

Papers, books & book chapters*Published*

Torvela, T., Moreau, J., **Butler, R.W.H.**, Korja, A. & Heikkinen, P. 2013. The mode of deformation in the orogenic mid-crust revealed by seismic attribute analysis. *Geochemistry, Geophysics, Geosystems* **14**, 1069-1086.

Callow, R., McIlroy, D., **Kneller, B.**, Dykstra, M., 2013. Ichnology of the Late Cretaceous turbidites from the Rosario Formation, Baja California, Mexico. *Ichnos*, 20, 1-14.

Callow, R., McIlroy, D., **Kneller, B.**, Dykstra, M., 2013. Integrated ichnological and sedimentological analysis of a Late Cretaceous channel-turbidite system: the Rosario Formation, Baja California, Mexico. *Marine and Petroleum Geology*, 41, 277-294.

Hurst, A. & Morton, A.C. 2013. Provenance models: the role of sandstone mineral-chemical stratigraphy. In: Smyth, H. et al., *Sedimentary Provenance in Hydrocarbon Systems*, Special Publication 386, Geological Society of London, doi 10.1144/SP386.11.

Gamberi, F., Dykstra, M., Kane, I., Rovere, M. & **Kneller, B.**, 2013. Integrating modern seafloor and outcrop data in the analysis of slope channel architecture and infill. *Marine and Petroleum Geology*. 41, 83-103.

He, Y., Xie, X., **Kneller, B.C.**, Wang, Z. & Li, X., 2013. Depositional architectures and controlling factors of canyon fills on the shelf margin in the Qiongdongnan Basin, northern South China Sea. *Marine and Petroleum Geology*, 41, 264-276.

Nakajima, T. and **Kneller, B.**, 2013. Quantitative analysis of the geometry of submarine levees. *Sedimentology*. 60, 877-910.

Kneller, B., 2012. Submarine Levees: Form, Process and Reservoir Prediction. *AAPG Search and Discovery Article #50707*.

Meiburg, E., McElwaine, J. and **Kneller, B.**, 2012. Chapter 56, Turbidity currents and powder snow avalanches. In *Environmental Fluid Dynamics Handbook*, (Ed. H.J.S. Fernando), Taylor & Francis, London.

In Press/Accepted

McArdle, N.J., **Iacopini D.**, KunleDare, M., Paton, G. The use of seismic attributes for basin scale reconnaissance: a case study from the Exmouth sub-basin, North Carnarvon basin, NW Australia. *Interpretation* (new SEG/AAPG journal).

Kneller, B. & Nguyen, T.T. Experiments on positively buoyant plumes. *Simulação Física*, 1.

Lu Li, Peter D. Clift, **Randell Stephenson** & Hung Nguyen. Non-uniform hyper-extension in advance of seafloor spreading on the Vietnam continental margin and the SW South China Sea. *Basin Research*.

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A. Bocin, **R. Stephenson**, L. Matenco & V. Mocanu. Local gravity and magnetic modelling in the Vrancea Zone, south-eastern Carpathians: redefinition of the edge of the East European Craton beneath the south-eastern Carpathians. *Journal of Geodynamics*.

Søren B. Nielsen, **Randell Stephenson** and Christian Schiffer. Deep controls on intraplate basin inversion, in P. Talwani (ed.), *Intraplate Earthquakes*, Cambridge University Press, chapter 10.

Funding

Lu Li has received a travel grant up to US\$1000 to attend the AGU Fall Meeting in San Francisco, as well as £500 from the Principal's Excellence Fund to augment this.

John Parnell has received NERC funding of ~£ 98K for project STORM (Selenium and Tellurium concentration by Organic Matter), starting 1 September.

Presentations

Olamide Afolabi presented a poster titled "Quantitative analysis of controls on fluvial planform related to catchment" at the 10th ICFS in Leeds. **Aaron Barker** and **Ross Taylor** also presented posters at this conference detailing the nature of fluvial deposits within active volcanic terrains. **Alena Ebinghaus** also gave a talk at this event.

Ben Kneller and **Larissa Hansen** both delivered talks at the 30th International Association of Sedimentologists meeting in Manchester, September 3rd to 5th, entitled "The nature of turbidity currents in the ocean; how do they go so far?" and "Complexities of channel overbank architectures and their distinctive thin-bedded turbidite facies – review using outcrop and modern seafloor data", respectively. **Pan Li** presented a poster entitled "Multiple scales of waxing-waning energy cycles controls on channel architectures: San Fernando slope channel system, Rosario Formation, Baja California, Mexico".

John Millett presented a talk entitled: 'Geochemical stratigraphy and correlation within the Faroe Islands Basalt Group: Temporal and Spatial Evolution of Mantle Sources during Continental Rupture' at the Goldschmidt 2013 conference in Florence.

Bappah Umar presented his PhD work at the bi-annual UKCCSRC meeting in Nottingham Sept 4-5th.

Anne Wilkins presented a talk at the 2013 International Association of Sedimentologists (IAS) Meeting of Sedimentology on Wednesday 5th September entitled "Early Triassic loessites in the Smith Bank Formation, Central North Sea, UK: occurrence, properties and implications for palaeoenvironment, palaeoclimate and hydrocarbon exploitation.". Anne was awarded a 50 € travel grant by the IAS Bureau to attend.

Esteem

Stuart Archer was invited to attend a meeting regarding the future of North Sea core storage at the Geological Society of London.

Stephen Bowden and **Stuart Archer** have been successful in their attempts to appoint **Abdallah Mohammad** as an Honorary Research Fellow. Abdallah will continue his basin modelling work and petroleum systems analysis of North East Africa.

Dave Cornwell gave an invited talk this week at ETH Zurich as part of a workshop focussed on studying the crust and mantle beneath the Azores.

“Lava–sediment interactions in an Old Red Sandstone basin, NE Scotland” by **M Hole, D Jolley, A Hartley, S Leleu, N John & M Ball**, recently published in the Journal of the Geological Society of London, was the 2nd most-downloaded paper for the month of July. The paper was downloaded 68 times from the Lyell Collection.

Andrew Hurst acted as External examiner for the MSc in Petroleum Geoscience, University Chulalongkorn, Bangkok 27 July to 9 August.

Matt Hutchison has been awarded the Best Academic Presentation Prize at DEVEX 2013 for his talk "The use of Spectral Gamma Ray to Enhance Lithological and Palaeoenvironmental Resolution within the Skagerrak Formation, Central North Sea".

Ben Kneller was an invited contributor to a Society of Petroleum Engineers forum “2020 Foresight— Ensuring Educational Excellence for Upstream Engineering” held 4th to 9th of August in Coeur d’Alene, Idaho. He spoke and led a discussion on internationalisation of higher education.

Outreach, training

Stuart Archer contributed to a BBC program entitled British Winter, and participated in a BBC Radio program focusing on the remaining exploration potential of the North Sea and Atlantic Margin.

Stuart Archer hosted visits in exploHUB from SDI, the Mayor of Halifax, the Icelandic Government, Colombian Government, PEMEX, Stavanger University, Korean Government and the Petroleum Institute of East Africa.

exploHUB held a team building day up Bennachie, and held a very successful Open Day. Senergy supported the event with interest shown from TAQA and Neflex, among others. **exploHUB** also held a drinks reception from on Sept 6th timed to coincide with Offshore Europe.

David Iacopini gave a PESGB/EAGE short course in “Seismic interpretation” in Aberdeen (May 6-7), a short course in “Exploration seismology for seismic interpreter” at the University Federal do Rio do Sul (UFRGS), Porto Alegre, (June 20-25) and a short course (5 days) in “Seismic interpretation of petroleum system” for the Masters course at the University of Pisa (May 6-10), funded by the Erasmus EU teaching exchange.

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Nigel Trewin and **Bob Davidson** (Hon Staff) led an excursion to Cromarty for Aberdeen and Highland Geological societies on 16-18 August.

Nigel Trewin prepared the geological exhibits for Fabric of the Land 2013.

Field

Stephen Andrews and **Stuart Archer** led a field trip to examine the Old Red Sandstone of North East Scotland as an analogue for the fluvio-lacustrine Triassic of the North Sea.

Stuart Archer co-led a field trip to Skye for ExxonMobil, and led a one day field trip to Stonehaven for BP's Seismic Delivery Team.

Aaron Barker and **Ross Taylor** are currently doing fieldwork in NW USA studying terrestrial sediments within the Columbia River Basalt Province. They will also be conducting laboratory work at WSU, analysing the geochemistry of the basalts and associated interbeds.

Clare Bond completed fieldwork in the French sub-Alpine chain sponsored through the Schools Teaching and Research fund.

Rich Callow and **Larissa Hansen** participated in a research cruise in the Tyrrhenian Sea, in partnership with Istituto de Scienze Marine, Bologna, from 16th to 28th August (joined by **Ben Kneller** from 21st to 28th), coring and taking CHIRP profiles of slope channels and levees; the work is funded by the PRACSS JIP.

Rich Callow, **Larissa Hansen**, **Pan Li**, **Guilherme Bozzetti**, **Matheus Sobesiak** and **Thisiane dos Santos** spent 23rd June to 20th July in the field in Baja California, Mexico (joined by **Ben Kneller** from 23rd June to 8th July), working on a Cretaceous slope channel system for PRACSS.

Other

Stuart Archer attended a Volcanic Margins Research Consortium Meeting in Birmingham, and represented GPG as part of a COPS delegation that travelled to Mexico to visit PEMEX.

Stuart Archer reports that EON have now joined the Triassic Mudstones JIP. This is now a 9 company JIP.

Stuart Archer and **Stephen Andrews** met with EnQuest subsurface team to discuss the development challenges associated with the Crawford Field in the Northern North Sea.

Stuart Archer, **Brice Rea** and **Matteo Spagnolo** attended a meeting in Senergy to kick start a new multi-disciplinary JIP focusing on glaciation and the petroleum system.

Andrew Hurst reports that Sand Injectites Phase 3 kicked off on 15 July with the arrival of PDRF's **Antonio Grippa** and **Giuseppe Palladino** and temporary field assistants **Amanda Gray** and **Sarah-Jane Flaws**. The third PDRF **Denis Bureau** begins on 10 Sept. On 16 Aug the group plus **Ian Alsop** and **Andrew Hurst**

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commence the first field season in the Panoche/Tumey Hills. Current sponsors are BG, Cairn Energy, Det Norske, EnQuest, JX Nippon, Lundin, Marathon, Maersk, Premier Oil, Spring/Tullow, Statoil Mariner, Statoil Global Exploration Research and Wintershall.

Dr Dave Muirhead has recently joined us as a Teaching Fellow. Prior to this Dave was working with the global R&D team at Halliburton, developing new technologies and analyses applied to gas geochemistry whilst drilling. Dave will continue some of this research in between his undergraduate and MSc teaching commitments.

Ben Kneller reports that BG has agreed to put up 50% of the cost of a 3-year post (Grade 7) to help administer the BG Fellowship/Science without Borders scheme. COPS will put up the other 50%, and the person will also work on developing additional business for College in Brazil. The post will probably be advertised later this month.

John Parnell attended the ExoMars Oversight Committee in London, 6 September.

Roberto Rizzo joins the department as a new PhD student supervised by **Dave Healy** and **Andrew Hurst**; his project is entitled "Characterisation of Fractured Basement", and funded by COPS.

seisLAB has been successfully upgraded (coordinated by **David Iacopini**, **Ben Kneller** and **Judith Christie**) and now delivers seismic applications using a new blade server with six 128GB RAM workstation blades housed in DIT, with a substantial increase in storage capacity to 22 TB and a 10 Gbps network. Funding of about £33k was provided by **David Iacopini**, **Ben Kneller**, **Adrian Hartley**, and matched by Aberdeen **DIT**.

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