koblenz, some 400 kms. in length.

The installations at Grevenmacher comprise a barrage with control gates, a main lock of 170m long and 12m wide, a hydro-electric station, a secondary lock for pleasure boats, and secondary works such as a kayak chute and a fish ladder as well as the control station.

The hydro plant is managed separately by the Société l'Electric de l'Our (SEO). It consists of three Kaplan turbines with 8 MW total capacity, using a compact design imposed to reduce the visual impacts. It is designed to turbine the average flow of 160 m/s and generates some 40 GWH per annum.

The goods traffic reached a peak of 9M tonnes in 1974 and has since stabilised at about 8 M tonnes. Coal, agricultural products, steel, scrap metal and quarry material make up the principal products transported. The majority of ships are Dutch or Belgian.

Flooding of the Moselle has been and remains a serious problem with annual flooding of the Luxembourg villages beside the river. The maximum flood reached 2300 m/s in 1983 and overtopped the lock and barrage; this flow represented a return period of above 1000 years. High flows are occurring more frequently in recent years, as has also been noticed generally

elsewhere. The water quality in the Moselle is not good, with minimum treatment of waste water inflows. An advantage of the upstream Cattenon nuclear power station on the French border is that the water seems not to freeze so much as previously, facilitating operations.

The project is an example of excellent cooperation between Germany and Luxembourg, with a sensible split of responsibilities and benefits. It is noted that the tariffs for the locks only partly cover the operating and maintenance costs. It is a pity that the flood control is not better organised overall on the Moselle as some upstream flow diversion might bring relief from the flooding. The river pollution, especially in Luxembourg needs to be addressed. Despite these concerns this has been shown to be a worthwhile infrastructure project of which all those concerned should be proud.
Our visit to the hydro plant with SEO was regrettably cancelled at the last minute and a further visit to SEO hydro plant elsewhere on the Moselle may be arranged at a future date.
We were most grateful for the very complete visit organised by the Service de la Navigation de la Moselle.

Report on the ICE Luxembourg Local Association Annual Lecture 2011

Naeem Hussain on "Recent Advances in long span cable stayed bridges – in particular the Stonecutters bridge in Hong Kong and the Forth replacement crossing in Scotland".

Naeem Hussain, an Arup Fellow and Director, and Arup's Global Director of bridges presented the annual lecture on 11th October to an attentive audience of 45 persons comprising engineers, economists, bankers and others at the premises of the European Investment Bank. His talk concentrated on the two bridges mentioned in the title, with which he has been closely associated.

The Stonecutters Bridge in Hong Kong has an exceptionally long span for a cable stayed bridge, exceeding 1000 metres. Three critical design themes were described, being the wind effects, the seismic design and the possible impact of shipping.

The wind environment is extreme and the bridge has to be aero-dynamically stable at a critical wind speed of 95m/sec. The aero-dynamic and wind buffeting analysis relating to the pylons, the bridge deck and the cables were all described as were the resulting modifications which reduced the wind forces and controlled the vibrations. These included refining the elegant pylon sections which were of composite construction with a stainless steel outer plate, reducing the cross-section of the stay cables by using parallel wire cables, and adding dimples to the stay cables to reduce rain-wind induced vibrations, and carefully profiling the deck with a sharp corner and associated guide-vane to manage the vortex shedding

The extreme event seismic context in Hong Kong was also considered and special consideration of the dynamic response was needed. This complemented the dynamic work done for the wind loading. It was shown that the wind loading rather than the traffic live loads controlled the deck and pylon design, whereas the seismic event controlled the foundation design, illustrating the unusual and extreme natural conditions in Hong Kong.

Hong Kong is a very congested and active harbour and no interference with the flow of shipping was accepted by the authorities. This was particularly critical for the construction of the cantilever bridge sections, which had to be carefully coordinated. The ultimate design case of a large ship colliding with the pylon foundations was investigated using analytical tools as well as centrifugal model testing, which was the first time this had been done. The results showed that modifications were required to maintain structural integrity under the extreme conditions.

The analytical tools now available for design are very powerful and major bridge design is becoming akin to aircraft design; however there is still an important role for model testing, often of components at relatively large scale, to confirm and refine the design.

The bridge was opened in late 2010 and is a great success.

The Forth Replacement Crossing Bridge is a slight misnomer as the other two Forth bridges will

continue to operate. It might better be termed the Third Forth Bridge!

The overall context is superb with the 19th century Forth rail bridge alongside the 1960s suspension bridge and a new crossing to be situated upstream in wonderful scenery. The importance of the visual impact of the new crossing and the efforts taken to harmonise with the other two bridges was described at length. The solution proposed was to provide a three pylon cable stayed bridge, with equal height tapered pylons, and the stay cables overlapping in mid-span to provide stability to the central tower. A very elegant result.

Many of the issues at Forth were similar to Stonecutters, but with generally less extreme conditions, allowing a useful transfer of technology and experience. A wind barrier is required to allow all weather operation and this resulted in localised wind flows which could disturb especially high sided vehicles at the pylons. Various baffles and additions were placed around the pylons to control these effects.

The problems of the existing suspension bridge were noted, in particular the corrosion of the cable strands which reduced the factor of safety when combined with much heavier traffic than envisaged at the design stage. The second bridge will be renovated and strengthened to modern standards and will operate in tandem with the new crossing, probably giving priority to local traffic.

The various design solutions proposed by the consultants were described before the final design was agreed by the client. The tenderers were given two choices of design for the bridge deck and the approach spans from which they could select one for their tender. Only minor modifications were allowed thereafter. Temporary works as always are the contractor's responsibility.

The project is much needed and the construction contract was awarded earlier this year with completion programmed for 2016.

This was an outstanding lecture by a leading expert on bridges and we were most grateful to Naeem for fitting Luxembourg into his heavy schedule. He demonstrated the importance of taking an holistic view and to giving proper consideration at the concept stage to aesthetics and the environmental impact, coupled with a rigorous technical approach.

A special thanks also to John Higgins, formerly of Arup Dublin, for the introduction – a useful spin-off from ELAC.

Peter Bond
Chairman ICE & Representative of Luxembourg Local Association

General News

1. Membership update

International Reviews

Throughout the Autumn, ICE has held another extensive round of international Reviews in Hong Kong, Shanghai, Beijing and Dubai, with a record number of 312 candidates for the Hong Kong Reviews in September!

Additional Reviews were also held in Brunei, in conjunction with a visit by ICE's Head of Membership and Professional Development for the 5-year renewal of the Brunei Public Works Department's ICE Training Scheme.

Congratulations to the successful candidates and many thanks to the local coordinators who arrange and support the Review sessions, without whom they would not be possible.

Our experienced international Reviewers - many of whom are also ICE Representatives - have again been used to full effect this year to conduct our Reviews sessions, making the most of opportunities for cross-fertilisation between the centres and not relying only on UK or local Reviewers. New Reviewer training conducted during the sessions has also seen an increase in the Reviewer pool of 21 from Hong Kong, 2 from Brunei, 1 from Shanghai, 1 from Singapore and 2 from Dubai. Thank you all for your continued support and commitment to ICE in maintaining our high standards of professional qualification.

Preparations are now well under way for the 2012 Reviews - the Transtasman Reviews will be held in

March in Sydney and Auckland (closing date for applications 16 December), and the India Reviews will be held in Chennai at the end of April (closing date for applications 13 January). Subject to the number of applications received in January, a small session may also be held in Sri Lanka immediately following the India Reviews. Following the efforts of the West Indies local association in growing ICE membership, we are also looking at a possible programme for a Reviews session in Trinidad and Tobago at the end of 2012. If this goes ahead the application dates will be published on the ICE Key Dates webpage.

The 2012 Review application dates for all other international locations will be 28 May – 1 June. For more information on international application dates and locations please visit www.ice.org.uk/keydates

Membership Development

David Lloyd-Roach, Director of Membership, visited Hong Kong, Shanghai and Beijing in September to address membership development and plans for the year ahead.

The Joint Board of Moderators (JBM) undertook a re-accreditation visit to the University of West Indies in November and a number of very useful meetings and seminars were arranged around this visit by the West Indies Local Association.

Throughout 2011, the European Commission has been consulting on the modernisation of Directive 2005/36 on the recognition of professional qualifications across the EU, with the intention of producing new legislation which will be implemented at the end of 2012. ICE has responded to both public consultations as well as additional consultations on educational reforms and the proposed introduction of a voluntary professional card. The Commission's proposal for the new legislation is due to be published mid-December 2011. For more information please visit www.ec.europa.eu/internal_market/qualifications/policy_developments/index_en.htm

Plans are under way for a Membership development visit to South Africa in February and to the UAE in April. If you have any questions about these visits please contact Mike Rogers at mike.rogers@ice.org.uk

The pre-recorded seminars that were produced by Mike Rogers last year have proved to be very useful tools for prospective members. They can be accessed from the following links:

1. Preparing for Professional Review: http://pgi-trial.emea.acrobat.com/p78317755/

2. The Professional Review Day: http://pgi-trial.emea.acrobat.com/p84278817/

3. Career Appraisals: http://pgi-trial.emea.acrobat.com/p38678524/

4. Continuing Professional Development (DAP/PDR records): http://pgi-trial.emea.acrobat.com/p27651291/

These will be updated and more seminars are planned for 2012 – including a seminar on the Technical Report Route which will be available shortly.

Other news

The Engineering Council's Head of International Recognition, Jim Birch, retired in October 2011 after 11 years in post. His replacement, Katy Turff, takes up the post from 2 December.

And finally …ICE's International Membership Manager, Rebecca Webster, will be going on maternity leave in February 2012 – recruitment for an interim replacement is currently underway.

If you have any questions about any of the above or other membership matters, please contact Rebecca Webster at rebecca.webster@ice.org.uk.

Rebecca Webster
International Membership Manager

2. International Development

The Africa-UK Partnership welcomes recommendations from UK Members of Parliament that infrastructure is given more prominence in Government's international development strategy.

ICE, Engineers Against Poverty (EAP) and the Royal Academy of Engineering (RAEng) made a joint submission to the International Development Committee report in March of this year, calling for

the Department for International Development (DFID) to develop a comprehensive infrastructure strategy to promote the role of infrastructure in helping developing countries meet the Millennium Development Goals (MDGs).

The International Development Committee's report, published in October, has adopted all of the group's recommendations – a full list is below.

John Hawkins, the ICE's Senior Manager for Management Procurement and Law, was invited to submit oral evidence in front of the committee, as were several ICE members engaged in international development work.

Speaking on behalf of the UK partners of the Africa-UK Partnership Professor Paul Jowitt, past president of ICE and chairman of EAP, said: "Developing countries cannot achieve the Millennium Development Goals without effective transport, water, energy and waste systems. However historically the criticality of effective infrastructure for growth and development has been under-recognised in Government's strategy.

"If we really want our money to make a difference, infrastructure development – including implementing local procurement practices to build domestic engineering and construction capacity and encouraging openness through the Construction Sector Transparency Initiative (CoST) - must be prioritised."

The group recommended that:

- DFID develop a comprehensive infrastructure strategy
- The strategy should recognise the importance of the local engineering and construction sector in achieving economic growth
- A senior civil servant in DFID should take ownership of the strategy
- DFID recognise the success of CoST by providing financial support.
- DFID work more with the UK engineering and construction community to better leverage the expertise and capability they can provide.

Jowitt added: "We have long been calling for recognition of infrastructure development as a key factor in international development and sincerely hope that Government will take heed of the Select Committee's recommendations."

See the full submission here http://www.ice.org.uk/Information-resources/Infrastructure-policy-and-reports/Reports/internationaldevcommittee

Access the Committee report here Committee Website: www.parliament.uk/indcom

ICE international development events

Launch of *Managing Water Locally*

In 2009-2010 ICE teamed up with Oxfam GB and WaterAid to highlight the importance of integrated water resource management (IWRM) in managing water resources and land. The Appropriate Development Panel hosted a series of presentations and panel discussions emphasising current and future risk to regional and local water resources in the most vulnerable environments. *Managing Water Locally* , a report compiling conclusions from the event series was launched at the ICE on 8th November. The launch featured a keynote speech by Sir Crispin Tickell, addressing the importance of local water management in climate change adaptation. Professor Richard Cater, from WaterAid, and St John Day, from Adam Smith International, presented key recommendations from the report. A recording of the event and Q&A session is available at http://www.ice.org.uk/Information-resources/Document-Library/Managing-Water-Locally

The report emphasises that the potential of local water management has been "undervalued" - particularly in low income countries, where it says conventional approaches to water management may be less effective. It calls for greater debate on community-based water resource management and recognition of its potential for improving water security.

Aimed at water sector practitioners, policy makers and experts in the field, *Managing Water Locally* outlines examples of good water management practice from across the globe, as well as debating

whether there is a water management 'blueprint' that could be followed.

According to ICE former president Paul Jowitt, more effective forms of water resource management are "crucial" to cope with rising populations and increasing water demand for food security and energy, as well as climate change.

He said: "Too often a 'one size fits all' approach to water access and use is applied in low income countries, failing to recognise that water needs differ greatly from one community to the next. Policies need to be tailored to address the unique requirements of neighbouring localities, ensuring the most effective use of this valuable and often scarce resource. The onus is on international organisations, engineers and governments to better respect and built upon community practices when planning and implementing water resource solutions."

A number of communities are already practicing communal water management by applying their own rules and traditions, some of which have been used for millennia. Examples from Peru, Spain and the Sahelian zone of Africa demonstrate the importance of recognising and respecting existing practices.

Managing Water Locally recommends that local communities need to be involved not just with the building and maintenance of water supply hardware and infrastructure, but also with monitoring how much water is available and how to allocate it - from measuring rainfall and groundwater fluctuations, to bargaining over water allocation.

It concludes that in order for national and regional water policies to accurately reflect local realities river basins should be divided into smaller sub-catchments, allowing for the identification of specific local challenges.

Managing Water Locally is available at http://www.wateraid.org/documents/managing_water_locally.pdf

Water for the Urban Poor

On 19th October the International Development Policy and Practice Panel hosted an evening meeting on sustainable water access for the urban poor. A recording of the event is available at http://www.ice.org.uk/Information-resources/Document-Library/Water-for-the-Urban-Poor

The meeting was chaired by Professor George Henderson, Emeritus Professor of Architecture at De Montfort University. Speakers included Yolanda Chakava from Haki Water, Dr Richard Franceys from Cranfield University, and Sam Parker from WSUP.

Sam Parker addressed the topic of *"who does this all belong to?"*. In low income urban settlements, the success or failure of investments targeted at the urban poor services is closely linked to how clear and enforceable are the arrangements for ownership, management and operation. In the absence of this, much externally funded infrastructure in Kenya has defaulted to informal ownership and at times appropriation by vested interests. This is a key factor behind the poor levels of service, maintenance and financial sustainability often witnessed in the informal settlements. If the dream of city wide coverage is to be achieved in African cities, very clear policies on *"who does this all belong to"* are essential. For large towns, the Government of Kenya is now driving for municipal ownership and licensed operators, as a way forward. This bodes well for the future prospects of city wide service coverage in Kenya. Success will depend on an effective strategy to deal with vested interests.

Dr Richard Franceys, Cranfield University followed, presenting the initial results of the Suez Environment Foundation supported 'WaterChoices Kiosk' project. This approach, working with local partner in Kenya, the Umande Trust, seeks to improve water supply for low-income urban tenant households in Gatwekera, Nairobi and Obunga, Kisumu – representative of the one billion slum-dwellers world-wide who could benefit from improved services. The aim is to develop innovative ways to deliver water more conveniently, at better quality and, eventually, at a lower price. WaterChoices Kiosks combine simple technology improvements from around the world

with a marketing approach to 'selling' choices to meet aspirations. This is designed to mimic conventional water supply, but with a lower fixed asset investment for tenants, and the spectacularly successful mobile phone exemplar of infrastructure development in the slums.
Yolanda Chakava, ICE representative in Kenya and Founding Trustee of Haki Water, presented the results of the research project conducted in three of Nairobi's slums, Kayole-soweto, Mukuru kwa Njenga and Kawangware. In response to the gap in institutional service provision to meet the demands of slum-dwellers, the construction of private boreholes by Non-governmental Organisations (NGOs) and local entrepreneurs has escalated in the city over the past 15 years. The objective of the research was to assess the social, economic and environmental impacts of the operational boreholes, to interrogate the longer-term impacts of this growing trend, as a truly *'sustainable'* alternative in complex urban environments. The findings are being used by Haki Water Charity in partnership with local institutions to define innovative and sustainable strategies to improve water supply in the urban slum context. This approach is intended to ensure viable pilot implementation work and ensure that main projects are better grounded with greater chances of sustained success.

Daphne Guthrie
Manager, International Development

3. Website Update

2011 has been a busy year for the ICE website team. Following on from 2010's launch of the new ICE website, the Development Team have been busy working behind the scenes to help improve the performance of the site, delivering improvements and alterations suggested by members. As we reported in July, the site has gone through an upgrade this year, which has helped improve the site's performance, as well providing ICE staff with a raft of new functions to aid them in delivering content to you.

This year has seen astonishing growth in the traffic of the website, and the last two months in particular have seen record numbers of visitors, both members and non-members, reflecting the increased profile that ICE is working to develop across the world amongst the civil engineering profession and the general public at large. The website is a vital tool in assisting ICE to achieve this, and of course in helping us to stay in touch with our members, and we've got a number of plans aimed at continuing to improve the site in the pipeline for 2012.

The Web Team at large would like to thank you for your continued comments and feedback about the site, and would like to take this opportunity to wish you all the best for the coming year! If you've got any comments, don't forget you can contact the Web Team at web.feedback@ice.org.uk.

Steve Burleigh, Web Editor

4. New Fellows

Congratulations to Dr Sivarama Sarma, ICE Representative for Chennai, India, and Sarah Sinclair, (newly appointed ICE Representative for New Zealand) who have recently been elected Fellows of the Institution of Civil Engineers. Fellow is the highest grade of membership of the Institution and represents the special achievement of our members who have been engaged in a position of significant responsibility in the civil engineering profession. Well done!

5. Council, Committees and Calendars booklet

The most recent version of the Council, Committees and Calendars booklet, which is published annually at the start of each Council session, is now available.

The booklet lists Council members, committee and panel membership, international ICE representatives and the calendar of the main ICE events.

The latest booklet for the 2011/2012 session is now available for download: http://iceintranet/policies/misc/Council,%20committees%20calendar%202011-2012.pdf

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We very much look forward to hearing from you if you have any questions or comments.

We also welcome articles for the June 2012 edition of the newsletter.

Allyson Lewis December 2011