



# Engineering Group of the Geological Society

## Newsletter

May 2011

Welcome to the May 2011 edition of the EGGS Newsletter. Once again it has been a busy year for the Group which has included a wide range of subjects including ground models, engineering geology in the middle east, Eurocode 7, tunnelling in London, carbon capture and storage, transport engineering and much more.

We hope that you enjoy reading the newsletter. The EGGS would also like to take this opportunity to thank Darren Page who has stepped down as editor after a number of years.

**Susan Greene**

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Cliff Stability north of Staithes.  
Annual EGGS Field Trip to North East England.

### HIGHLIGHTS

- ...IAEG Conference in New Zealand...
- ...Meeting Reports...
- ...Annual Field Trip 2011 to North East England...
- ...The London Basin Forum...
- ... Glossop Lecture...



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## Engineering Group Awards

### Glossop Medal - 11th Glossop Lecture 2010

This year's lecture was delivered by Professor **Rory N Mortimore** on 'Making Sense of Chalk: A total rock approach in Engineering Geology' at the Royal Geographical Society, London.

The lecture explored the development of ideas that have led to the reclassification and mapping of the Southern Province Chalk, recognising its material behaviour and enhanced conceptual models on which numerical models can build.

Advances in technology, particularly borehole geophysics, were considered in the context of acquiring more reliable information on the description and classification of chalk. Key questions the talk addressed include 'What can stop a tunnelling machine in the Chalk?' and 'How can the new geology be applied from a borehole to whole catchments or construction schemes?'. The following major engineering schemes were discussed:

- A27 Brighton Bypass;
- Channel Tunnel Rail Link (CTRL);
- A303 Stonehenge Tunnel;
- Crossrail; and
- Thames Tideway and Lee Tunnels.

Rory Mortimore is Emeritus Professor of Engineering Geology at Brighton Polytechnic, now University of Brighton, Visiting Professor of Engineering Geology at the University of Leeds and Director of ChalkRock Ltd., a registered company specialising in research, development and applied geology of the Chalk in Europe. He was responsible for teaching geology to civil engineers from 1976-2004, and started the postgraduate and undergraduate degrees in Geology in 1997 at the University of Brighton. Alongside the academic work, which includes over 70 refereed papers, he has 35 years consultancy experience, including contributing to the CTRL, Crossrail and Thames Tideway schemes. This close co-operation with industry led to major U.K. and European funded applied research projects investigating Chalk engineering in road construction, tunnelling, coastal slope instability and groundwater flooding. Rory was the organising Secretary for the 1989 International Chalk Symposium held at Brighton (Chalk, 1990), that brought together the civil engineering, water and petroleum industries and laid the foundations for the CIRIA publication 'Engineering in chalk' (2002) of which he co-edited. Making Chalk geology more

widely accessible has been a particular concern and led to the jointly authored JNCC publication 'British Upper Cretaceous Stratigraphy' (2001), and more recently, two papers in the Proceedings of the Geological Association.

### Glossop Award 2010

The Engineering Group of the Geological Society has awarded the 2010 Glossop Award to **Dougal Mason** of Optus International Consultants (UK) Ltd for his presentation 'Engineering Geology for Project West Wind, New Zealand.'

Project West Wind is a major wind farm development at the southern tip of the North Island in New Zealand, comprising 62 wind turbines with a total capacity of 143 MW over some 53 km<sup>2</sup> of very steep, hilly terrain. The Late Triassic basement rock of the region is lithologically simple, predominantly comprised of alternating bedded sandstones, siltstones and mudstones, yet is structurally complex due to its long history of deformation within the Pacific-Australia plate boundary zone. Importantly, lithological changes (i.e. sandstone versus mudstone) are not as important in influencing the rock strength as the degree of weathering and the intensity of fracturing; both of which vary greatly spatially across the site and with depth.

Dougal was responsible for the engineering geological investigation and assessment phases of the project, and used the results from the site investigations to develop a classification scheme of the site geology for turbine foundation stability assessment and road cut design. In conjunction with detailed geological mapping, this scheme formed the basis for assessing the slope failure susceptibility of the site, and the exposure of turbine platforms, access roads, power cables and the substation to slope failure and fault rupture hazards. The road cut design was a risk-based scheme where the batter angles of each road cut were determined by:

- (a) the bedrock quality from the material classification;
- (b) the height of the cut; and
- (c) the level of risk of slope failure the client was prepared to accept.

Using this scheme, the steepest design batter angles were assigned to the lowest priority roads or where low height batters were excavated through higher quality rock. This allowed the client to economise on excavations in areas where they were prepared to accept an increased likelihood of repairs to the batters whilst maintaining the integrity of the more critical parts of the road network.

We would also like to congratulate the other shortlisted finalists for the Glossop Award both of whom would have provided excellent talks:

- **David Boon** of the British Geological Survey on 'The Development of an Engineering Geological Model for Earthquake Hazard Assessment of the Lower Hutt Valley, New Zealand'
- **Richard Brown** of Hydrock Consultants on 'Moxley Regeneration Project.'



### 12<sup>th</sup> Glossop Lecture 2011

Professor Eddie Bromhead has accepted the Group's invitation to deliver the 2011 Glossop Lecture on the 23<sup>rd</sup> November at the Royal Geographical Society..

### Engineering Group Award 2010

#### Awarded to Jackie Skipper

The Engineering Group Award is for those in their early to mid career and is made for a significant contribution in research, publication or practice in the field of Engineering Geology. The Engineering Group was delighted to award this to Dr Jackie Skipper for her research work on the stratigraphy of the Lambeth Group in the south-east of England, on the stratigraphy of Dublin, her contributions to training of engineering geologists and her ability to communicate the importance of the geology in an engineering geological context to all who should know, from JCB driver to senior managers.

Dr Skipper obtained her first class honours degree in Geology from the University of Greenwich in 1993. After gaining lecturing experience she was invited to join an overland expedition to Algeria and Niger with the University of Chicago, where she gained experience of the geology of the Atlas Mountains, Saharan and sub-Saharan environments.

From 1995 to 1999, she undertook her PhD at the Royal School of Mines, Imperial College, studying the Lambeth Group sediments of SE England, using sequence stratigraphy to produce a model which can predict the distribution of these complex and formerly poorly understood sediments. Much of her experience was gained on the Jubilee Line Extension. She published a key paper on the Lambeth Group in 2000 and contributed to the CIRIA report on Engineering in the Lambeth Group published in 2004.

From 2000 to 2002, Dr Skipper worked as an independent contractor and also undertook research into stratigraphy and mineralogy at the Natural History Museum. She provided expert input into a range of ground investigations for projects across the south of England. She also developed and led CPD and field training programmes on stratigraphy for Engineering Consultants, civil engineering contractors and ground investigation companies.

In 2002 Dr Skipper joined the Dublin Port Tunnel project as senior geologist where she oversaw logging of all open cut and tunnelled sections in this 5.6km long project, working with the design team to introduce rigorous systems for logging, recording and reporting of geological borehole logs and exposures. Her work involved the characterisation of structure and rock mass of rafted Carboniferous limestone in TBM turnaround shafts and interpretation of the complex sequence of glacial tills in the Dublin area. In conjunction with Geotechnical Consulting Group (GCG) and University College Dublin colleagues she published a paper on the stratigraphy of the Dublin area.

Between 2003 and 2007 Dr Skipper was a Consultancy Leader at the Natural History Museum, London, where she set up an Engineering Geology consultancy. She also lectured at Imperial College (Engineering Geology MSc) and set up the very successful CPD training programme in stratigraphy and engineering geology for engineering geologists, which she is continuing with GCG.

Dr Skipper joined the Geotechnical Consulting Group in 2007 and continued her work providing advice on the ground investigation and interpretation for the Thames Water Tideway and Crossrail projects, alongside her continued commitment to organising

high-quality CPD training courses on a range of engineering geological subjects.

Jackie was a very active member of the Engineering Group, including initiating and co-ordinating large, very successful day meetings with the Thames Group of the Geological Society and British Tunnelling Society. She has also led a number of field meetings on the Lambeth Group.

Dr Skipper has lectured widely and has appeared on the BBC 6 o'clock News as a geological authority.

## News

### Who's Who: The Engineering Group Committee 2011

As of October 2010 the Engineering Group Committee comprised the following members:

#### *Officers:*

**David Entwisle** – Chair

**Helen Scholes** – Vice Chair

**David Waring** – Secretary

**Ursula Lawrence** – Treasurer, IHT

#### *Elected Members:*

**Richard Mellor** – Publicity Sub-Committee

**Malcolm Whitworth** – Forum Sub-Committee

**Alex Kidd** – Meeting Sub-Committee

**Paul Emerson**

**Paul Bailey**

**Tom Casey**

**Hannah Cuthew**

**Susan Greene**

#### *Co-opted Members*

**Chris Martin** - Glossop meeting

**Lee Jones** - Schools

**Tracey Radford**

**Margaret McBride** – Regional Groups

#### *Ex-Officio Members*

**Paul Maliphant** – Member of the Geological Society Council

#### *Representative Members:*

**M Winter** - Editor QJEGH

**A Collings** – Hazards Forum

**I Hodgson** – UK Register of Ground Engineering Professionals

**R Chartres** - British Geological Survey Independent Knowledge Exchange (formerly NGDC) Advisory Group

**I Jefferson** – IAEG UK Representative

**J Griffiths** – IAEG Commission 22/Brooks Editorial Committee/QJEGH Editorial Board

**R Fox** – Applied Petrography Working Group

**J Gelder** – International Relations Middle East

**M Dawson** – International Relations Australasia

**J Harris** – Site Investigation Steering Committee

**A Littlejohn** – USA Liaison/Geological Society of America

**D Giles** – Geohazards Working Party/Field Meetings

**G West** – Hot Deserts Working Party

**S Greene** – EG Newsletter

### Hot Deserts Working Party

All chapters have been drafted and the final manuscript has been submitted to the editors. It is anticipated that their report will be published sometime in 2011. This working party is Chaired by Graham West.

### Geo-Hazards Working Party

The Geo-hazards working party trial website is up and running <http://www.ukgeohazards.info/> and is being actively updated. The website contains information on landslides and slope stability, subsidence and collapse, seismic hazard, flood hazard, tsunami hazard, volcanic hazard, gas hazard and fault reactivation hazard. It is the intention that the website will become an international resource for geohazard information and awareness. Contributions are welcomed. For further information contact the Working Party Chair, David Giles ([David.Giles@port.ac.uk](mailto:David.Giles@port.ac.uk)).

### Applied Petrography Group

Richard Fox reports:-

The 13<sup>th</sup> meeting of the APG was held on 22<sup>nd</sup> September 2010 in London. APG representatives sit on two British Standards Institution Committees for (B/812) Part 104 (Aggregate Petrography) and BS1881 Part 124 (Testing Concrete). The APG has submitted recommendations for changes to BS 1881 which is currently under review. Recommendations for new/separate standard/guideline on petrographic examination of hardened concrete have been submitted to BSI.

A list of future meetings and conferences of interest to petrographers and other professionals concerned with construction materials can be found on the APG website.

Group's website

[www.appliedpetrographygroup.com](http://www.appliedpetrographygroup.com)

For more information contact Richard Fox [richard.fox@rfoxassociates.co.uk](mailto:richard.fox@rfoxassociates.co.uk).

### Ground Reference Conditions Working Party



This working party has been set up to review the use of ground reference conditions or geotechnical baseline reports. For further information contact the Working Party Chair, Darren Page [dp@otbeng.com](mailto:dp@otbeng.com).

### Periglacial and Glacial Soils

Following on from the success of previous working parties, the Engineering Group has set up a new Working Party on 'Periglacial and Glacial Engineering Geology' (working title). The aim of the Working Party is to produce a report that will act as an essential reference handbook for professionals working in relict periglacial and glacial ground conditions and deposits, as well as a valuable textbook for students and others.

A Steering Group has recently been established to draft the Terms of Reference for the proposed Working Party; develop the publication contents and structure; identify key authors and contributors; and develop the publication budget and programme. The Steering Group is John Charman (Chair), Chris Martin (Secretary), Dave Giles, Julian Murton, Kevin Privett and Mike Winter. The Steering Group aims to complete these activities and report back at the Engineering Group Forum on 'Quaternary Engineering Geology' on 23rd November 2011.

Please contact Chris Martin ([chris.martin@arup.com](mailto:chris.martin@arup.com)) if you would like to find out more or contribute to the Working Party.



## Meeting Reports

### London Basin Forum by Ursula Lawrence

The London Basin Forum held a progress update on 14th October 2010 to the wider geological community in Ascot. The event was well attended by about 60 people. The running order worked geologically from oldest to youngest starting with the Palaeozoic basement and structure and finishing with groundwater and then planning. A mock up of the

atlas was available being A3 size with binding along the short side enabling some pages folding out to be four A3 pages long. The last year has seen the various forum members decide on their plan attack which will be put in action in 2011. A progress meeting is already being arranged for 12th October 2011.

A website has been set up, kindly hosted by the British Geological Survey where more information on the London Basin Forum can be found [www.bgs.ac.uk/londonBasinForum/home.html](http://www.bgs.ac.uk/londonBasinForum/home.html). For details of localities visited and background information visit [http://userweb.port.ac.uk/~gilesd/Pages/engineering\\_group\\_french\\_alps.htm](http://userweb.port.ac.uk/~gilesd/Pages/engineering_group_french_alps.htm)

### Engineering Geology of the Middle East

#### 7th September 2010 by Paul Bailey

This evening meeting took place on the same day as a tube strike in London, so the convenor was pleased to note that over 30 people attended.

The United Arab Emirates is one of the world's most rapidly urbanising countries and host to many major civil engineering projects. Two speakers, Andrew Farrant from the British Geological Survey and Paul Nowak from Atkins, gave talks to reflect the geology of the UAE and in particular Abu Dhabi, and how engineers are tackling the difficult ground conditions.

Andrew explained how the UAE Government has commissioned the BGS to map the geology of the UAE, in order that such baseline data can then be used in more detailed assessments in areas such as major infrastructure projects, geohazards, and strategic mineral resources. Abu Dhabi is a foreland basin, and some of the geohazards present may include dune migration, sulphate attack, variable bearing pressures, liquefaction, and sinkholes.

Paul then outlined some of the geotechnical aspects of the Red and Green Lines of the Dubai Metro. The talk outlined the ground conditions along the route corridor, ground investigation, and design of viaduct foundations and the underground station box at Union Square. Details of the ground conditions were derived from the sinking of around 1800 boreholes and CPT's, and design parameters derived from SPT's and UCS tests. Ground conditions encountered were generally sand, sandstone, calcisiltite, and conglomerate. Piles for the viaducts were designed for seismic activity, and end bearing was ignored in case of gypsum presence. The piles were also designed to withstand high sulphate contents, as well as chloride attack at greater

depth. At Union Square Station, the base slab has had to be designed to counteract the uplift pressure of 22m of water.

Subsequent questions included queries on drilling methods, pile design, aggressive ground conditions, and the detail of the mapping. In conclusion, it would appear that if engineers and geologists were responsible for the location and development of Abu Dhabi, it would not be in its present location. However, development is of course commercially driven and thankfully so, as if we built in only the easy areas there would be less of us in a job!

### **Other Past Meetings**

#### **Tunnelling Beneath the London Basin and controlling the groundwater within.**

Meeting held on the 19<sup>th</sup> January 2010. Speakers included Tim Newman, Thames Water; Chris Gaskell, Jacobs Engineering and Dr Chris Menkiti, GCG Ltd.

#### **GI for the Forth Replacement Crossing**

Joint Meeting with the British Geotechnical Association. Meeting held 16<sup>th</sup> February 2010. Speakers included:

- Paul Mellon, Transport Scotland;
- Alistair Chisholm, Jacobs Arup Joint Venture; and
- Stewart Drennan, Jacobs Arup Joint Venture.

#### **Energy Series Decarbonised Fuel Systems**

Joint Meeting with the Hazards Forum. Meeting held 16<sup>th</sup> March 2010. Speakers included:

- Haroun Mahgerefteh, Professor of Chemical Engineering, University College London.
- Laurence Cusco, Head of Fire & Process Safety Unit, Health & Safety Laboratory.
- Murray Shearer, Development Engineer, Hydrogen Energy.

#### **Transport Engineering in a Carbon Critical World**

Joint one Day conference with Chartered Institution of Highways and Transportation. Meeting held 23<sup>rd</sup> March 2010. Speakers included:

- Tony Parry, University of Nottingham
- Geoff Richards, Department of Transport
- Dean Kerwick-Chrisp, Highways Agency
- Andy Warrington, Leicestershire County Council

### **Geotechnical Baseline Reports**

Meeting held on 18<sup>th</sup> May 2010 and This meeting reports on the progress of a Working Party set up by the Engineering Group to examine the use of geotechnical baseline reports in the UK. Speakers included:

- Darren Page, OTB Engineering
- John Hughes-D'Aeth of Berwin Leighton Paisner.

#### **Rock Engineering and Engineering Geology**

Meeting held 15<sup>th</sup> June 2010 by Dr John Harrison, Imperial College London.

#### **Ground Models – How are they constructed? What can they tell you?**

Half day seminar held on the 19<sup>th</sup> October 2010 also incorporating The British Geological Survey Launch of Engineering Geological Maps in the UK and the Engineering Group AGM.

#### **Changes to the Contaminated Land Regime**

Meeting held on 23 November 2010 and presented by:

- Paul Nathanail of Land Quality Management
- Tom Coles of DEFRA

### **IAEG Conference New Zealand**

#### **IAEG New Zealand by Martin Culshaw**

As most readers will realise, it is a very long way to New Zealand (well, from Europe anyway). So, it was pleasing to observe that around 30 UK engineering geologists from industry, academia and public organisations made the journey to attend the latest of the International Association for Engineering Geology and the Environment's (IAEG) four-yearly Congresses. And the rest of the world came too, with an amazing 700 or so delegates attending. Who said engineering geology was struggling to make an impact?

This will sound wrong but the Congress got off to a flying start when a major earthquake (Mw 7.1, epicentral depth 5-10 km, strike-slip faulting) occurred 40 km west of Christchurch on New Zealand's South Island. Fortunately, no-one was killed and there appear to have been only two serious injuries. The local TV stations showed continuous reports on the earthquake and during the Congress engineering geologists and seismologists made impromptu presentations on what had happened and how the rescue and clean-up were going.

The Congress, itself, began in a more sedate fashion on the Sunday with a motivational breakfast for young engineering geology professionals. This was led by Jamie Fitzgerald who had walked to the South Pole and rowed the Atlantic. For many of the young delegates and the older mentors who also attended, the very act of getting up at 6.30am for breakfast after transcontinental flights was an achievement in itself!

The breakfast was followed (for some) by the IAEG's Council meeting. Now, these meetings are usually rather long and tedious affairs (and I have attended many). However, this one was enlivened by a series of contested elections for positions on the IAEG Executive and for the right to hold the 12<sup>th</sup> IAEG Congress in 2014. Carlos Delgado of Spain will succeed Fred Baynes of Australia as President; Wu Faquan of China will become the new Secretary-General, while Pierre Pothérat of France remains as Treasurer. The new Vice Presidents will be: Africa: John Stiff (South Africa), Asia: Huang Runqui (China), Australasia: Ann Williams (New Zealand), North America: Réjean Couture (Canada), South America: Silvina Marfil (Argentina), Europe South: Atiye Tugrul (Turkey) and Europe North: Ian Jefferson (UK); the new web editor is Giorgio Lollino (Italy) (Fig. 1). It is a major step forward that three women were elected to the Executive. Torino (Italy) defeated São Paulo (Brazil) in the race to host the next Congress. Ian Jefferson will be succeeded by Helen Reeves as the UK National representative.

The Council meeting did, for once, become quite contentious and there were spirited discussions over the future direction of the organisation. The need to modernise almost all aspects of the IAEG's operations was recognised, though it remains to be seen how much change actually happens! One particular current problem is that the IAEG, centrally, does not know who are its members. This is because it has a devolved structure in which members belong to the National Groups. This is fine, except that the information on members takes a long time to reach the centre and so not everyone receives the Bulletin of Engineering Geology and the Environment (EG&E) in a timely fashion; it is also difficult for the organisation to communicate directly with members. Hopefully, with the website having a new editor too, communication will improve and the website will become ever more useful.

The Congress proper was held on two floors of SkyCity, a modern conference centre in the heart of Auckland. The day-to-day organisation was managed excellently by professional conference organisers and plenty of space was allocated for posters, conference sessions, Commission and other meetings and the

trade exhibition where tea, coffee and lunch were all taken. The Congress organisers managed to obtain a significant number of sponsors for sessions, field trips and social events. This contributed to the likely financial success of the event.

The opening day was held in the large SkyCity Theatre, adjacent to the main conference area. Following the opening ceremony, which included a Maori Powhiri (welcome), the day was devoted to a series of keynote presentations by:

- Hamish Campbell (New Zealand) on the geology of New Zealand;
- George Hooper (New Zealand) on geohazard insurance in New Zealand;
- Susumu Yasuda (Japan) on the effect of liquefaction on structures;
- Sergio Mora (Costa Rica) on disaster risk management;
- Tim Sullivan (Australia) on the geological model; and
- Simon Loew (Switzerland) on the engineering geology of Alpine tunnels.

The day culminated with the presentation of the Hans Cloos Medal to Martin Culshaw (UK) (Fig. 2). The medal is the IAEG's senior award and goes to "a person of international repute who has made a major contribution to engineering geology in his/her written papers or to the development of engineering geology and/or the IAEG in their own area." Martin delivered the Hans Cloos Lecture on: "The contribution of urban geology to the development, regeneration and conservation of cities." The lecture will be published as a paper in the Bulletin of EG&E next year. The UK now heads the list with the USA as the country with the most recipients of the Medal (3), previous UK winners being Bill Dearman and John Knill. Darren Paul (Australia) received the Richard Wolters Prize which recognises "meritorious scientific achievement by a younger member of the engineering geology profession" (Fig. 2). Darren gave his presentation on: "An expert system approach to the identification of geological uncertainty in geotechnical engineering." The UK's Helen Reeves was a finalist for the Prize.

Scientifically, the Congress had five main themes: Geohazards at the leading edge, Managing geological risk, Advances in engineering geology, Applied engineering geology and Evolving engineering geology. These were broken down into a series of sub-themes. Scientific sessions took place over three of the following four days, with the Wednesday being devoted to field trips. A number of invited speakers presented during the sessions including the UK's Helen Reeves (on: A tribute to Professor William Dearman: new small-scale engineering geological

maps of the United Kingdom) and Dave Petley (on: Non-seismic landslide hazards along the Himalayan Arc).

The scientific papers were delivered in four parallel sessions. This was quite challenging as speakers *had* to keep within their 15 minute time slot (which included time for questions) to allow delegates to switch sessions if they wished. Creditably, the vast majority of speakers achieved this. The papers for the keynote and invited lectures have been published in a book of the Congress proceedings with the hundreds of delegate papers being included on a CD-ROM bound into the back of the book (Williams *et al.* 2010). There's some good stuff and you are strongly recommended to buy or study the proceedings to update yourself on the latest developments in engineering geology around the world. However, it was surprising that there were relatively few papers on climate change, particularly as engineering geology's contribution to understanding impacts is potentially large. As ever, landslides were popular, as were earthquake hazards, but karst, swell-shrink and mining hazards and contaminated land, geothermal energy, soils engineering and communication were under-discussed topics. There was little on education and training or on future developments in engineering geology. My favourite mini-session was a two lecture tour-de-force on wines and geology by Pieter Maurenbrecher from the Netherlands and Scott Burns of the USA. Or maybe I was enjoying the New Zealand wines too much?

An interesting innovation was the holding of a debate on the subject of: "Disaster mitigation is a waste of money; it creates a false sense of security and is irresponsible." Three speakers on each side either supported or opposed the motion. The debate was then thrown open to the floor. The speakers (George Hooper [New Zealand], Sergio Mora [Costa Rica], Helen Anderson [New Zealand], John McAneny [Australia], Jeanette Fitsimons [New Zealand] and Lavasa Malua [Samoa]) may not be well known in the UK but are all expert in aspects of this field and spoke eloquently for the seven minutes that they were allowed. The outcome was rather inconclusive but it was a stimulating and enjoyable event.

Four field trips were organised on the Wednesday. These covered: The engineering Geology of Auckland, Gold mining history of the Coromandel, Engineering geology of the Northland allochthon, and Coal mines of the Waikato. I joined the first of these. It was expertly led by Warwick Prebble of the University of Auckland (Fig. 3) and included a super lunch at a winery where I was forced to sample some of the available wines. The net result of this trip was that I should be somewhat fearful of living in Auckland in

that the next volcanic eruption is likely to take place somewhere within the city limits (Fig. 4), though it may not be for a few thousand or tens of thousands of years! The last stop was on the coast west of Auckland where superb eroded cliffs of columnar basalts and pillow lavas (Fig. 5) overlook magnificent beaches and a large gannet colony.

There were also several social events, particularly the icebreaker (where the band was a little too loud to allow considered conversation with 100m) and the Congress dinner which was actually a buffet in a waterside shed dressed up to look like a tropical island. The green-lipped mussels and the oysters were wonderful.

So, overall, was it worth the jet-lag? Undoubtedly. The Organising Committee, led by the redoubtable Ann Williams, worked incredibly hard to put on a scientifically challenging, socially fulfilling and scenically interesting conference. Their efforts were rewarded by a huge attendance and a satisfied set of delegates. I hope that Torino is just as good.

#### Reference

Williams, A.L., Pinches, G.M., Chin, C.Y., McMorran, T.J. & Massey, C.I. (eds) 2010. 'Geologically active.' Proceedings of the 11<sup>th</sup> Congress of the International Association for Engineering Geology and the Environment, Auckland, New Zealand. CRC Press/Balkema, Leiden, The Netherlands. (Book and CD-ROM)



The new Executive of the IAEG





Hans Cloos Medal winner Martin Culshaw (UK), IAEG President



Dwikorita Karnawati (Indonesia) on the edge of the Mt Eden crater, site of the most recent volcanic eruption in Auckland.



Warwick Prebble (New Zealand) explaining the volcanic history of Auckland.



Jeff Keaton (USA), Fred Baynes (Australia and IAEG President) and Brian Marker (UK) absorbed by the discussion of the erosion of the columnar basalts and pillow lavas on the coast west of Auckland



## ANNUAL FIELD TRIP

### **The Annual Field Meeting by David Giles, Field Meeting Convenor**

The Annual Field Meeting of the Engineering Group convened on the evening of Friday 16 July 2010 to consider the Engineering Geology of North East England. The meeting commenced with presentations from Dr David Toll and Prof. David Petley who outlined the itinerary for the weekend and some of the key issues on the geology and engineering geology of North East England.

The theme for the Saturday visits, led by Dave Petley, was to consider the coastal instability of the North Yorkshire Coast with visits to Sandsend, Whitby, Runswick Bay and the instrumentation site at Boulby Potash Mine where a demonstration took place of the LiDAR equipment used for the cliff monitoring. A very pleasant lunch break was taken at the Cliffemount Hotel with a splendid view across Runswick Bay. In the evening delegates were treated to a substantial meal with large accompanying wine volumes in Grey College at the University in Durham.

Sunday commenced with a visit to the site of the BIONICS project, an instrumented embankment being used to investigate the effect of climate change ([www.ncl.ac.uk/bionics](http://www.ncl.ac.uk/bionics)), led by Dave Toll. Lunch was taken on Gateshead Quays with views across the Millennium Bridge, Baltic Museum and Sage Music Centre.

The field meeting finished with a fantastic walk through the just completed Second Tyne Crossing ([www.newtyne crossing.info](http://www.newtyne crossing.info)) which was expertly facilitated by Tamsin Greulich.

Next years field meeting will be to South Wales and will be led by Dr Peter Brabham and Dr Laurance Donnelly.

*The EGGS would like to thank David Giles for once again preparing and organising a very successful and enjoyable field trip that was enjoyed by all.*



Cliff Stability at Boulby Potash Mine



Examining Glacial Deposits Sandsend



Bionics Trial Embankment

## FORTHCOMING ENGINEERING GROUP EVENTS

25th January 2011

### **'Futureproofing Transportation Infrastructure'**

Mike Whitehead, Highways Agency and Matthew Lugg, ADEPT  
Joint Meeting with the Institution of Highways and Transportation  
Chartered Institution of Highways Transportation  
Convenor: Scott Dyball Scott.Dyball@ciht.org.uk

26th January 2011, Lecture

### **Hot Deserts**

Postponed

28th January 2011, Full Day Conference

### **'Geotechnical Risk Management Seminar'**

Professor Chris Clayton and speakers from Highways Agency, Halcrow, NHBC, HSE, Morgan Cole LLP, SRK, URS-Scott Wilson and Mott MacDonald.

Joint Meeting with the Southern Wales Group, Cardiff University  
Convenor Dave Hannam david.hannam@hotmail.co.uk

9th February 2011, Evening Meeting

### **'Ground engineering Design and Construction on off-shore wind farms'**

Dr Robert May, Atkins; Mr Mike Clare Fugro Consulting and Dr Mike Rattley, Fugro Consulting  
Joint meeting with British Geotechnical Association, ICE London  
Convenor: Coordinator BGA

15th March 2011, Lecture

### **'The Geology of Onshore Pipelines' (cancelled)**

Speakers: Andrew Dear, OAMPS Insurance; Chris Martin, Arups;  
Dr Andrew Hart, URS-Scott Wilson; Peter Hodgson, Allen Watson and Roy Slocombe, Herrenknecht.  
Burlington House  
Convenor: Paul Emerson, (paul@emerson-moore.co.uk)

19th April 2011, Evening Meeting

### **'Engineering Geology Aspects of Sub-surface Gas Storage Options'**

Speakers: TBA  
Burlington House  
Convenor Tracey Radford

26 May 2011, Evening Meeting

### **'Lyon to Turnin Rail Tunnel'**

Speakers: TBA  
Burlington House  
Convenor: Darren Page (dpage@otbeng.com).

22nd June 2011, Conference

### **'Engineering Monitoring, Management and Maintenance of UK Dams'**

Speakers: TBA  
Venue: TBA  
Convenor: Hannah Cuthew (Hannah.cuthew@atkisglobal.com)

1 July 2011, Field trip

### **2011 Annual Field Trip to South Wales**

South Wales  
Convenor: David Giles (davegiles@port.ac.uk)

Engineering Group events are arranged to be held both at Burlington House and at various venues around the UK. Full details of the meetings are posted on the Geological Society's website in advance of the meeting.

**It is strongly recommended that you check with the Group's website ([www.geolsoc.org.uk/](http://www.geolsoc.org.uk/)) immediately prior to the event, as details do sometimes change at very short notice.**

Half day meetings at Burlington House normally commence at 1330hrs and evening meetings at 1730hrs. Tea and biscuits are served at 1300hrs and 1700hrs in the Lower Library preceding the meeting.

Half Day and evening meetings are free. There may be a modest charge for one-day events.

## ENGINEERING GROUP PUBLICATIONS

The following Geological Society publications are new 2010 publications currently in stock at the Geological Society Bookshop (<http://bookshop.geolsoc.org.uk>)

### **Titles in Engineering Geology**

SP23: Weathering as a predisposing factor to slope movements (2010)  
SP22: Engineering Geology for Tomorrow's Cities (2009)  
SP345: Elevation models for Geoscience (2010)  
SP333: Natural Stone Resources for Historical Monuments (2010)  
SP331: Limestone in the Built Environment: Present-Day Challenges for the Preservation of the Past (2010)  
GSA USPE460: America's Most Vulnerable Coastal Communities (2010)

### **Titles in Geohazards**

IAVCEI Publication IAV003. Colli Albani Volcano (2010)

### **Titles in Geomorphology**

SP346: Australian Landscapes (2010)  
USPE462: Bering Glacier: Interdisciplinary Studies of Earth's Largest Temperate Surging Glacier.

## ENGINEERING GROUP DISCUSSION LIST

### Engineering Group of the Geological Society Discussion List – JISCMail.

The Engineering Group of the Geological Society has established a discussion list to help promote and facilitate discussion and information distribution amongst the UK Engineering Geology community.

If you would like to join this free forum please send the following 1 line email to [listserv@JISCMAIL.ac.uk](mailto:listserv@JISCMAIL.ac.uk) subscribe

GEOLSOCENGGROUP@jiscmail.ac.uk  
YOUR\_FIRSTNAME  
YOUR\_LASTNAME

For example: subscribe  
GEOLSOCENGGROUP@jiscmail.ac.uk William Smith

IF YOU HAVE ALREADY JOINED THE LIST THEN THERE IS NO NEED TO REJOIN

<http://www.jiscmail.ac.uk/help/using/index.htm>

### Posting to a List

To send a message to a JISCmail list, address it to [LISTNAME@jiscmail.ac.uk](mailto:LISTNAME@jiscmail.ac.uk) where LISTNAME is the name of the list you wish to post to. When the JISCmail servers receive your email, they will attempt to deliver it to all the subscribers on the list. If delivery cannot be achieved you will normally be sent an email back explaining what the problem was.

### Subscriber's Corner

Subscriber's Corner is a powerful tool for managing your subscriptions, especially when you are subscribed to many lists. It may seem more detailed to use at first but, once you get used to it, is much more flexible than other methods.

#### *Subscribe*

On the left-hand navigation bar, type in the list name, or part of the list name, in the 'Narrow selection' field. Change 'Show' to 'All lists' and then click on Submit. You should then see a table of one or more lists. Tick the box to the left of the list you want to join, at the bottom of the table change the listbox to 'Subscribe' and click on 'Submit changes'.

#### *Unsubscribe*

Tick the box to the left of the list you want to leave, at the bottom of the table change the listbox to 'Unsubscribe' and click on 'Submit changes'.

#### *Change settings*

Under 'Report Columns', tick the settings you wish to change and click on 'Submit'.

The table of lists should now have extra columns for each of the settings you ticked. Tick the box to the left of the list you want to amend, at the bottom of the table change the listbox for the setting(s) you wish to alter and click on 'Submit changes'.

If you would like to know more about JISCMail and the service that it provides log on to [www.jiscmail.ac.uk](http://www.jiscmail.ac.uk)

## ABOUT THE ENGINEERING GROUP

Established in 1963, as the first specialist group of the Geological Society, the Engineering Group provides the main focus in the UK for geologists concerned with practice and study of geology across a range of applications including; construction and the built environment, mining and mineral extraction, land use and environmental planning, waste disposal, the management of geohazards and environmental engineering. It includes at its core engineering geology and hydrogeology, the theme of the Geological Society's leading international journal, *Quarterly Journal of Engineering Geology and Hydrogeology*.

The Groups aims are to:-

- Provide a forum for the exchange of ideas and networking for research, education, training and business.
- Promote recognition of the role of the chartered geologist within society
- Represent member's interests in professional matters
- Guide training and career development of professional geologists
- Provide a resource base for those in education, research and practice worldwide
- Promote and support learning and research both in the UK and Internationally

The Group's members form the largest proportion of the chartered membership of the Geological Society and the training and development of professional geologists is paramount to our aims. The Group



maintains strong links with the professional associations for geotechnical engineers, highway engineers, the Society's Regional Groups and Environmental Network and others with an interest in engineering geology. The Group promotes co-operation with engineering geologists overseas and is the UK representative of the **International Association of Engineering Geology (IAEG)**. The Group represents the Geological Society on the **Hazards Forum** and is a core member of **Ground Forum** established to promote and coordinate activities across the learned professional societies occupied with ground engineering. The Group confers the prestigious **Glossop Lecture** every year.

## OUR INSIGNIA AND WILLIAM SMITH



Our insignia features William Smith (1769-1839), the 'father of English geology'. Born in Oxfordshire the son of a blacksmith, William Smith trained as a surveyor and came to prominence during the upsurge of canal construction in the end of the

18<sup>th</sup> Century. It was during the construction of canals around Bath that Smith recognized that the strata around could be placed in a repeatable certain order based on their fossil content. Smith travelled widely across the UK collecting samples and specimens and noting their disposition - his goal to produce a geological map of England and Wales. He achieved his goal, not without some controversy, in 1815. Smith's achievements were not only those of a geologist but also those of a civil engineer and surveyor - he was the UK's first pre-eminent engineering geologist. The Society now awards the William Smith medal in his commemoration each year for the highest achievement in applied geology.

## HOW TO JOIN

The Group currently has no formal membership as all members of the Geological Society may attend any of our events. However, should you not be a member of the Geological Society and wish to join, please contact the Society's Membership Secretary at Burlington House.

Members of the Society can also pay their fees for the **International Association for Engineering Geology and the Environment (IAEG)** through the Society. To join the IAEG see <http://www.iaeg.info/> and contact Rachel Boning ([rachel.boning@geolsoc.org.uk](mailto:rachel.boning@geolsoc.org.uk)). Members receive a copy of the Bulletin.