

# THE GEOLOGICAL SOCIETY OF GLASGOW

Registered Scottish Charity No. SC007013

**President: Dr. Jim Morrison**

[www.geologyglasgow.org.uk](http://www.geologyglasgow.org.uk)

**February 2016**

**158/3**



Photo credit: David Brown

The world's strangest volcano. The Glasgow University trip to Ol Doinyo Lengai in Tanzania is the topic of the GSG March 2016 Meeting to be delivered by Dr David Brown and some of the participating students. The Society helped towards the costs of this trip and it promises to be a fascinating evening - not to be missed!



## **In this newsletter:**

- Lectures for March and April
- Advance Notice of Field Excursions
- AGM Report

## Lecture meetings

All lectures are held in the *Gregory Building, University of Glasgow, Lilybank Gardens, Glasgow G12 8QQ* (unless otherwise noted). Meetings commence at 7.30 pm. For more information please contact the Meetings Secretary: [meetings@gsocg.org](mailto:meetings@gsocg.org)

### **Thursday 10<sup>th</sup> March 2016**

***Dr David Brown, Dr Daniel Koehn and students, University of Glasgow***

The Glasgow University Tanzania Expedition comprised a team of Earth Science students and staff, together with students and staff from Dodoma University in Tanzania. In June 2015, this group visited the East African Rift System (EARS) in northern Tanzania to investigate its spectacular geology. The purpose of the expedition was to teach both Glasgow and Dodoma students and local Masai people about the unique volcanology and tectonics of the area, and to promote future interaction between the two universities. We focused on the geology of Embalulu Sekenge, a tuff ring that interacts with lavas and faults of the EARS, and visited the highly unusual carbonatite volcano, Ol Doinyo Lengai, where we witnessed an eruption. We will outline the inception and planning of the expedition, report on our spectacular geological findings, and summarise the challenges and life-changing experiences we encountered.

### **Thursday 14<sup>th</sup> April 2016**

***Professor Tim Lenton, University of Exeter***

Today, nearly four billion years after life first appeared on Earth, the planet hosts an abundance of complex life. Very recently, a new development – intelligence – has arisen. The varied and complex life on the planet today both maintains, and is supported by, fertile land and oceans and an oxygen-rich atmosphere. Life and the global environment have co-evolved such that neither would exist in its present form without the other. I will trace the critical “revolutions” in Earth history that have brought the planet to this point. They can be briefly summarised as:

- The “Inception”, involving the origin of life ~3.7 billion years ago and the establishment of recycling ecosystems fuelled by anoxygenic photosynthesis;
- The “Oxygen Revolution”, started by the origin of oxygenic photosynthesis ~2.7 billion years ago and culminating in the Great Oxidation of the Earth’s atmosphere;
- The “Complexity Revolution”, starting with the origin of eukaryotes and culminating in extreme glaciations and a Lesser Oxidation ~0.8-0.6 billion years ago.

Our planet is now in the midst of what might be a new revolution. A single species, namely our own, is in the process of transforming the planet. But for the first time in the history of the Earth the agents of planetary change have a dawning collective awareness that they are changing the world. We can’t be sure if this will come to rank alongside the great revolutions that made the present Earth, not least because it is very much

still underway. But the main preconditions for an Earth system revolution appear to be in place. The talk will address the question; what will it take for this to be a successful revolution?

## **Thursday 12th May 2016**

### ***Members' night***

An opportunity for Society members to make a short presentation or display about their own geological interests, finds and travels. More information will be given in the next Newsletter.

## **Residential Field Excursions 2016**

For further information contact [restrips@gsocg.org](mailto:restrips@gsocg.org)

### **Knapdale**

**Dates: Saturday, 16 April 2016 - Monday, 18 April 2016**

**Leader: Dr Iain Allison (University of Glasgow)**

The middle Dalradian Argyll group rocks are well exposed on coastal sections in Knapdale and the Tayvallich peninsula. Here the metamorphic effects are low and sedimentary structures can easily be seen in the deformed rocks. The rocks are folded on a variety of scales from metre to many kilometres scales. The relationships between bedding and the tectonic fabrics is very well displayed and the relationship between layer thickness and fold wavelength can be demonstrated.

We will travel by private car and accommodation will be at the Stag Inn, Lochgilphead (3 nights @ £40-45 per person per night). Travel arrangements will be made when the final numbers are known. 20 people have already noted their intention to come and forms will be sent out to these very soon.

### **North-East Ireland**

**Dates: September 2 - September 5 2016 (3 nights)**

**Leader: Dr Fiona Meade**

This trip will explore the British and Irish Palaeogene Igneous Province surrounding Carlingford Lough at Slieve Gullion, Carlingford and Mourne, including a range of volcanic features, from a caldera-forming ring complex to spectacular cone-sheets. We will see a variety of igneous rock types, including basalt, rhyolite, gabbro and granite and explore the textures that form during magma mixing. We will also look at some of the regional geology, including the local Silurian metasedimentary rocks, formed on the floor of the Iapetus Ocean and deformed during the Caledonian Orogeny, when northern and southern Ireland became joined together. We will see the effect the hot magmas had on these rocks, baking and melting them around the intrusions. More details and some pictures can be seen here. We will travel by private car and ferry, in order to keep costs to a minimum. Accommodation will be B&B in the Carlingford area.

## Day excursions 2016

The following excursions are in process of being arranged. Please note the dates in your diary. Full details and a booking form will be included in the next newsletter. If you require any more information before then, please contact [daytrips@gsocg.org](mailto:daytrips@gsocg.org)

### **Saturday 11th June. Geology Collection at Glasgow Museums Resource Centre**

This is a guided tour of the Glasgow Museums Resource Centre at 200 Woodhead Road, South Nitshill Industrial Estate, Glasgow G53 7NN. You will need to arrange your own transport. The centre is about 5 minutes walk from Nitshill railway station. Museum staff will be showing us some of the many items in the geology collection which are not on public display. Because of restricted space within the building, numbers will be limited to 15 but, in the event of higher demand, a further trip will be offered on another occasion. There will be no charge for this excursion.

Leader: GMRC staff

Meet at the building for a 10:00 start, tour finishes around 12:30 (own transport).

### **Saturday 18th June. The Garabal Hill: Glenfyne Igneous Complex**

This complex, close to the head of Loch Lomond, together with the Arrochar Igneous Complex forms part of a group of post-orogenic intrusions known as the South Grampians Suite, which were intruded into the Southern Highland Group during the mid-Silurian (ca 425 Ma). The rocks of the complex are dominantly dioritic and high in potassium, but with an extraordinary petrological range from ultrabasic picrites to acid granodiorites, this wide range being the result of magmas derived, unusually, from not one but several parental lithologies, including both crustal and mantle types.

The excursion will be confined to the area immediately to the east of the Garabal Fault, between Lochan Beinn Damhain and Garabal Hill itself. Here picrites, gabbros, hornblendites and a range of pyroxene-rich diorites and granodiorites and the relationships between them can be seen, all under the thermally-metamorphosed roof of the intrusion.

NB: The area is accessed from the A82 near Beinglas Farm along a relatively easy but fairly long ATV track followed by a short hill-traverse. The distance from the A82 is ca 4.6 km (2.85 miles). There will be some rough terrain on Garabal Hill itself. Given the distances, the excursion will be a long one and will require an 8 am start.

Leaders: Dr Chris Burton & Dr Jim MacDonald

Leaving Gregory Building at 8:00, return at 18:00, travelling by coach

### **Saturday 25th June. The Berwickshire Coastal Path**

*Joint Excursion with the Edinburgh Geological Society*

We will visit Cove Harbour to view Carboniferous sedimentary rocks, then return to the cliff top to follow the Berwickshire Coastal Path around to Pease Bay (lunch stop, view Devonian sedimentary rocks). We will then continue along the coastal path to Siccar Point. You can view Siccar Point safely from the viewpoint above, or, if conditions permit, descend a steep grassy slope that may be slippery. Siccar Point itself is rocky and

potentially slippery underfoot. Participants should only descend to Siccar Point if they are physically fit, properly equipped with walking boots and the conditions are suitable: grass not too wet, not too windy. We will then return the short distance to the Siccar Point car park for coach pickup around 4pm. The excursion will be followed by high tea, in company with our Edinburgh colleagues, and we will aim to return to Glasgow by around 19:00.

Leader: Angus Miller

Leaving Gregory Building at 9:00, return at 19:00, travelling bycoach

### **Saturday 16th July. Aberfoyle area**

The Highland Boundary Fault passes through Aberfoyle and brings up the low grade metamorphic rocks of the Dalradian succession against the upturned conglomerates of Lower Devonian age. Slivers of Highland Border Complex rocks occur in the fault zone. The greywackes and slates of the Southern Highland Group of the Dalradian here form the downward closing synform of the major Aberfoyle anticline. On this excursion we shall examine the various rock types, their sedimentary and tectonic structures in order to confirm the accepted view, first expounded over 40 years ago by Shackleton, that the major structures have been overturned. Some of the walking will be along forestry tracks but there will also be rougher boggy and heathery ground to traverse.

Leader: Dr Iain Allison

Leaving Gregory Building at 9:00, return at 17:00, travelling bycoach

### **Saturday 13th August. Comrie area**

Details are still being refined but the intention is to combine field examinations of exposures of the Comrie contact metamorphic aureole and the spectacular De'il's Cauldron with a short visit to the 19<sup>th</sup> Century Earthquake House.

Leader: Dr Simon Cuthbert

Leaving Gregory Building at 9:00, return at 17:00, travelling bycoach

### **Sunday 2<sup>nd</sup> October. Balmaha**

Joint excursion with the Geologists' Association

The Geologists' Association (in London) are visiting Glasgow for a "Behind the Scenes" visit to the Glasgow Museums Resource Centre. They have asked that we assist them with organising a local field trip and we have suggested a joint trip to Balmaha to examine the Highland Border Complex which here has great diversity in lithologies. We will also examine both the Lower and Upper Old Red Sandstone rocks with a view to determining the nature of their accumulation and provenance.

Their group size is normally 20 to 25, comprising older/retired adults with a keen interest in geology, although varied levels of knowledge. We think this would be a good opportunity to meet some fellow enthusiasts and so have suggested stopping off for high tea on the way back to Glasgow.

Leaders: Dr Chris Burton & Dr Simon Cuthbert

Leaving Gregory Building at 9:00, return at 19:00, travelling bycoach

## News and Topical Articles

### Fossil Grove

A meeting of the Trustees was held on the 8th February where the deteriorating condition of the building and its impact on the fossils was discussed. Some urgent repairs were agreed, however, it is unlikely to open at Easter as usual. A condition survey is to take place once agreement has been reached on the funding for this and the work required as a result. A meeting with all the main parties to discuss a way forward is to take place before the next Trustees meeting in May. The Society encourages you to visit this fascinating and important exhibit and, if you have concerns over its state of repair and management, or can offer constructive suggestions for solutions, please communicate them to members of GSG Council and/or Glasgow City Council.

### Hugh Miller writing competition

A competition for geology enthusiasts of all ages; ***closing date 18 March 2016***

Testimonies of the Rocks: the Hugh Miller writing competition is inspired by the geological and landscape writing of Hugh Miller, 1802-1856, and organised by the Scottish Geodiversity Forum, The Friends of Hugh Miller and other partners.

Hugh Miller was self-taught and was a prolific creator of poetry and prose exploring and celebrating Scotland's landscapes and the geology that makes them special. Entries from under 16's as well as from older enthusiasts (i.e. over 16's) are invited. The writing is to be directly inspired by the work of Hugh Miller and could take several different forms, for example, non-fiction, fiction or poem.

See details and rules at [www.scottishgeology.com/hughmiller](http://www.scottishgeology.com/hughmiller)

### **WANTED!**

#### **Back Copies of Scottish Journal of Geology**

One of our Members - Gary Hoare - is looking for copies of the following issues of SJG

- number 13 volume 4 part 4 - December 1968
- number 91 volume 27 part 2 - December 1991
- number 92 volume 28 part 1- May 1992
- number 127 volume 44 part 2 - October 2008
- number 128 volume 45 part 1 - June 2009

If you can help Gary out then please get in touch with him or via the newsletter coordinator at [meetings@gsocg.org](mailto:meetings@gsocg.org)

## Arran Geology Festival, Friday 18 – Sunday 20 March 2016



The Scottish Geodiversity Forum and Visit Arran have organised a weekend full of walks, talks and family activities, taking place from 18- 20 March 2016.

Arran GeoFest partners include SNH, Edinburgh University School of Geosciences, Hunterian Museum, NTS, Arran Outdoor Education Centre, Lochranza Centre and the Geological Society of Glasgow.

For more information visit [www.scottishgeology.com/arran](http://www.scottishgeology.com/arran)

**\*\*\* STILL PLACES AVAILABLE – BOOK NOW!\*\*\***

## New cairn marks the site of the ‘Bearsden Shark’ find

A cairn and interpretive panel are now in place at the site where the fossil of *Akmonistion zangerli* was found in 1981 in the Carboniferous shales at Manse Burn, Bearsden.

The panel was unveiled by Dr Neil Clark, Curator of Palaeontology at the Hunterian Museum, where the well-preserved fossil is displayed.



With support from Tarmac, operators of the nearby Douglasmuir quarry, a community group has worked to provide interpretation at the site which is in the Baljaffray area. The cairn and panel follow previous work to place the words ‘Bearsden Shark’ on railings by the Manse Burn.

## Residential Excursions, North West Highlands Geopark

*Spring Geotour Dates – 22 to 28 June 2016*

*Autumn Geotour Dates – 7 to 13 September 2016*

The North West Highlands UNESCO Global Geopark was the first in Scotland to be designated as a Global Geopark in 2004. The new designation of UNESCO Global Geoparks was ratified in Paris during November 2015. UNESCO Global Geoparks are set up to promote tourism, education and conservation in an area with globally important geological heritage.

Expert tuition by Geopark staff will help you to interpret the geology of this wild and remote highland landscape. The area exhibits unique geodiversity and biodiversity and, as home of the oldest rocks in Europe, the first identified thrust fault and with evidence of the earliest life; the North West Highlands Geopark really is the “Cradle of Geology”.

Full details of the tours and information on how to book can be found here: [www.nwhgeopark.com/geotours-2016/](http://www.nwhgeopark.com/geotours-2016/)

## Report on Annual General Meeting

The AGM was held on Thursday 18<sup>th</sup> Dec 2014. Thanks were expressed to all Council Officers for their work during the recent session, and particularly to those who had come to the end of their term of office. The customary officer's reports were presented. Following the election / re-election of Council Officers, Council now comprises:

President	Jim Morrison
Hon. Secretary	Simon Cuthbert
Vice President	Brian Bell
Vice President	Ben Browne
Vice President	Michael Pell
Treasurer	Ben Browne
Meetings Secretary	David Webster
Membership Secretary	Robin Painter
Excursions Secretary (day)	Roy Bryce
Excursions Secretary (residential)	Katerina Braun
Librarian	Chris Burton
Asst Librarian and Hon. Archivist	Margaret Anderson
Minutes Secretary	Margaret Greene
Proceedings Editor	Mina Cummings
Publications Secretary	Mina Cummings
Webmaster	Bill Gray
Website Coordinator	Emma Fairley
Editor of SJG	Brian Bell
Editor of SJG	Colin Braithwaite
Ordinary Member	David Brown
Ordinary Member	Maggie Donnelly
Ordinary Member	Walter Semple
Ordinary Member	Neil Clark
Ordinary Member	Bob Diamond
Newsletter Coordinator	David Webster
Junior Representative	David Muir
Independent Examiner	Ian Anderson
Strathclyde Geonservation Subgroup Chair	Margaret Greene
Argyll & the Islands Geonservation Subgroup Chair	Alistair Fleming
Fossil Grove Trustee	Walter Semple

The AGM was followed by a lecture from the retiring President, Br Brian Bell and the evening ended with the customary festive social.



# Notices

## Brian Bluck Obituary

Please note that the obituary article for Brian Bluck in Newsletter 158/1 (September 2015) should have included a statement that it had previously been published on the Royal Society of Edinburgh website, authored by Tim Dempster (see [www.royalsoced.org.uk/cms/files/fellows/obits\\_alpha/bluck\\_bj.pdf](http://www.royalsoced.org.uk/cms/files/fellows/obits_alpha/bluck_bj.pdf)).

## Scottish Journal of Geology

This is a reminder that Geology Society of Glasgow members who are eligible to receive the paper version of the Scottish Journal of Geology now have free online access to the full content of the journal, including back issues, via the Lyell Collection. Full details about access can be found in the last Newsletter (available from the GSG website). If you have any problems with access to the Lyell Collection, please contact the Hon. Secretary, Simon Cuthbert [sec@gsocg.org](mailto:sec@gsocg.org)

## Subscriptions

Thank you to all those members who have renewed their subscriptions for the current 158 Session.

**A repeat encouragement to those few who have so far overlooked paying a subscription or who have paid a subscription that was not updated to the increased rates that applied from the start of Session 157.**

A separate reminder note accompanies this newsletter for those who have yet to renew their subscriptions or who have still to update their bankers order to take account of the subscription increase that became payable from the start of Session 157. If you receive your newsletter by e-mail you will already have been sent a reminder of a missed or under payment by separate e-mail.

If you require to set up a Bankers Standing Order as your routine method for future payments (which is the Society's preferred arrangement), please notify the Membership Secretary. A form can be sent to you electronically or by post.

Annual subscriptions for Session 158 are:-

- Ordinary Membership (Including Scottish Journal of Geology): £25
- Associate Membership (available to those over 60, or spouses of Ordinary Members, or members of the Edinburgh Geological Society) : £12.50
- Junior Membership (available to those under 25, or full time undergraduates, or recent (4years) graduates) : £6.25

Note that the Scottish Journal of Geology is only sent to Ordinary Members and to those Junior members who pay an annual supplement of £6.25. Cheques, made payable to Geological Society of Glasgow, should be sent to the Membership Secretary unless a Bankers Standing Order has been signed. Please indicate the Member for whom payment is being made if not apparent from the cheque e.g. a cheque from 'Anyone' paying for a member 'Someone else'. Contact [gsgmemsec@ntlworld.com](mailto:gsgmemsec@ntlworld.com)

## Address Changes

The Society maintains the only mailing list of Society members and any changes should be sent to the Membership Secretary.

Labels for all mailings, including the Scottish Journal of Geology are produced by the Society from the membership record.

## Gift Aid

Any subscription / donation made to a charity by an individual paying UK tax can be treated as a Gift Aid. This means that the Society can reclaim the tax you have already paid on amounts you pay to the Society as a subscription or donation. Currently we can reclaim 20p on every £1.00 paid, thus increasing the value of your subscriptions to the Society (e.g. we can reclaim £5.00 for a £25.00 subscription).

Many members have already signed up to Gift Aid which means that we have approximately an additional £800 pa available to support sponsorships that promote and spread interest in geology and geodiversity. Our thanks to those who have already signed up to Gift Aid.

If you are not currently signed up to support GSG through Gift Aid a form is available from the Membership Secretary. If you complete this form and return it to the Membership Secretary this will enable the GSG to reclaim monies from HMRC. You do not need to do anything other than complete the form and return it.

## Newsletter Send-out: By post or by e-mail?

Sometime after many of us joined the Society we began sending out the newsletter by e-mail to those who wished this (from Session 150). We feel sure also since that time many are now on e-mail that were not when they first joined. However unless you have since given us your e-mail address we can only send you the newsletter by post.

The development of the newsletter now incorporates colour pictures and electronic links to other areas of interest. The hard copy version of the newsletter does not offer these advantages. So if you would prefer the option of receiving the e-mail version, please e-mail the membership secretary. The added benefit to the Society is that this option will also save administrative time as well postage and reprographics costs.

## New Members

We extend a warm welcome to the following new members:-

Mr B A Thomson	Fenwick
Mr J Lawrence	Eaglesham
Miss W King	Cumbernauld
Mr J A Westland	Isle of Mull
Mr J Campbell	Glasgow
Mr J Courtney	Fairlie

## Courses at the Glasgow University Centre for Open Studies

Mike Keen reports: “How about some good news in this bleak (well, wet) mid - winter? I had a meeting with Stella Heath, the Director of the Centre for Open Studies, on Wednesday 20th January, and the outcome is that we will be able to continue with the Earth Sciences programme into the future. Obviously, individual courses will still need to meet enrolment targets, but this is very good news for our geological community around Glasgow. So – the programme for 2016-2017 can now be planned with every expectation that we will see another successful year. The programme will include the certificate course as well as the Open Programme of daytime, evening, and studydays. The reason we can continue is simply that our courses are well supported, and also due to the close relationship with the Geological Society of Glasgow which has been very supportive over the last year or so of ‘crisis’. It is very encouraging that the University has listened to our case and responded positively”.

### Geology in the Field

Wednesdays 10:00-13:00 from 20th April 2016 (6 meetings) Tutors: Dr Mike Keen, Dr Iain Allison, Dr Jim MacDonald, Dr Alasdair McGowan.

Field studies and examining rocks in the field are the basis of all geology. We will examine the geology and geomorphology of a series of areas within easy reach of Glasgow. You will be shown how to identify a range of rocks and geomorphological features within the landscape by experienced fieldworkers. There will be five full-day excursions by private car. Walking will generally be easy and no prior knowledge of geology needed. A short preliminary meeting will be held the week before to discuss field sites and travel arrangements. Daily field trips will be held 27/04/16 - 25/05/16

For further information about courses and enrolling see: [www.gla.ac.uk/study/short/contact/](http://www.gla.ac.uk/study/short/contact/)

## Events from other geological societies

**Edinburgh Geological Society** [www.edinburghgeolsoc.org](http://www.edinburghgeolsoc.org)

**24th February:** Dr Ruth Robinson, University of St. Andrews. *Geothermal Project for heating at Guardbridge*. (Please note this is Joint lecture with the Mining Institute of Scotland and will be held at BGS Murchison House, West Mains Road EH9 3LA)

**9th March:** Dr Brian Bell, University of Glasgow: Clough medal lecture. *Palaeogene magmatic evolution of Western Scotland, with a nod to the work of Clough*

**23rd March:** Paul Mellon and colleagues, Transport Scotland. *Geotechnical challenges of the Forth Replacement Crossing*

**Aberdeen Geological Society** [www.aberdeengeolsoc.org.uk](http://www.aberdeengeolsoc.org.uk)

**10th March:** John Parnell (University of Aberdeen). *Planetary Geology Update*

**31st March:** David Kemp (University of Aberdeen). Topic TBC

**28th April:** Hugh Morel (Iona Energy). *Life of an Oil Field- What do we do for a living?*

**5th May:** John Stevenson (University of Edinburgh). *Historic Impact of Icelandic Volcanoes on NW Europe.*

**Highland Geological Society** [www.spanglefish.com/highlandgeologicalsociety](http://www.spanglefish.com/highlandgeologicalsociety)

**17th February** *The Inverness Museum Geological Collections* – Cait McCulloch Curator (Collections Engagement), Inverness Museum & Art Gallery. NB: this event will be held at the Inverness Museum, commencing at 2.00PM

**17th February** – AGM and short talk: *The Lost Zircons of Upper Badcall: A New Discovery in Old Rocks* – Andy Moffat (HGS)

**2nd March:** – *Minerals and Gems of the Cairngorms* – Roy Starkey

**Westmorland Geological Society** [www.westmorlandgeolsoc.co.uk](http://www.westmorlandgeolsoc.co.uk)

**16th March** Dr Graham Leslie- BGS Edinburgh. *Accretion and tectonic amalgamation in Anglesey*

**Open University Geological Society** [www.ougs.org](http://www.ougs.org)

The Society AGM and Social Weekend is taking place in Scarborough on Friday 15th – Sunday 17th April. Professor Bill McGuire will be delivering the Geoff Brown Memorial Lecture, and there will be field trips to local sites on the Sunday.

The Symposium 2016 is taking place in Exeter on Friday 8th – Sunday 10th July.

---

**Articles for the Newsletter:**

We would like to include short topical article(s) in each Newsletter. If you have news of a recent event or discovery, opinions on geological matters, or wish to let people know about aspects of geology in the Glasgow area or the wider world, then please send your article to the Hon Secretary.

---

**Dr Simon J Cuthbert, Honorary Secretary,**

**The Geological Society of Glasgow**

e-mail: [sec@gsocg.org](mailto:sec@gsocg.org)