

Papers*Published*

Butler, R.W.H. 2013. Area balancing as a test of models for the deep structure of mountain belts, with specific reference to the Alps. *Journal of Structural Geology*, 52, 2-6.

Butler, R.W.H. 2013. Photograph of the month: Large-scale basement-cover deformation in the Alps. *Structural Geology*, 52, 1.

Buckley, S.J., Kurz, T.H., **Howell, J.A.** and Schneider, D., 2013. Terrestrial lidar and hyperspectral data fusion products for geological outcrop analysis. *Computers & Geosciences*, 54, 249-258.
doi:10.1016/j.cageo.2013.01.018.

Sima, A.A., Bonaventura, X., Feixas, M., Sbert, M., **Howell, J.A.** and Buckley, S.J., 2013. Computer-aided image geometry analysis and subset selection for optimizing texture quality in photorealistic models. *Computers & Geosciences*, 52: 281-291. doi:10.1016/j.cageo.2012.11.004.

In Press/Accepted

Rittersbacher, A., **Howell J.A.** and Buckley S.J. Analysis of fluvial architecture in the Blackhawk Formation, Wasatch Plateau, Utah using large 3D photorealistic models. *Journal of Sedimentary Research*.

E. D. McGregor, S. B. Nielsen, **R. A. Stephenson**, K. D. Petersen & **D. I. M. Macdonald**. Long term exhumation of a Palaeoproterozoic orogen and the role of pre-existing heterogeneous thermal crustal properties: a fission track study of southeast Baffin Island. *Journal of the Geological Society*.

McMahon, S., James, J. O., **Parnell, J.** Circumstellar habitable zones for deep terrestrial biospheres. *Planetary and Space Science*.

Millett, J. M., Hole, M. J. & Jolley, D. W. A fresh approach to ditch cutting analysis as an aid to exploration in areas affected by large igneous province volcanism. *Exploration and Exploitation West of Shetlands*. Geological Society of London, Special Publication.

V. Starostenko, T. Janik, K. Kolomiyets, W. Czuba, P. Środa, M. Grad, I. Kovács, **R. Stephenson**, D. Lysynchuk, H. Thybo, I.M. Artemieva, V. Omelchenko, O. Gintov, R. Kutas, D. Gryn, A. Guterch, E. Hegedűs, K. Komminaho, O. Legostaeva, T. Tiira, A. Tolkunov. Seismic velocity model of the crust and upper mantle along profile PANCAKE across the Carpathians between the Pannonian Basin and the East European craton. *Tectonophysics*.

Kilhams, B., Morton, A., Borella, R., **Wilkins, A.D.** and **Hurst, A.** (accepted June 2013). Understanding the Provenance and Reservoir Quality of the Sele Formation Sandstones of the UK Central Graben utilising Detrital Garnet Suites. In: Richardson, N. (ed) *Sediment Provenance Studies in Hydrocarbon Exploration and Production*. Geological Society of London, Special Publication.

Funding

Clare Bond and Christine Sands (Engineering) have won an Energy PhD Studentship entitled “The fracture properties of shales, how impermeable are reservoir seals for CO₂ storage?”.

Clare Bond won an award from the School of Geosciences Teaching and Research call (£2k) “Fault zone characterisation in carbonate thrust belts”.

John Howell has secured funding for a 2 year postdoc from RWE to work on the German Rotliegend (£240k).

Randell Stephenson has received funds from the Nature Research Centre of Lithuania to prepare a review of the research programme of the Lithuanian Institute of Geology and Geography (€5k).

Presentations

Natalie Farrell and **Liliana Vargas Meleza** presented talks at the PESGB Tuesday evening lecture on June 18th entitled “Laboratory-based characterisation of field samples: implications for geomechanics”. Their individual talks were “Using Petrophysics to Quantify Fault Stability” and “Using ultrasonic velocity measurements to quantify seismic anisotropy in salt”.

John Millett gave a Seminar at Oslo University, Department of Physics of Geological Processes (PGP) entitled “Exploration within volcanic rifted margins: drilling and correlation”; and a poster at Devex 2013 entitled “Exploration within Large Igneous Provinces: Well data and what to do with it”.

Randell Stephenson presented a paper entitled "Integrated crustal and basin geophysical studies in the north-eastern Black Sea area" at the Eastern Black Sea and Caucasus Workshop in Tbilisi, Georgia, and moderated the discussion at the end of the workshop.

Esteem

Steven Andrews gave two invited talks at the University of Copenhagen/GEUS from the 29th to 31st of May. One on the Mid-Carnian pluvial event recorded in East Greenland, and one on climatic controls on sedimentation in the MORS of northern Scotland.

Joyce Neilson has been appointed Secretary to the Petroleum Group of the Geological Society of London.

John Parnell sat on a review panel for STFC, assessing progress in antibody-based detection of organic molecules.

Randell Stephenson has had his Adjunct Professorship at the University of Aarhus in Denmark renewed for another five years.

Anne Wilkins has been awarded an Associate Teaching Fellowship by the Higher Education Academy as recognition of her commitment to professionalism in teaching and learning in higher education.

Outreach, training

Rob Butler ran a Turnstone field workshop for Maersk in the French Alps: The rifted margin of Tethys in the Western Alps - Implications for the structure and stratigraphy of rifted continental margins. 30th June – 6th July.

Natalie Farrell and **Dave Healy** gave talks at a Tectonic Studies Group and Geopark Shetland jointly organised public evening, held at the Shetland Museum in Lerwick, “The Geological Fabric of Shetland”. Natalie’s talk was titled “The life and research of Derek Flinn” and Dave’s talk was titled “Fault Finding: Flinn’s contribution to earthquake geology”. Natalie handed out “top trumps” cards of local rocks and minerals, and hand lenses, funded with a grant from the University of Aberdeen Public Engagement with Research Unit (PERU).

As part of 'The Year of Natural Scotland' sponsored by SNH, **Nigel Trewin** gave lectures in Thurso and Helmsdale on 'Scottish Fossils', and led 'fossil forays' for the public at Achanarras Quarry and on Helmsdale shore, 1-3 July.

Field

Natalie Farrell organised and ran a structural geology field trip to Shetland from 23rd to 28th June for 16 postgraduates and 4 staff on behalf of the Tectonic Studies Group of the Geological Society of London. The party visited localities throughout the Mainland, and the North Isles, focusing on a number of features including the Walls Boundary Fault - thought to be an extension of the Great Glen Fault, Shetland's oldest rocks - the sheared basement gneisses in North Roe and the Shetland ophiolite and Funzie conglomerate on the islands of Unst and Fetlar. The attendees on the trip included **Dave Healy** and **Abdullah Awdal**.

Andrew Hurst ran a SIRG (Sand Injectites Research Group) field course with assistance from Nick Schofield, in California for Maersk (14-20 June) and conducted research field work on the Miocene sand injectites in the Santa Cruz Mudstone, adjacent to the San Andreas and San Gregorio fault zones (23-30 June).

John Parnell did fieldwork with palaeomagnetism collaborators from University of Oklahoma, in the NW Highlands. He also examined pseudotachylites in Outer Hebrides, and concluded that structural geology could be interesting if fluids are involved.

Other

Rob Butler attended the Council of the Geological Society of London, 26th June.

Séverine Furst is visiting the Petrophysics lab from the Université de Strasbourg, EOST. Séverine is working on acoustic velocity characterisation in volcanics and evaporitic rock samples.

We welcome **Professor John Howell** who has recently joined us from the University of Bergen. John is based in Meston, room 111. John has already been busy with field work in Spain, Utah and Kentucky, and has been working on a new TV show called “The Burrowers”, to be broadcast in the Autumn.

Other (continued...)

Andrew Hurst visited Prof Steve Graham at Stanford (25 June), and Prof Richard Muller at UC Berkeley (26 June).

Colin Taylor has installed the new mercury porosimeter in Meston G06. This machine has been bought with funds from a consortium of the College of Physical Sciences, the School of Geosciences, the School of Natural and Computing Sciences, and research grants managed by Fred Glasser, **Dave Healy**, **Andrew Hurst** and **Joyce Neilson**. Internal and external costings are in progress.

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