



# EDINBURGH GEOLOGICAL SOCIETY

Promoting public interest in geology and the advancement of geological knowledge

## Autumn Newsletter 2016

Welcome to the Society's 183rd session! I'm delighted to introduce members to our new-style Newsletter, which replaces the Billet in our autumn and spring mailings. I hope you will enjoy this new format, and submit news articles and events for future editions. Our lecture programme for 2016-17, aimed at everyone with an interest in Earth science is looking very appealing with a wide range of talks to suit all.

Stuart Monro, EGS President, [president@edinburghgeolsoc.org](mailto:president@edinburghgeolsoc.org)



### DATES FOR YOUR DIARY

#### 2016

1 October  
**Volcano Fun Day,**  
Holyrood Park (see below)

12 October  
**Lecture:**  
**Prof Patrick Corbett,**  
Heriot Watt University

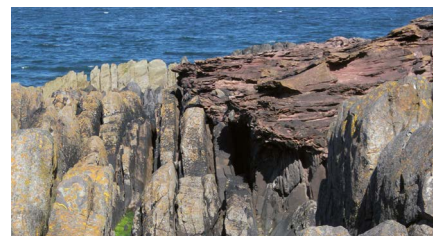
26 October  
**Lecture: Dr Tim Kearsy,**  
BGS Scotland

28 October  
**GeoConservation Annual**  
**Gathering, Dynamic Earth**  
(see p 2)

9 November  
**Lecture: Dr Charlotte Vye-**  
**Brown,** BGS Scotland

23 November  
**Lecture: Prof Brian Upton,**  
University of Edinburgh

7 December  
**Fellows' Night**



#### 2017

11 January  
**Lecture: Dr Phil Richards,**  
formerly BGS Scotland

25 January  
**AGM (7pm) & Lecture:**  
**Brian Baptie,** BGS  
Scotland

8 February  
**MIS/EGS Joint Lecture:**  
**Dr Martin Smith,** BGS  
Scotland

22 February  
**Lecture: Mike Robinson,**  
RSGS

8 March  
**Lecture: Martin Gillespie,**  
BGS Scotland

22 March  
**Clough Medal Lecture:**  
**Dr Phil Stone,** formerly  
BGS Scotland

## Witch Craig Geological Wall rebuilt

Lothian and Borders GeoConservation (LBGC) were sad to discover in June that the Witch Craig Geological Wall in West Lothian had been damaged by vandals. The wall was constructed in 2003 as a joint project between LBGC and the landowners, Andy and Elspeth Gibbs. The wall is a superb viewpoint,

close to Cairnpapple, high in the Bathgate Hills. The wall incorporated rock samples from many of the places that could be seen from the viewpoint, from Arran to East Lothian, to demonstrate the geological diversity within central Scotland.

After a visit by members of LBGC, the landowners and Richard Love from the Dry Stone Walling Association, it was decided to rebuild the wall quickly to avoid further damage. The work was carried out by Richard Love within weeks, and funded by EGS and Geowalks. The wall is now fully restored, and well worth a visit – for the geology, and the view! Download the Witch Craig Wall leaflet from the EGS website: [www.edinburghgeolsoc.org/r\\_download.html](http://www.edinburghgeolsoc.org/r_download.html). The viewpoint is signposted from the south end of Beecraigs Country Park, or you can follow the short walk from the nearby Korean War Memorial: [www.westlothian.gov.uk/article/8841/Witchcraig-Woodland-Korean-War-Memorial](http://www.westlothian.gov.uk/article/8841/Witchcraig-Woodland-Korean-War-Memorial).



The damaged wall in early June; it has now been restored. *Photo: Andrew McMillan*

## Volcano Fun Day – Holyrood Park

Saturday 1 October 2016, 11am – 3pm

A family activity day: explore modern and ancient volcanoes and meet the scientists who work on them. Hands-on activities and information inside the Education Centre, and excursions to Arthur's Seat. Run by Historic Scotland Ranger Service in association with the School of Geosciences - University of Edinburgh and Lothian and Borders GeoConservation.

*Holyrood Park Education Centre,  
1 Queens Drive, Edinburgh EH8 8HG.*

*Sakurajima volcano, Japan. Photo: Angus Miller*



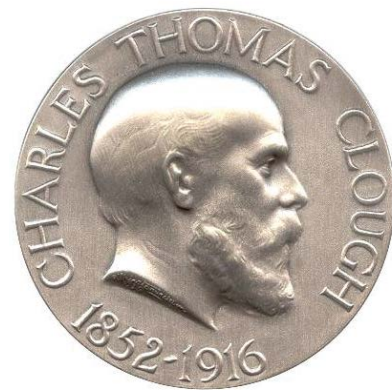
## Society Medal and Awards

The Society recognises excellence in geology by making two prestigious awards, the Clough Medal and the Clough Memorial Award. We also support geological fieldwork by making small grants from the Clough and Mykura Funds.

The **Clough Medal** is presented annually to a geologist whose original work has materially increased the knowledge of the geology of Scotland and/or the north of England, or who is Scottish by birth or by adoption and residence and has significantly advanced the knowledge of any aspect of geology. This year's recipient is Dr Phil Stone, in recognition of his exceptional contribution to the understanding of the geology of the Lower Palaeozoic Southern Uplands Terrane and the Ballantrae Ophiolite Complex, and many other achievements.

The **Clough Memorial Award** is a monetary award, given to a geologist of British nationality and normally under 35 years old whose research on some aspect of the geology of Scotland or the north of England is considered as having outstanding merit. It is awarded biennially, and is not due for consideration this session. The award for 2016-17 goes to Dr Hannah Watkins for her work on the Moine Thrust Zone.

**Fieldwork Grants** from the Clough and Mykura Funds are normally of the order of a few hundred pounds,



Phil Stone, the recipient of this year's Clough Medal

and support geological field work at home or abroad. Grants from the Clough Fund may be awarded for fieldwork or other geological enterprise in any area, provided that a suitable Scottish connection can be demonstrated through the recipient or their institution, or through the work itself. Grants from the Mykura Fund are restricted to geological fieldwork in Scotland, with preference given to workers under 35 years old. This year's recipients were Anastasia Polymeni (Heriot-Watt University), Guohui Chen (Edinburgh University) and Anna Bidgood (Oxford University).

**Nominations for the Clough Medal for 2017-2018 and applications for fieldwork grants from the Clough and Mykura Funds are invited by 31 January 2017.**

Full details are on our website:

[www.edinburghgeolsoc.org/s\\_awards.html](http://www.edinburghgeolsoc.org/s_awards.html).

## Long Excursion 20-27 May 2017 - Isle of Skye



The 2017 Long Excursion will be led by Dr Brian Bell of the University of Glasgow to the Isles of Skye and Raasay, well known for their geological variety. The excursion programme is not finalised but will potentially include the Skye Lava Field, the North Skye Sill-complex, the Red Hills granites, Loch Coruisk gabbros and the Moine Thrust Belt on the Sleat peninsula.

Accommodation will be in a hotel and guest house close together in Portree and a nearby self-catering cottage and camp-site. Expressions of interest are now invited, preferably by email. Full details including the itinerary, accommodation and costs, will be circulated to interested parties and bookings will open in October.

Anne Burgess, Long Excursion Organiser  
[longexcursion@edinburghgeolsoc.org](mailto:longexcursion@edinburghgeolsoc.org)  
21 Woodside Place, Fochabers IV32 7HE

Loch Coruisk, Skye. *Photo: Angus Miller*

## UK-wide Annual Geoconservation Gathering

### Friday 28 October 2016

The UK's Geoconservation Annual Gathering comes to Edinburgh this October, with a focus on local, practical geoconservation. This is a great opportunity to find out more about Local Geodiversity Sites – important places that conserve and celebrate local geodiversity – and how you can get involved in local

geoconservation. The event takes place at Dynamic Earth and is organised by the Geological Society of London's Geoconservation Committee and the Scottish Geodiversity Forum.

Further information and booking at: [www.geolsoc.org.uk/Geoconservation-Annual-Gathering-2016](http://www.geolsoc.org.uk/Geoconservation-Annual-Gathering-2016).



# Lecture Programme 2016-2017

Our varied programme of illustrated lectures runs from October to Easter, usually on Wednesday evenings at 7.30 pm. These meetings are open to the public, there is no charge, and visitors are most welcome. Tea and biscuits are served afterwards, providing an informal opportunity to chat to other members, and ask advice from local experts. The lectures usually take place in the Hutton Lecture Theatre in the Grant Institute, The King's Buildings, James Hutton Road, Edinburgh EH9 3FE.

**Graham Leslie, Lectures Secretary** [agle@bgs.ac.uk](mailto:agle@bgs.ac.uk)

## 2016

12 October, 7.30pm

**Prof Patrick Corbett, Heriot Watt University**

### **Fluvial Channel Reservoirs – 20 years diagnosing their reservoir engineering attributes**

Since our first research in 1994 to collect permeability data from opencast mines in the Ayrshire Coalfields, our understanding of the 3D complexities of oil reservoirs in fluvial systems has improved; these reservoirs have lower recovery (and therefore higher remaining potential) than many other types. 22 years later, we are still studying opencast mines in Ayrshire (the Spireslack Mine) and trying to understand fluid flow in complex reservoirs.

*Patrick Corbett is Professor of Petroleum Engineering at Heriot Watt University and Head of the Carbonates Reservoirs Group. His long-term research interests involve integration of reservoir geoscience, petrophysics, geophysics and reservoir engineering.*

26 October, 7.30pm

**Dr Tim Kearsey, BGS Scotland**

### **Palaeosols as evidence of terrestrial climate change at major Palaeozoic vertebrate evolutionary events**

Climate change is a major driver of evolution. Palaeosols (fossil soils) are one of the few direct indicators of terrestrial climate and provide a record of climate changes and landscape architecture, and are critical in understanding the terrestrialization of vertebrates in the Carboniferous and the Earth's largest mass extinction at the end of the Permian.

*Tim Kearsey is a survey geologist and sedimentologist with BGS in Edinburgh. He has research interests in Palaeozoic stratigraphy and sedimentology; palaeosols and palaeo-environmental reconstruction.*

9 November, 7.30pm

**Dr Charlotte Vye-Brown, BGS Scotland**

### **Volcanic Hazards**

The challenges of understanding volcanic risk and disaster mitigation are pronounced in Africa due to significant knowledge gaps, lack of real-time monitoring, uncertainty, limited early warning capacity and pressure on resources. Our recent research in Ethiopia has focussed on understanding the periodicity and character of past eruptions, identifying potential impacts, and evaluating future threats.

*Charlotte Vye-Brown is a senior volcanologist with BGS in Edinburgh, working on projects on rift volcanism, particularly in East Africa, the volcanic history of the Ascension Islands, and emplacement and eruption styles of flood basalts.*



23 November, 7.30pm

**Prof Brian Upton, University of Edinburgh**

### **Volcanoes and the Making of Scotland**

Volcanoes have played a major role in the creation of Scotland's geology. The most recent examples on the west coast are a mere 60 million years old, but rocks composing many of the famous Scottish landforms such as Glencoe are the direct result of earlier episodes of volcanism.

*Brian Upton, an EGS Distinguished Fellow, is well known to EGS members for his enthusiastic participation in the Society's affairs over many decades. He is Emeritus Professor of Petrology and Senior Honorary Professorial Fellow in the School of Geosciences of the University of Edinburgh.*

7 December

### **Fellows' Night**

EGS Fellows and their guests are cordially invited to a very special social event to mark the 182nd anniversary of the foundation of the Society. Booking for this event will be essential as tickets will not be available on the night. To receive more information as it becomes available, including how to book in due course, please email Beverly Bergman at [secretary@edinburghgeolsoc.org](mailto:secretary@edinburghgeolsoc.org) with the subject line "Fellows Night 2016", and with your name in the main text. If you have no access to email, a letter can be sent to the EGS at the address on page 4.

## 2017

11 January, 7.30pm

**Dr Phil Richards, formerly BGS Scotland**

### **Is there a future for the UK oil and gas industry?**

Approximately 27 billion barrels of oil has been extracted from the UK North Sea. Some claim there are still 14 billion barrels left. Recent discoveries have been in 10-15 million barrel increments, suggesting decades of further exploration. Can this be speeded up by new technologies and by going back to basics to do better geology?

*Phil Richards worked as BGS Regional Hydrocarbons Manager, and has over 30 years of world-wide experience of oil exploration, specialising in creating the technical conditions necessary for inward investment in hydrocarbon exploration in developing basins.*

25 January, AGM 7pm, Lecture 7.30pm

**Dr Brian Baptie, BGS Scotland**

### **Is earthquake activity increasing?**

Destructive earthquakes often lead to speculation that earthquake activity is increasing. But is there really any hard evidence to support this? I will draw on earthquake statistics and geophysics to discuss this question along with some notable examples of how earthquake activity rates can change.

*Brian Baptie is head of the Earthquake Seismology team at BGS in Edinburgh, and is often to be heard in the media in response to major earthquakes world-wide. Areas of research interest include seismotectonics and stress regimes controlling UK seismicity and using passive seismicity to image crustal and upper mantle structure under the UK.*

8 February, 7.30pm

**MIS/EGS Joint Lecture: Dr Martin Smith, BGS Scotland**  
**“Tell me Dr Smith what exactly do you mean...”: the professional role of a geoscientist**

Throughout the professional career of a BGS geologist one is often challenged to provide advice and expert opinion involving multiple complex geological processes. I will use recent experiences of two contrasting expert legal geological situations to illustrate the role of a geologist and the importance of language.

*Martin Smith was appointed in 2013 to lead the newly formed BGS Global Geoscience. As a survey geologist he has led research and training projects in basement and volcanic terrains in the Scottish Highlands and in Kenya, Egypt and Morocco. Research interests include faulting and reactivation in basement terrains and urban geology. He is currently working on fault reactivation in the Ganges River Basin and has recently been engaged in expert technical advice on major infrastructure projects.*

22 February, 7.30pm

**Mike Robinson, Royal Scottish Geographical Society**  
**James Croll: Joiner, Janitor, Genius**

James Croll (1821-1890) was a Scottish scientist who began to develop an astronomical theory of climate change during his employment as a janitor at the Andersonian College and Museum in Glasgow in the 1860s. He then joined the British Geological Survey and published an important volume 'Climate and Time' in 1875.

*Mike Robinson is Chief Executive of the Royal Scottish Geographical Society. In the last 20 years he has worked on many large capital projects, including the John Hope Gateway at the Royal Botanic Gardens Edinburgh and the renovation and redesign of the Fair Maid's House in Perth.*

## Recent publications

The Society has recently published two books that explore the geology of different areas of Scotland. *A geological excursion guide to the Stirling & Perth Area* (2015) describes some wonderfully varied geology in 18 excursions, from the Dalradian metamorphic rocks in the southern Highlands to a range of sedimentary and igneous rocks within the Midland Valley.

The 2nd edition of *The geology of Eigg* (2016) encourages people to visit this small island and enjoy a remarkable variety of geology in a beautiful setting. There is an inspiring precedent in the visit of that self-taught polymath, Hugh Miller, in the 1840s. This book includes a comprehensive introduction to the geology of the island, and sets Eigg in its regional context.

Both these new titles, and many others, are available from the EGS website or from Don Cameron, our Publications Sales Officer.

## EGS News email list

Join the EGS News email list to be kept informed of changes to programmes and other news. Please contact the Secretary Beverly Bergman.

8 March, 7.30pm

**Dr Martin Gillespie, BGS Scotland**  
**A new Building Stone Database for Scotland**

The Building Stone Database for Scotland (BSDS), due in late 2016, is an ambitious compilation of details for all of the building stones of Scotland and the quarries and buildings that are associated with them. A new publicly-accessible web portal has the long-term objective of helping to maintain and conserve our country's priceless built heritage assets.

*Martin Gillespie is a survey geologist and Head of the BGS Building Stones team. In addition, he is involved in research into deep geothermal energy in Scotland, rock-water interaction and flow pathways and palaeohydrology, and granites worldwide including the Himalaya.*

22 March, 7.30pm

**Clough Medal Lecture**

**Dr Phil Stone, formerly BGS Scotland**  
**Scottish perspectives (old and new) on greywacke, graptolites and Gondwana**

The Southern Uplands are geologically synonymous with greywacke and graptolites, but problems arose when that traditional Scottish perspective was exported to distant regions. There are now remarkable new ways to examine such terranes, and the graptolites lead out to Gondwana. But there they once lost out to a different Scottish perspective now supported by palaeontology far removed from its origins by a major glaciation.

*Phil Stone's work has focussed on southern Scotland and northern England whilst ranging as far afield as the Falkland Islands. He has a particular interest in the interaction between sedimentary basins and the tectonics of their growth and accretion onto neighbouring continents.*

## New Council members required

The Society exists for all who are interested in every aspect of Earth science, and we need a variety of skills to help run the Society! Are you keen to lend a hand? Present vacancies include Excursions Secretary and a Librarian/archivist. Please contact Secretary Beverly Bergman to find out more.

## Society contacts

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The Edinburgh Geological Society is a friendly and informal organisation with a wide range of members of varied backgrounds and interests. This newsletter is published twice-yearly in September and March, with details of our lectures and excursions programme. Members will also receive the Annual Report and information about the AGM in January. Extra copies of this newsletter are available for distribution; please contact the Promotion Secretary Angus Miller: [promotion@edinburghgeolsoc.org](mailto:promotion@edinburghgeolsoc.org).

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