

———— THE —————  
GEOLOGICAL SOCIETY  
— OF —  
GLASGOW

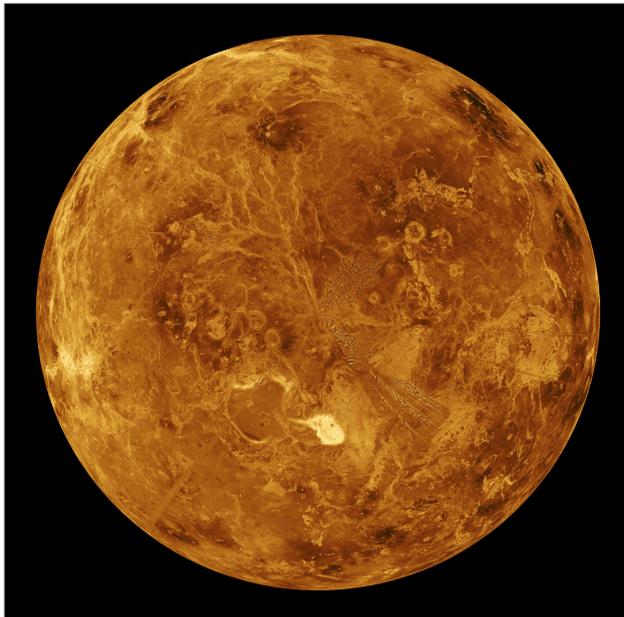
Registered Scottish Charity No. SC007013

**President: Dr Jim Morrison**

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

**November 2017**

**160/2**



A composite image of the surface of Venus taken by the Mariner 10 spacecraft. Dr Simon Cuthbert from the University of the West of Scotland will be revealing 'Venus beneath the veil' in our January 11th lecture. Photo courtesy NASA.

**In this newsletter:**

- Lectures for December, January and February
- Earth Heritage Magazine
- AGM agenda and papers

## 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.

Details of all the lectures for this session can be found on the society's website at [www.geologyglasgow.org.uk/lectures](http://www.geologyglasgow.org.uk/lectures).

**Thursday 14th December 2017** (to be preceded by a brief AGM)

***Professor Stephen Daly, University College, Dublin***

### **“Palaeoproterozoic terrane accretion on the Celtic fringe of the Nuna (Columbia) supercontinent”**

The Lewisian Complex, generally regarded as a distal outpost of the North Atlantic Craton, is made up predominantly of Neoproterozoic terranes welded by Palaeoproterozoic mobile zones, potentially providing piercing points for reconstructions of the Nuna (Columbia) supercontinent. This talk will discuss new results from onshore and offshore outcrops in SW Scotland, NW Ireland and Rockall that shed light on terrane accretion on the southern margin of Nuna. These new data highlight the likelihood that the Nuna margin extended farther south than previously recognised. Its “southern” boundary may be marked by Palaeoproterozoic orthogneisses on Rockall Bank and the Annagh Gneiss Complex in western Ireland. On a broader scale, continental magmatism on the Celtic fringe of Nuna may correlate with the Transcandinavian Igneous Belt.



*Stephen joined University College Dublin in 1981 and has been a Senior Lecturer since 1998 and Associate Professor of Petrology since 2006. He was Head of School from September 2011 to September 2015 and was appointed Head of Subject (Geology) in November 2015. He is Director of the National Centre for Isotope Geochemistry at UCD and served as an Advisory Editor of the Journal of the Geological Society, London until December 2016. He leads the UCD Geochronology, Petrology and Isotope Geochemistry research group. His research interests include the origin and tectonic history of the lower crust, geochemical aspects of*

*geothermal energy and the application of isotope geochemical methods to sedimentary provenance, granite petrogenesis, ore genesis and mantle evolution. Geology aside he likes food, theatre, supporting Leinster and Irish rugby and staying out of the rain.*

**Thursday 11th January 2018**

***Dr Simon J Cuthbert, University of the West of Scotland***

### **“Venus - dark secrets behind the veil”**

Venus, the familiar bright jewel of the morning and evening skies and our nearest planetary neighbour should be the most Earth-like of the other terrestrial planets, but

how much like our own world is it in reality? This presentation explores the current state of knowledge and will, indeed, reveal many familiar features. However, there is much about Venus that is very strange and decidedly hostile. Venus's brilliant white veil hides a bizarre, scorched volcanic landscape. Its dense, roasting atmosphere makes exploration much more difficult than on other planets, so mysteries abound: Does (or did) plate tectonics operate on Venus? What happened to all the water? Why are there metal-coated mountain-tops? Was Venus ever really Earth-like, and could humans ever visit, or even live there? We'll take a peek under the veil and glimpse the real face of Venus...



*Simon is a geoscientist with over 30 years of academic and industrial experience. His research interests include precious metals exploration; characterisation of industrial wastes; water quality in mining, oil and gas extraction; mineral carbon capture systems; intramontane sedimentary basin evolution in the north Atlantic region, and tectonic processes in Himalaya-style mountain-belts. His teaching includes Earth systems science, water quality, Earth resources, environmental technologies, geographical information systems and forensic science. External activities include promotion and protection of geodiversity in Scotland, and public communication of the geological and environmental sciences. He is a member of the Council of the Geological Society of Glasgow and was Hon. Secretary until December 2016.*

## **Thursday 8th February 2018**

### ***Dr Roger Anderton***

#### ***“From Mid Argyll to Mull: the sea bed geology of the Firth of Lorne”***

The geology of the sea bed between Mull, Lorne and Mid Argyll has been interpreted using a new high-resolution bathymetric survey produced by SAMS (Scottish Association for Marine Science). Bedrock ridges are visible over much of the area because of the erosive action of fast tidal currents, although care has to be taken with their interpretation as glacial erosion can produce misleading structural features. As one might expect, the rock units seen on the adjacent mainland and islands are present offshore. Dalradian rocks of the Appin and Argyll Groups underlie the whole area. In the south the distribution of Dalradian formations seen onshore can be inferred, whilst in the north tighter folds and more homogeneous lithologies make interpretation much more ambiguous. Overlying the Dalradian are two areas of ORS (Old Red Sandstone); a small one SW of Kerrera which is an outlier of the Lorne Basin and a large one which underlies much of the western Firth. The latter shows a complex internal stratigraphy which is up to 1.5 km thick and probably forms a half-graben bounded by the Great Glen Fault. The Triassic/Jurassic rocks of Mull extend only a short distance offshore where they unconformably overlie the ORS, the SE coastline of Mull being approximately defined by the base of the Tertiary lava pile. In detail, the sea bed geomorphology of the area is very complex being influenced by the distribution of the bedrock units, faults, fracture systems, Tertiary and other dykes as well as by Quaternary erosional and depositional processes.

Roger has worked extensively on the sedimentology and tectonics of the Dalradian following his Ph.D. on the Dalradian of Islay, Jura and mid-Argyll. He now lives near Lochgilphead following a career at the British Geological Survey, Strathclyde University and in the oil industry with BP.



**Background Reading:** Howe, J.A., Anderton, R., Arosio, R., Dove, D., Bradwell, T, Crump, P., Cooper, R. and Cocuccio, A. (2015): The seabed geomorphology and geological structure of the Firth of Lorn, western Scotland, UK, as revealed by multibeam echo-sounder survey. *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*, **105**, pp 273 – 284.

### **Wednesday 21st February 2018**

#### **JOINT CELEBRITY LECTURE with EDINBURGH GEOLOGICAL SOCIETY**

**Note: this lecture will be held at 7:30 in the Hutton Lecture Theatre, Grant Institute of Geology, The King's Buildings, James Hutton Road, Edinburgh EH9 3FE**

**Dr Robert Holdsworth, University of Durham**

***“Cracked and full of sand: insights into the development of fractured basement reservoirs west of Shetland”***

The fractured Precambrian gneisses of the 200km long Rona Ridge form the SE margin of the Faroe-Shetland Basin (FSB). Basement-hosted oil is known to occur in substantial volumes in at least two fields (Clair, Lancaster). Re-Os dating of bitumen and new U-Pb dating of calcite fills suggests that mineralization and oil charge occurred over a period of 20-30 Ma during the Upper Cretaceous. Mineralization and oil charge is everywhere associated with clastic sedimentary material which occurs either as vein-hosted injected slurries or as laminated infills in mm to dm-scale open fractures. It is likely that Upper Cretaceous seismogenic faulting drove fluid flow through the basement fracture systems and may have also helped to drive oil migration from the Jurassic source rocks. The significance of these findings for fractured basement reservoirs worldwide will be discussed.

More information at: [www.edinburghgeolsoc.org](http://www.edinburghgeolsoc.org)

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## **Residential Excursions 2018**

### **Raasay**

Dates: Fri 27th April to Mon 30th April 2018

Leader: Dr Brian Bell

Please note that this excursion is fully booked. Please contact Maggie Donnelly to go on the waiting list. [restrips@gsocg.org](mailto:restrips@gsocg.org).

## **The Geology of Aberdeenshire – mountains, glens and coast**

Dates: Fri September 14th to Mon September 17th 2018

Leader: Dr Con Gillen

We hope to see gabbros, other basic and igneous intrusions, volcanics, pillow lavas, Devonian sedimentary rocks, the Highland Boundary Fault, and metamorphic rocks of the Dalradian Supergroup.

We should finish around lunchtime on Monday. Exposures are easily accessible using beaches and coastal paths, with some longer flat walks and some ascents. Accommodation will be in B & B and travel in shared cars.

For more details please email Maggie Donnelly at [restrips@gsocg.org](mailto:restrips@gsocg.org).

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## **News and Topical Articles**

### **Plate Tectonic Stories**



To mark the 50th anniversary of the plate tectonics paradigm, the Geological Society have launched their project “Plate Tectonic Stories”. It’s aimed at the public at large, and there’s a competition associated with it to add your own plate tectonic stories to it. The site includes some short podcasts, stories about 20 places in Britain and Ireland and twin sites around the world. Go to [www.geolsoc.org.uk/tectonicstories](http://www.geolsoc.org.uk/tectonicstories) and also follow the discussions on social network outlets.

### **Earth Heritage Magazine: Issue 48 now available**

Earth Heritage is produced twice yearly to stimulate interest in geodiversity and a broad range of geological and landscape conservation issues within the UK and further afield. It is free to download in pdf format from [www.earthheritage.org.uk](http://www.earthheritage.org.uk).

Issue 47 (Autumn 2017) has just been issued. The magazine should interest geological conservation specialists, and those studying Earth and environmental sciences in universities, colleges and secondary education.

Readers can also buy printed versions of current and previous issues via the publications section of the Geologists’ Association website at [www.geologistsassociation.org.uk/publications.html](http://www.geologistsassociation.org.uk/publications.html).



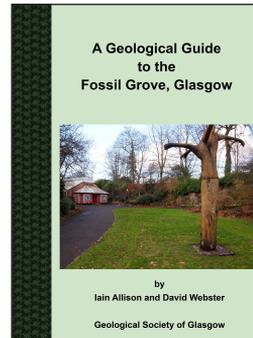
### **Fossil Grove – Update**

The building is now closed for the winter; hopefully the Council will open it again next year from April through to October. The Fossil Grove Trust continues to put pressure on the Council to repair the lighting and the drainage - unfortunately with only limited success. The environmental monitor recently installed by the Trust is showing a humidity

level in excess of 98% which is resulting in excessive condensation on the underside of the roof. Drips from the roof are wetting the fossil floor and causing deposition of complex magnesium salts which are breaking up the surface. Hopefully further progress on drainage repairs will begin to reduce the humidity. The gutters and the footings of the south wall have recently been cleared of leaves. The new posters and fossil displays provided by the Trust have been well received and two successful open-day events have been held. The Parks Dept, in conjunction with Friends of Victoria Park, are clearing vegetation from the over-grown quarry area and planting of a fernery is planned for next spring. The work has uncovered much more of the igneous intrusion.

## New Fossil Grove Guide

A new geological excursion guide to the Fossil Grove has been produced by Society members David Webster and Iain Allison. As well as describing the fossil trees in the building it includes several very interesting localities in the quarry area where a variety of igneous and sedimentary features can be observed. The booklet is available at lecture evenings and also online from the non-fiction pages of the publisher's website at [www.ringwoodpublishing.com](http://www.ringwoodpublishing.com). Cost is £5.



## Glasgow Geology Guide

A guide to the geology of the Glasgow area was published by the Society in 1958, with a revision in the 2nd edition of 1973 and a complete rewrite in the 3rd edition of 1992, which included the Girvan area. The Council has decided that it is time to produce something new. Since the last edition in 1992, many things have changed and we now have the Society's website and the Geoconservation activities of GSG, both of which will have a substantial role to play in any new production. The format of the new guide is currently under discussion by a new Publications Group, headed by Bob Diamond. Contact him or any member of Council if you want more information or feel you have a part to play.

## Geology on the Web

There are several websites and Facebook pages devoted to geology and aimed at a general interest level that are worth having a look at from time-to-time. 'Geology on the Web'.

### Geologypage

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

[www.facebook.com/geologypage/](https://www.facebook.com/geologypage/)

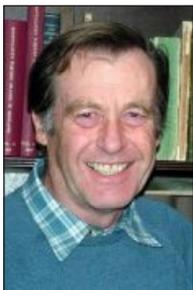
### Geologycafe

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

### iflscience - (environment pages)

[www.iflscience.com/environment/](http://www.iflscience.com/environment/)





## Nigel Trewin

It is with sadness that we note the death of the eminent geologist, Professor Nigel Trewin. Professor Trewin, who was an emeritus professor in the School of Geosciences at the University of Aberdeen, died on October 25 2017. He was the editor of the latest, 4th, edition of *The Geology of Scotland*. On 8 October 2009 Professor Trewin received the society's T.N. George medal for his contributions to palaeontology (especially Devonian fish and the flora and fauna of the Rhynie Chert).

## Arran Geopark

The Arran Trust are in the process of setting up a Geopark on Arran which would not only celebrate the fantastic geology that the island boasts but also to stimulate tourism, bringing economic benefits for island based businesses and service providers.

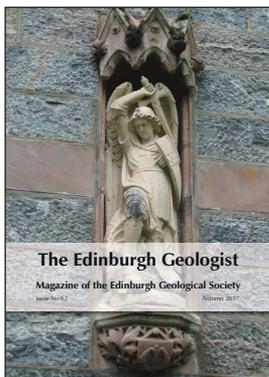


Residents on Arran will also see the benefit of an increased accessibility to learning and visiting the geology of the place they live. Gaining UNESCO Geopark status for Arran will prove a major and lasting draw for visitors which will help to boost Arran's economy and secure local jobs.

The project will involve creating 6 'Geology Trails', setting up an interpretation centre, improving the interpretation and geology displays at the Brodick Castle Ranger Centre and at the Isle of Arran Heritage Museum. In addition there will be 3 annual 'GeoFest' events and a redeveloped website and digital technology to interpret the landscape and geology of the island.

For more information: [www.arrantrust.org/projects/isle-arran-geopark-development](http://www.arrantrust.org/projects/isle-arran-geopark-development)

## The Edinburgh Geologist



The Edinburgh Geologist is a twice yearly magazine for amateur geologists and non-specialists published by the Edinburgh Geological Society. It combines articles on Scottish geology or having a Scottish flavour with poetry, entertainment and other ephemera. The first issue was published in Spring 1977 under the Editorship of Helena Butler. In the following twenty-nine years there were 45 issues and 8 Editors up to Vol 45, in Autumn 2005. After a break, the Edinburgh Geologist was revived as an biannual publication with Vol 46 published in 2009.

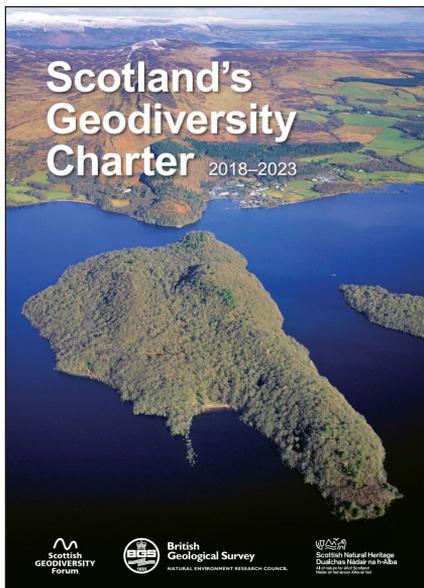
The most recent issue (#62) for Autumn 2017 (and previous issues) can be downloaded (free!) from the society's website : [www.edinburghgeolsoc.org/publications/the-edinburgh-geologist/](http://www.edinburghgeolsoc.org/publications/the-edinburgh-geologist/)

## Council Vacancies

The Council of the Society are looking recruit a Minutes Secretary to commence duties from Sept 2018. This would involve attending approximately 5-6 meetings a year.

Additionally the Council can have up to six ordinary members. If you are willing to join the Council in any of these roles then please get in touch with any Council member.

## Scottish Geodiversity Charter Launch



Scotland has unique and special geology, important not just in its own right but also in its contribution to many different aspects of today's society. This 'geodiversity' – the non-living part of nature – is celebrated and acknowledged in Scotland's Geodiversity Charter, relaunched on 16th November at Dynamic Earth with the support of 82 signatory organisations.

Scotland's Geodiversity Charter highlights the importance of geodiversity to Scotland. Our rocks, landforms, sediments and soils, and on-going geological processes, contribute to the environment, the economy, to cultural heritage and to future development. When the Charter was drawn up in 2012, it was the first of its kind internationally. In the last five years, the Charter has inspired and contributed to many successful projects that have celebrated

and promoted our amazing geodiversity, and many positive steps have been taken to protect and manage important sites. [www.scottishgeodiversityforum.org/charter/](http://www.scottishgeodiversityforum.org/charter/)

## 51 Best Places to explore Scotland's Geology

Dynamic Earth was also the location for the launch of the Scottish Geodiversity Forum's '51 Best Places to see Scotland's Geology' project [www.scottishgeology.com/best-places](http://www.scottishgeology.com/best-places).

The project has been funded by the Heritage Lottery Fund, to encourage the public to engage with the best of Scotland's geology. Part of the project has involved organising Scotland's first Geoheritage Festival, which ran throughout October with more than 50 events throughout the country. Just because the event has finished doesn't mean you can't go and visit these iconic sites for yourself!



## A Mammoth Talk

Ann Ainsworth, Curator of Geology of Glasgow Museums will explain how the Ice Age woolly mammoth survived life in the cold.

Venue: Kelvingrove Art Gallery

Tue 23 Jan at 2pm.



## Lochaber Geopark

Jim Blair of Lochaber Geopark is running a series of winter geology talks at the National Trust Visitor Centre in Glencoe.

There will be four talks, themed "An introduction to Geology, with particular reference to Lochaber and Scotland". All sessions can stand alone though there will be a sequence of topics: The first was on Friday 10th November, with the second on 8th December, then 12th January and 9th February.

Each morning will cost £10 and the last one will be free if you've attended the previous three, or £30 to pay upfront for the whole series. Cafe bills are not included.

On fine weather days there could be an optional local field excursion after lunch. Please bring stout footwear, waterproofs, cameras, binoculars, walking poles, etc. just in case. There's no need to sign up in advance, but if you have any questions, please do get in touch with the geopark.

email: [info@lochabergeopark.org.uk](mailto:info@lochabergeopark.org.uk) phone: 01397 705314

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## Notices

### Subscriptions

Thank you to all those members who have renewed their subscriptions for the current Session (160).

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 160 were due from 1 October, 2017 at the following rates:-

**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'.

**Address changes:** The Society maintains the only mailing list of Society members\* and any changes should be sent by post or e-mail to the Membership Secretary.

\* Labels for all mailings, including the Scottish Journal of Geology are produced by the Society from Society records.

**Membership Card:** The membership card which you should have received with the previous newsletter not only gives information on the lecture programme, but can also be used to provide proof of membership when joining the University Library for example. To validate it you need to add your name and reference number, which is printed on the right of the mailing label used for the newsletter. or from the Membership Secretary.

**Membership Secretary:** Campbell Forrest, e-mail:- [memsec@gsocg.org](mailto:memsec@gsocg.org)

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## Courses at the Glasgow University Centre for Open Studies

### Geology in the Field

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. There will be five full-day excursions by private car. Walking will generally be easy and no prior knowledge of geology needed.

Date: Apr 25 - May 30, 2018

Tutor: Michael Keen

For more information and to book: [www.gla.ac.uk/study/short/book/category/167](http://www.gla.ac.uk/study/short/book/category/167).

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## Events from other geological societies

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

10th January – Asher Haynes (Sirius Minerals): Polyhalite Mining in North Yorkshire

24th January – Dr Jonathan Cloutier (University of St Andrews): The use of short-wave infrared hyperspectral reflectance in mineral exploration

7th February – Hanah Watkins (Aberdeen University): Predicting strain and fracture patterns in a fold-thrust belt, NW Scotland

21st February – Dr Robert Holdsworth, (University of Durham): Cracked and full of sand: insights into the development of fractured basement reservoirs west of Shetland. Joint Celebrity Lecture with Geological Society of Glasgow.

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

7th December – Dr Alex Brasier (University of Aberdeen): Examining Rocks, from Eyes to SEM

8th February – Dr Jonathan Merritt, (BGS ret): The Glaciation of NE Scotland – a review of 175 years of research

22nd February – Dr Clive Rice, (University of Aberdeen): The Souter Head subvolcanic prospect & revelations on the Grampian Orogeny

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

13 December – Professor Peter Scott, (Peter W. Scott Ltd. and Camborne School of Mines, University of Exeter): Clay

10 January – Dr John Heathcote, (HGS) Hydrogeology - water under the ground

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

17th January – Prof. Harry Pinkerton, (Lancaster University): Dealing with unexpected eruptions on volcanic islands

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### 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 or the Newsletter Coordinator.

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**Hon. Secretary:** Walter Semple email: [sec@gsocg.org](mailto:sec@gsocg.org)

**Newsletter Coordinator:** David Webster email: [meetings@gsocg.org](mailto:meetings@gsocg.org)

**Geological Society of Glasgow**  
**Annual General Meeting**  
**Thursday 14th December 2017**  
**Agenda**

1. Welcome
2. Apologies
3. Approval of Minutes of the Annual General Meeting of Session 159 held on Thurs 8th December 2016 and any Matters Arising.
4. Reports
  - a. *President's report*
  - b. *Meetings Secretary's report*
  - c. *Day Excursions Secretary's report*
  - d. *Residential Excursion Secretary's report*
  - e. *Librarian's report*
  - f. *Publications Officer's report*
  - g. *Proceedings Editor's report*
  - h. *Scottish Journal of Geology Editors' report*
  - i. *Website report*
  - j. *Membership Secretary's report*
  - k. *Strathclyde Geoconservation Group report*
  - l. *Geodiversity: Argyll and the Islands report*
  - m. *Treasurer's report*
5. Nominations and Election of Office Bearers
6. AOCB

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**AGM Papers and Reports**

**Item 3: Minutes of previous AGM held 8th December 2016**

Draft Minutes of the Annual General Meeting of Session 159

**1. WELCOME**

Dr Brian Bell, welcomed all present and gave the apologies on behalf of the President, Dr Jim Morrison, who was unable to attend.

**2. APOLOGIES**

Dr J M Morrison

**3. MINUTES**

The minutes of the AGM of Session 158 which was held on 10th December 2015 had been distributed with the newsletter and were approved unanimously.

**4. REPORTS**

Dr Bell went through the reports of the various office bearers, copies of which had been sent out to members in the newsletter prior to the AGM.

The reports were as follows: -

The President's report  
Meeting Secretary's report  
Day Excursions report  
Residential Excursion report  
Library report  
Publications Officer's report  
Proceedings Editor's report  
Scottish Journal of Geology Editor's report  
Website report  
Membership Secretary's report  
Strathclyde Geoconservation Group  
Geodiversity: Argyll and the Islands  
Treasurer's report

Dr Bell asked for any comments, of which there were none, and noted that the website development had progressed well.

## **5. NOMINATIONS AND ELECTION OF OFFICE BEARERS**

The list of officers coming up for election with nominees, proposers and seconders was as follows:

<b>Position</b>	<b>Nominee</b>	<b>Proposed by</b>	<b>Seconded by</b>
Hon. Secretary	Walter Semple	S Cuthbert	J Morrison
Treasurer	Ben Browne*	M Greene	D Webster
Archivist	Margaret Anderson*	W Gray	M Greene
Residential Excursions	Maggie Donnelly	J Morrison	B Browne
Junior Representative	Matthew Staitis	M Cummings	R Bryce
Publications Secretary	Mina Cummings*	R Bryce	W Semple
Proceedings Secretary	Mina Cummings*	M Donnelly	R Painter
Webmaster	Bill Gray*	M Cummings	R Bryce
Website Consultant	Neil Clark*	M Donnelly	W Gray
Ordinary Member	Simon Cuthbert	J Morrison	B Browne
Editor of SJG	Brian Bell*	N Clark	J Morrison
Editor of SJG	Colin Braithwaite*	J Morrison	N Clark
Independent Examiner	Ian Anderson*	B Browne	M Cumming

Note: \* Denotes retiring postholder willing to stand again

The following Ordinary members were proposed:

Helen Kennedy                      proposed by Mina Cummings, seconded by Brian Bell  
Campbell Forrest                    proposed by Walter Semple, seconded by David Webster

Also for Publications (bookshop)

Bob Diamond                        proposed by Mina Cummings, seconded by Brian Bell

All of the persons proposed for election were elected by unanimous approval.

There being no further business Dr Bell then introduced Dr Tony Fallick from the Scottish Universities Environmental Research Centre to speak on 'Planet Earth's Midlife Crisis'.

## Item 4: Reports

### a. President's Report

During Session 159 (Oct 2016 to Sept 2017) the Society's activities – lectures, excursions, Council meetings, etc. have continued in a lively manner.

Our membership currently stands at 336 according to new Membership Secretary Campbell Forrest. Campbell is planning to obtain new software which will make the data more accessible. Warmest thanks are due to retiring Membership Secretary Robin Painter, who has given 12 years of excellent service to the Society. Our present membership figure is sound because of Robin's sterling efforts to have a genuinely 'current' list.

On a retirement note, copious thanks are due to Dr Chris Burton who is retiring as Society Librarian after an incredible 44 years in post. Chris has also been an almost inexhaustible fount of geological wisdom – fortunately, we will not be losing that aspect of his many talents!

Our lectures have maintained their high standard and have been well attended and appreciated. Our speakers seem to enjoy their visits and the interaction with members at tea and coffee afterwards.

Some of the summer day excursions were not quite as well attended as usual, perhaps as a result of the indifferent 'summer' weather. In contrast, those of us lucky enough to attend the second weekend excursion to Ardour in May with Jim Blair of Lochaber Geopark experienced four days of perfect weather and some wonderful geology.

A 'one-off' event this year was on the investment front when the firm with whom we have dealt for some years informed us that our account was too small and they were stopping the service. Our financial sub-committee met several times to discuss this situation and come up with an alternative. This has now been implemented and should provide a better income with which we can support appropriate geological activities. Our Treasurer sensibly ensured that we did not saddle his successors with annual decisions on investments. Thanks are due to Walter Semple and Robin Painter for supplying expertise and hard work that aided the decisions of the sub-committee.

I can report that the Geological Society of Glasgow is in a healthy condition and its Council and members are looking forward to another successful Session in 2017-2018.

*Jim Morrison*

### b. Meetings Secretary's Report

Our first lecture of the session on the 13<sup>th</sup> October 2016 was given by **Dr. Rachel Wood**, who is Professor of Carbonate Geoscience at the University of Edinburgh. Her talk was entitled '**The great dying: what happened 250 million years ago?**' At this time the Earth saw the greatest mass extinction known, where over 90% of all marine life disappeared. She showed evidence from the continuous carbonate successions in the Middle East and discussed the role that extensive volcanic eruptions may have played in altering the ocean chemistry. She drew analogies with what is happening in our seas today.

On the 10<sup>th</sup> November we went underground with **Dr. Ian Fairchild**, Professor of Geosystems at the University of Birmingham who gave a talk on ***'Cave deposits (speleothems) as archives of past environments and climates'***. He introduced Quaternary palaeoclimate and followed this by a discussion of how caves function and the manner of formation of speleothems. Then he considered the many properties that speleothems display that may be modified depending on an interaction of climate with the cave and karst system and gave a concise description of how Uranium-Thorium radiometric dating can be combined with counting of annual layers. Finally, he used some case examples as illustrations of the varied ways in which past climates and environments have been brought to life by studying the underworld.

In a change to the original programme, **Dr. Tony Fallick** from the Scottish Universities Environmental Research Centre in East Kilbride gave a talk on ***'Planet Earth's mid-life crisis: carbon isotopes, concretions and the "Great Oxidation Event"'*** after the brief AGM on the 10<sup>th</sup> December. Around 2.2 billion years ago, the Earth experienced a series of dramatic upheavals which accompanied the transition from a reducing to an oxidising ocean and atmosphere system. The global carbon cycle was perturbed to an extent unparalleled before or since. From concretions in sediments, he showed evidence that the manner in which organic matter is remineralised underwent radical change. However, in a nod to the 'Gaia' hypothesis the exact sequence of events leading to this "greatest pollution event of all time" (a phrase coined by James Lovelock) is not yet clear. The interplay of the records of oxidised carbon (as carbonate) and reduced carbon (as organic matter) is especially problematic. He explained that recent drilling in Arctic Russia has produced a marvelous new archive of 3.6 km of drillcore with which these and other issues are being addressed.

Into 2017 and on the 14<sup>th</sup> January **Dr. Stephen Brusatte**, who is the Chancellor's Fellow at the University of Edinburgh addressed the Society on ***'Scotland's Jurassic Park: The Isle of Skye and New Fossil Discoveries by the PalAlba Group'***. Steve told us that you can find dinosaurs in Scotland which are important on an international scale. The Isle of Skye is one of the few places in the world that preserves fossils of dinosaurs, crocodiles, lizards, turtles, and even tiny mammals from the middle part of the Jurassic Period, about 170 million years ago. He described the fieldwork that the PalAlba team - a collaborative group of Scottish palaeontologists - has been conducting on Skye and explained the importance of the fossils and described a remarkable dinosaur tracksite left by colossal long-necked dinosaurs moving through an ancient lagoon.

On the 9<sup>th</sup> February **Dr. Diarmud Campbell**, who is the Chief Geologist (Scotland) at the British Geological Survey in Edinburgh gave us a talk entitled ***'Making better use of the ground beneath our cities: Glasgow has shown it helps to ASK'***. He explained that knowledge of the subsurface is a vital element in delivering successful construction and regeneration projects — yet poor understanding of ground conditions is widely recognised across the UK and Europe as the largest single cause of project delay, as well as overspending. To help address this, the British Geological Survey (BGS) has, through its Clyde-Urban Super-Project (CUSP), developed highly visual, and easy to use, city-scale 3D subsurface models and other geoscience datasets (geochemistry, groundwater,

engineering geology etc.) in the Glasgow area. These have been providing new insights into Glasgow's complex superficial deposits and bedrock, the impacts of its industrial legacy, and opportunities for harnessing heat energy that lies beneath the city.

On the 9<sup>th</sup> March **Dr Derek Fabel**, from the Scottish Universities Environment Research Centre, addressed us on '**Extremely rare isotope metrology**'. He took us behind the scenes at SUERC to illustrate the complexity and effort involved in making these types of measurements. He explained that precise and accurate measurement of isotopes in minerals and rocks is key to understanding the Earth. Radiometric dating is the principal source of information about the absolute age of rocks and other geological features, or the age of the Earth itself, and together with stratigraphic principles, has been fundamental in establishing the geological time scale. He concluded that radiocarbon and surface exposure dating rely on being able to measure the abundance of extremely rare radioisotopes in the sample material using a technique called accelerator mass spectrometry.

The last lecture of the session on the 20th April was given by **Professor John Parnell** of the University of Aberdeen on '**An Alternative Fossil Record: Evidence for a Deep Biosphere in Scotland's Past**'. He told us that the story of life on Earth is largely subsurface, and only since the evolution of land plants in the last 10% of Earth's history has the locus of biomass shifted to the planetary surface. He went on to describe examples from Scotland which yield a range of evidence such as organic biomarker evidence for subsurface biodegradation; isotopic evidence for microbial colonization in the subsurface; metal concentrations in red beds attributed to bacteria; and preservation of microbial filaments in fracture-fill vein minerals. He concluded by putting them in the wider context of planetary habitats.

**Members' Night** on the 11th May rounded off Session 159 in the usual fashion with several short presentations by members of the Society. These were Joan Walsh: "Identification of Scottish Slates", Simon Cuthbert: "Conserving Nature's Stage - Geodiversity for the bewildered.", Margaret Greene: "Geodiversity" and David Jarman: "The Romanian Carpathians - Range destruction by rock slope failure."

*David Webster*

### **c. Day Excursion Secretary's Report**

The day excursions program started on June 3rd with our joint excursion with the Edinburgh Geological society. This year it was our turn to organise the event and I opted for a trip to the Fintry Hills with a walk to and along Kilewnan Burn continuing to the top of Dunmore, then downhill to Fintry quarry. The excursion was followed by a very sociable high tea at the Fintry Sports and Recreation Club, in company with our Edinburgh colleagues. Our leader on the day was Dr Con Gillen and my sincere thanks to him for coping with such a large party. There were 13 participants from GSG.

The next excursion was on 10th June to view the abandoned lead workings above Tyndrum and then to visit four sites in Glen Orchy in the afternoon. Our leader was Dr Iain Allison and we had 10 participants.

Following last year's successful visit to the Glasgow Museums Resource Centre in Darnley, we arranged a further visit on 24th June. The 12 participants made their own way to the centre. Many thanks to Ann Ainsworth for her excellent presentation of the intriguing exhibits that are not usually on public display.

The third field trip was on 22nd July to visit sites in the Comrie area. We started with a visit to the Earthquake House just outside the town where we were given an excellent talk by Chris Palmer who looks after the equipment on behalf of the BGS. We then took a walk along Glen Lednock to see the De'il's Cauldron waterfall where the River Lednock has incised a rock-cut gorge. We then indulged in some democracy and chose to return next year to view the Comrie pluton rather than rushing the day, so one of next year's excursions is already arranged! Many thanks to Dr Simon Cuthbert for his enthusiastic explanations to the 21 participants.

Dr Con Gillan was kind enough to offer to lead two excursions this year so on 29th July we met him in Little Glen Shee to examine Dalradian rocks. There were 19 participants on this trip.

Our final day field trip on 19th August was to Southerness on the Solway Coast on an excursion very ably led by Dr Chris Burton. This was our only coastal excursion this year and offered the 20 participants a chance to examine the Kirkbean Outlier.

As ever, could I thank everybody who joined us on the excursions, without your participation we would not be able to make these trips happen.

On a final note, I am still struggling a little to get the best funding structure in place for the day trips. Due to lower participation than expected on the first two trips, and my unwillingness to charge extra for poor attendance to locations chosen by me, the Society lost money overall this year. Your Council is discussing the charging structure for next year's trips.

*Roy Bryce*

#### **d. Residential Excursion Secretary's Report**

Two residential excursions took place this session. The first was to Lochaber which took place from Fri 21st to Mon 24th Sept 2017; and was repeated over the weekend of Fri 5th to Mon 8th May 2017. It was led by Jim Blair, Chairman of Lochaber Geopark Association. Thirty-four members showed interest in the excursion to and so it was decided to have two weekend trips with, in the event, 16 members on the first and 17 on the second. Both went very well with good weather, excellent geology and scenery.

The second excursion was to Causeway Coast of Antrim, which ran from Fri 8th to Mon 11th Sept 2017 and was led by Dr Fiona Meade. This trip also went very well with 16 participants, fairly good weather and again excellent geology and scenery.

On all three, travel was by private cars and volunteers were 'persuaded' to write a half day report, providing 6/7 reports for each trip.

*Maggie Donnelly*

## **e. Librarian's Report**

Once again the Library has provided a wide range of books, memoirs, journals and, above all, guides for our regular users. Loans this session ranged over topics as widespread as the geology of the Antarctic and, at the opposite end of the planet, the geology of Greenland, igneous geology - from the mantle upwards, and many guides to UK localities. The Library also has a comprehensive coverage of UK geological maps, including most Scottish sheets - these can be supplied by the Librarian on meeting nights between 7 and 7.30 pm.

This session the Library received a very large donation of books and maps from Professor D. R. Bowes consisting of 100 books on all topics and some maps, notably of the Czech Republic and Slovakia. The books, many new, cover an astonishing range, both geographically and geologically with strong emphasis on Precambrian geology and metallogeny from almost every continent on the globe. A large tranche of the collection relates to the Lewisian of NW Scotland and the Outer Hebrides

The volume of the above donation meant that the Library underwent a considerable reorganization during summer 2017 and is now in good shape for the future.

After forty-four years as the Society's Librarian I'm standing down at this AGM. It has been a privilege to serve for so long and in such an interesting post and, while I don't wish such a long stint on my successor, I do wish him/her the best of fortune.

*Chris Burton*

## **f. Publications Officer's Report**

The bookshop continues to be a popular part of lecture nights and nearly £150s worth of sales were made by the end of 2016. As of January 2017 I was unable to carry out the duties of bookshop officer and my place was taken by Bob Diamond, several months earlier than he had expected. He has my sincere thanks for stepping in and taking over at such short notice. The online sales, mainly of Madeira Guides, continue unabated and 24 books were sold by mail by the end of June 2017. Bob has now taken over all aspects of managing the bookshop and I am sure it is safe in his hands and will continue to be a very successful aspect of lecture nights.

*Mina Cummings/Bob Diamond*

## **g. Proceedings Editor's Report**

The session 158 proceedings were slightly longer than usual due mainly to the excellent photographs provided by the trip reporters. As is now our normal practice the full text of the proceedings has been made available on the website and the trip reports are available individually with all photos reproduced in their original colours. My thanks to all those who wrote reports and provided the photos and as always to Bill Gray for uploading everything to the web.

*Mina Cummings*

## **h. Scottish Journal of Geology Editors' Report**

Members of both Societies will be aware that the Scottish Journal is experiencing difficult times. The last issue of 2016 (volume 52-2) included only four papers, totalling 43 pages. The first issue of 2016 (volume 53-1) was again only 4 papers totalling 39 pages, and it is likely that 53-2, now in production, will be 45 pages and will be online on 15th November. This is not a reflection of either the quality of production, or the quality of the papers published. The issue lies with the rate of submissions. We have previously reported reasons why this may be so but knowing the cause of the problem does not solve it.

The Board is actively discussing ways of attracting more submissions but a recent meeting with representatives from the Geological Society Publishing House has indicated a number of improvements that can be expected to influence matters. First, the Lyell Collection where the Journal is posted online has been upgraded to a new platform (<http://sjg.lyellcollection.org/>) The new website is “cleaner” and easier to navigate and browse and both articles and attached data can be opened and read by subscribers. This new platform also allows papers on a specific topic or theme to be bundled together into a collection. These collections can then be promoted to a broad readership and made available free of charge for an agreed period. The change from lithographic to digital printing has reached a point where the disparity between costs has closed and the quality of digital printing is now equal to that of previous methods. While this does not yet apply to SJG we are not unaffected. Both the Lead Time and Production Time are decreasing thanks to efforts by the SJG Editors to speed up peer review and GSL efforts to publish papers as soon as possible Online First. Colour printing will now become the norm with authors able to use colour as they see fit at no charge. Ultimately, reviewed and accepted manuscripts, formatted by the author, will appear online immediately, protected behind a paywall, and only followed later by copy-editing and formatting to SJG standards (that are the same for all GSL published journals) in regular issues of the journal. There is a developing use of what we might call alternative metrics. These are designed pick up references in other journals and in social media, demonstrating impact beyond simple citations. GSL has 36,000 Twitter followers and ~10,000 on Facebook and gathers data on “most read” articles and online impact. It also produces and distributes regular electronic newsletters to authors, librarians and researchers, highlighting key papers and other developments.

All GSL publications are stored in CLOCKS, a “dark archive” that collects all published papers. This is designed for the unlikely event that any Journal should fail, so that all published articles would be made available on an open access basis

About 18% of GSL sales (that include SJG) are in the UK with 25% in the rest of Europe, and the remainder world-wide. In addition to the Lyell Collection, all articles are hosted on GeoScienceWorld (<http://sjg.geoscienceworld.org/>), which has 450-500 institutional subscriptions (note that these are not individual readers but groups that may be numbered in hundreds) as well as several large consortial customers in China and South America. GSW is also moving to a new platform hosted by Silverchair.

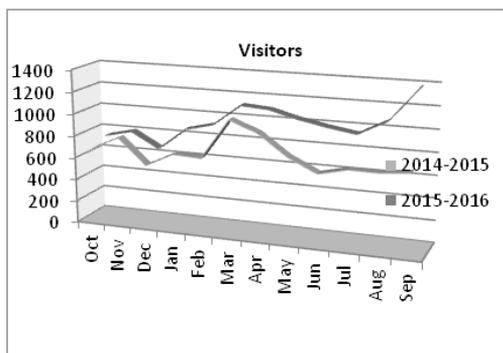
These developments are all likely to have a positive impact on SJG but it is important to recognize that Publishing is itself evolving. As noted, there is already a migration from print to online with concurrent rapid increases in the speed of production. Larger publishing houses, including GSL, are moving from sales of single Journals to distribution of bundles of titles. This is particularly important when Libraries are faced with flat or declining budgets, and purchasing models are evolving. Apart from the proliferation of new, online only, journals that charge authors for publication, there are concerns about piracy and illegal hosting of materials for which the host has no legal title. Another recent development has been the appearance of Preprint Servers where there could be a grey area between legitimately posted papers from authors and material in the process of publication by other bona fide publishers. This may be resolved in new data protection legislation. Finally, there is the issue of who “owns” data. Grant awarding bodies now place a variety of restrictions on how, when and what material can be published. This is resulting in a proliferation of licences and mandates with no common principle as to how data should be treated.

These issues are not unique to SJG but form the common environment that all Journals must face. Our immediate issue is in the low rate of submissions. Recent changes mean that we have new figures on the Editorial Board and new ideas on how to address this key issue, and we will be working with GSL to develop plans to strengthen the journal. We hope to see the results of some of these in the coming year.

*Colin Braithwaite*

## **i. Website Report**

Session 159 was a period of consolidation for the website. The Lectures and Excursions sections continued to be used to publicise the society’s activities to members and non-members alike. Thanks to the efforts of the society’s honorary archivist Margaret Anderson, the Archive section was expanded to include a new set of extracts from the society’s proceedings for significant anniversary years (150 years ago to 25 years ago at 25 year intervals). This page is well worth exploring for the insight it gives into the society’s past activities and for the wealth of fascinating historical material it contains. Another page that also features new content is the Society Presidents page (in the About Us section). This page contains a list of all the society’s former presidents, and the



plan is eventually to have a link from each president’s name to biographical details about them. During the session, biographical information was added for several presidents. Again, this page is well worth exploring, to learn about some of the fascinating people, both famous and less well known, who have served as president.

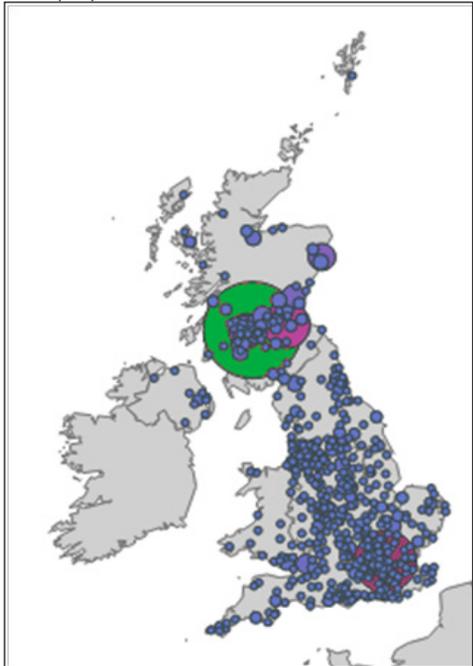
The traffic to the website has increased steadily since the website

was launched in January 2011. In Session 159 there were 20274 visits to the site, an increase of 75% over the total for the previous session (11590). The number of visitors, as opposed to visits, was 16515, an increase of 86% over the previous session's total (8867). The chart shows the number of visitors each month for Sessions 159 (2016-2017) and 158 (2015-2016).

The increase in visits reflects increased traffic both from the UK and from abroad. The number of visits from the UK increased from 7664 in Session 158 to 8436. Outside the UK, the three most productive countries were the Philippines with 3443 visits (762 in the previous session), the USA with 2328 (948) and India with 1417 (229). Within the UK, Scotland accounted for 5115 visits (4373 in Session 158), England for 3117 (2880), Wales for 123 (103) and Northern Ireland for 72 (79).

The map shows the amount of traffic from cities within the UK. Glasgow was the most productive city, with 2251 visits (1728 in the previous session), followed by London with 962 (970) and Edinburgh with 519 (503).

The most popular part of the website was the Local Rocks section, with the Rock-forming Minerals page accounting for a massive 22.1% of pageviews, followed by the Metamorphic Rocks page (5.2%) the Scottish Fossils page (3.0%) and the Local Rocks home page (2.6%). Other popular pages were the website's Home page (12.4%), the Lectures page (2.3%) and the Excursions page (2.0%). By far the most productive source of traffic to the website was Google, which was responsible for 15074 visits (7293 in the previous session), but the next most productive was direct logons to the website, which produced 3151 (2153) visits. Bing produced 490 (416) visits and Yahoo 136 (154). The majority of the remaining visits resulted from referrals from other websites. The most productive source of referrals was Facebook (124 this session compared to 46 last session), followed by the campsies.co.uk website (96 compared to 80), the Edinburgh Geological Society website (56 compared to 104) and Wikipedia (50 compared to 4).



Because of some issues with the society's old Facebook page, a new page has been constructed; the title of the new page is "GSG Geological Society of Glasgow". A slow start to this page was expected because the only way to contact the followers of the old page (those who "like" the page) was to post a message on that page to promote the new page. As before, some of our posts have been more popular than others. The post on the display of Cononish gold at the Hunterian attracted over 650 visitors to the page

and the fake news story in the Herald about a tyrannosaur having been found on the Isle of Skye drew 340 visitors. With over 1,750 visitors over three months, the page is doing well. If you have a Facebook account, or use other social media, please “like” and share any society posts that you find particularly interesting.

A similar story applies to the society’s Twitter account, and a new account has had to be created; its name is @GeoSocGlasgow. If you have a Twitter account, please follow us and retweet any of our tweets that you like.

There is also a Wikipedia article about the society. However, as far as we know, this article was not created by a society member. (Wikipedia editors can be anonymous, and the creator of this article is.) It originally contained some inaccuracies and out-of date information, but I have managed to edit the article to correct these errors and add some additional material. I envisage that we will continue to expand and enhance the Wikipedia article.

As Webmaster, I am responsible for the day-to-day running of the website. In this task I am assisted by three society members who join me in the website working group. Neil Clark (Web Consultant) assists with the development of the site and looks after the society’s Facebook page. Maggie McCallum takes care of the Geoconservation section of the site and Maggie Donnelly chairs the working group. I am grateful to all three for their continuing support.

The website requires a continuing input of news items and event details to keep it fresh and topical. I am grateful to society members who have provided such material in the past and encourage all members to continue to send relevant articles and information to: [web@gsocg.org](mailto:web@gsocg.org).

*Bill Gray*

## **j. Membership Secretary’s Report**

Overall membership numbers at the end of Session 159 were little changed, as was the new members joining rate. The number of memberships closed (memberships are closed either by resignation, non-payment of fees or death) in Session 159 was almost in balance with the number of new members joining..

	At end Session 159 (30 Sep 2017)	At end Session 158 (30 Sep 2016)
Honorary Members	5	6
Ordinary Members	246	248
Associate Members	68	65
Junior Members	13	15
TOTAL Members	332	334
New Members	23	21
Memberships Closed	25	43

*Robin Painter*

## **k. Strathclyde Geoconservation Group Report**

**SGG:-** The office bearers have not changed and Margaret Greene remains chairperson, David Hamilton as Treasurer and Barbara Balfour as Secretary. Maggie McCallum is in charge of website matters and Margaret Anderson in charge of archives. Usually about 8 to 10 members attend the meetings. SGG has one new member, Matthew Staitis.

**Leaflets/Booklets/Geology walks:-** SGG leaflets continue to be distributed. Where copies are scarce, laminated copies have been dispersed in appropriate outlets. No Campsie Glen leaflets are left but work is in progress to revise the leaflet in order to reprint. There are no Balmaha leaflets left. Ardmore Point leaflets are very low. 1000 copies of Dumbarton Rock leaflets have been printed this year and are particularly popular with Dumbarton Castle and Balloch Information Centre. Good progress is being made with the Glasgow Necropolis leaflet. Margaret Greene led a successful walk on 16th September 2107, with 18 participants, as part of the program for Glasgow Doors Open. SGG continue to work on linking sites of interest to the SGG part of the GSG website and investigating linking leaflets to mobile phone apps.

**Strathclyde Councils:-** SGG continue to work with Councils of East Dunbartonshire, West Dunbartonshire, South Ayrshire, Inverclyde, Renfrewshire, North Lanarkshire (ably assisted by SGG members, Paul Carter and Mike Browne), in South Lanarkshire with the Clyde and Avon Valleys Landscape Partnership and in North Ayrshire with the North Ayrshire Landscape Partnership Group. This work entails help with Local Geodiversity Action Plans, help and advice with the geology associated with proposed trails and preservation of sites etc., and liaising with Councils re. identifying sites for inclusion in Local Development Plans. SGG volunteered to type up more than 30 hand written site assessment sheets for Paul Carter and Mike Browne who had done the assessments. These were duly passed to the Biodiversity Officer of North Lanarkshire Council to be incorporated in their LDP. MG, Chair of SGG, has commented on the Main Issues Report, South Lanarkshire, which includes 12 sites assessed by BGS, and also on the Inverclyde Main Issues Report, recommending six sites suggested by Chris Burton as geodiversity SINCS.

**Scottish Geodiversity Forum:-** Scottish Geodiversity Forum (SGF) is promoting EarthCaches in Scotland. SGG are interested in helping to promote this too, with particular interest in some work done already, concerning the Glasgow Necropolis. SGF is organising a Geoheritage Festival in October 2017 and several SGG members will be leading geology walks. MG continues to attend appropriate meetings and to encourage additional signatories to the Charter. MG has obtained agreement from the Clyde & Avon Valley Landscape Partnership to sign up to the Scottish Geodiversity Charter. Glasgow City Council has signed up to the revised Scottish Geodiversity Charter.

East Dunbartonshire held a symposium on Friday 8th September 2017 at Mugdock Country Park, entitled Dunbartonshire's Biodiversity and Green Network: Past, Present and Future. Two SGG members attended and Dr Iain Allison wrote a comprehensive report for circulation to SGG members. At this symposium Angus Miller, chair of Scottish Geodiversity Forum and Councillor Jim Gibbons, Convenor of Place, neighbourhoods

and Corporate Assets, signed the revised Geodiversity Charter. SGG intend to make a contribution, to the cost of the fee of £35, to SGG members who wish to attend the Charter launch at Dynamic Earth in Edinburgh on 16th November, 2017.

**Fossil Grove:-** David Webster who is a Trustee of Fossil Grove and also a SGG member is keeping the SGG informed of any developments regarding Fossil Grove. SGG organised events for children and adults at FG in conjunction with Glasgow Doors Open on 16th September 2017. Iain Allison and David Webster have written an excursion guide to FG quarry which is now available for purchase. A revised version of the SGG leaflet is being printed. One volunteer, Allison Drummond, from SGG has been liaising with the visitors to FG over several Sundays, finding out what they think of the fossils and the condition they are kept in. Positive for the fossils and negative for the conditions.

*Margaret Greene*

## **I. Geodiversity: Argyll and the Islands Report**

GAI members have worked on three of the 51 Best Places locations, and all three of them are now included in the list. James Westland submitted two sites – Staffa and Iona – while Alastair Fleming submitted the Luing and Atlantic Islands site. In addition in Argyll, David Webster has contributed the Islay site, but not connected with GAI. However the Luing and Atlantic Islands site overlaps with the Islay site as both include reference to the Garvellachs – fortunately the submissions seem mutually supportive! GAI originally suggested a long list of 10 sites, so with four sites in the final list GAI feel well represented! The next step may be to produce local leaflets/booklets for each site. We would also mention the existence of John Sedgwick’s private publication of the Geology of Seil and Easdale, which gives an excellent introduction to the geology of the Slate Islands.

*Alastair Fleming*

## **m. Treasurer’s Report**

The Income/Expenditure Account and the Balance Sheet are shown below. These have been checked and signed-off by Ian Anderson, Independent Examiner.

### **Notes to the Accounts**

#### **Income & Expenditure**

Steady increase in membership fees and gift aid.

True return on book sales masked by necessary revaluation of stock.

Deficit on two less-popular Saturday excursions almost recouped by the remainder.

Weekend excursions popular with modest surplus.

Lecture Meetings cost rather less than last year.

Proceedings: increase in printing (27%) and postage (102%) costs due to increased weight.

Sponsorship of £500 to Remote Scotland Expedition.

Library paid subscription to Paleontology for both last year and this.

Newsletter: a significant increase in costs after losing access to university printer now largely rectified.

We returned a surplus of £1,506.39p.

THE GEOLOGICAL SOCIETY OF GLASGOW					
Income and Expenditure Account for year ending 30th September 2017					
		Session 159		Session 158	
		2016 - 2017		2015 - 2016	
<b>Income</b>					
1. Subscriptions					
Received during year		7332.42		7277	
Deduct paid in advance this year		-324.32		-242	
Add received in advance last year		<u>241.67</u>	7,249.77	<u>92</u>	7127
2. Investment Income					
Dividends		636.25		600	
National Savings		<u>142.79</u>	779.04	<u>160</u>	760
3. Gift aid					
			1,299.67		1196
4. Publications					
In house	net surplus	422.59		414	
	Stock devaluation	-421.51		Reval'n 113	
Moine Guide	Revenue	250.36		14	
	Stock sold/devalued	-131.25	120.19	0	541
7. Saturday excursions					
	net deficit	-37.78			-6
8. Week end excursions					
Lochaber 1	net surplus	10.40			0
Lochaber 2	net surplus	22.30			
Antrim	net surplus	<u>81.15</u>	113.85		27
9. Donations (coffee collections & personal)					
			327.55		227
<b>Total income</b>			<b>9,852.29</b>		Omitting Brian Bluck 9874
<b>Expenditure</b>					
1. Meetings incl speakers expenses, etc					
Room Hire		<u>3639.00</u>	4,272.40	<u>3699</u>	4707
2. Publication and postage of Proceedings					
			768.88		492
3. Strathclyde Geoconservation					
			200.00		0
4. Sponsorship					
			500.00		0
4. Library and Down to Earth					
			725.00		215
5. Affiliation fees					
			90.00		90
6. Insurance					
			202.72		198
7. Website					
Maintenance		360.00		360	
Upgrade		<u>79.18</u>	439.18	<u>62</u>	422
8. Admin costs - postage, stationery, etc					
Hon Secretary expenses(Newsletter)		707.56		218	
Stationary		3.00			
Membership Secretary		430.38		553	
Treasurer		<u>6.78</u>	1,147.72	<u>55</u>	826
<b>Total expenditure</b>			<b>8,345.90</b>		Omitting Brian Bluck 6956
<b>Surplus</b>			<b>1,506.39</b>		Surplus 2919

THE GEOLOGICAL SOCIETY OF GLASGOW

Balance Sheet as at 30th September 2017

	Session 159 2016 - 2017	Session 158 2014 - 2015	
<b>Members' Funds</b>			
Balance as at 30/09/2016	69,532.15		
Add revaluation of Investments	8,050.14		
Add Surplus for the year	1,506.39		
<b>Common Fund as at 30th September 2017</b>	<b>79,088.68</b>		Surplus 2919
<b>Restricted Funds</b>			
TN George fund	380.00		380
Brian Bluck fund at 30/9/16	9,000.00		
less prize 2017	500.00	8,500.00	9000
Conoco-Phillips fund	1,350.00		1350
<b>Total Funds</b>	<b>89,318.68</b>		
<b>Represented by</b>			
<b>Current assets</b>			
<b>Cash at Bank</b>			
Royal Bank of Scotland	10,579.21		15542
National Savings Income Bond	12,000.00		12000
National Savings Investment Account	4,008.49	26,587.70	3866 19408
<b>Cash in hand</b>			
Publications/Proceedings officer, Mina Cummings	-305.94		124
Publications Officer, Bob Diamond	22.36		0
Treasurer	-164.43		-57
Saturday excursions officer	189.22		
WE Excursion sec/past Vice president	347.82	89.03	267 1143
<b>Stock of Publications</b>			
In house	3,008.27		3473
Moine Guide(remaining stock devalued)	0.00		131
Deposits paid in advance for Raasay Excursion 2018	1,474.50		
Hotels paid in advance for speakers	143.00		
Endowment Fund	59,040.50		See note
<b>Total Assets</b>	<b>90,343.00</b>		
<b>LESS LIABILITIES</b>			
Subscriptions paid in advance	324.32		241
Deposits held in advance for Raasay Excursion 2018	700.00		
<b>Total Liabilities</b>	<b>1,024.32</b>		
<b>Net assets</b>	<b>89,318.68</b>		80262

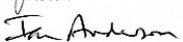
The financial statements were approved on 15/11/2017 by the Trustees and signed on their behalf by

Signed as approved by the Trustees

  
President

Dr J Morrison

Signed by the Independent Examiner



Dr Ian Anderson

## **Balance Sheet**

A new Endowment Fund has been created by reinvestment of previous holdings. At the start of the year we held two investments in our own name and other investments with financial advisors who informed us during the year that it was no longer viable to meet current financial regulations for small accounts and they wished to close ours. An Investment Committee was convened and with Council approval, reorganised investments in funds of their choice to be managed without advice by a new broker and to be held in an Endowment Fund. The objective is that these should as nearly as possible maintain their real value whilst yielding improved dividends identified as being principally for our charitable purposes. Details of the investments are given below:

<b>Holding at 30/9/16</b>		
£30,000 invested with with Spiers & Jeffrey at June 2014		
J P Morgan Higher Income Fund (611.94 units)		
M&G Charifund (660 units)		
Conservative Balance Sheet valuation of above at 30/9/16		£44,000.00
<b>Realised during year:</b>		
Sale of Spiers & Jeffrey holding	£39,525.86	
Sale of J P Morgan 611.94 units	£3,483.78	
Market value of M&G 660 units at 30/9/17	£10,638.94	£53,648.58
Appreciation against Balance Sheet valuation at 30/9/16		£9,648.58
<b>Transfer from Members Fund to Endowment Fund</b>		
Invested with Redmayne Bently	£45,000.00	
Invested in M&G Charifund (further 310.03 units)	£5,000.00	
Transfer of M&G Charifund (660 units) valued at 30/9/17	£10,638.94	£60,638.94
<b>Value of Endowment Fund at 30/9/17</b>		
Valuation of Redmayne Bently holding	£43,404.00	
Valuation of M&G (970.03 units)	£15,636.50	£59,040.50
Initial depreciation of Endowment Fund		£1,598.44
Net appreciation against Balance Sheet valuation at 30/9/16		£8,050.14

*Ben Browne*

## Item 5: Council Elections

The offices that have come up for election are listed here along with the proposed nominations:

Position	Nominee	Proposed by	Seconded by
Vice President	Neil Clark	C Burton	W Gray
Membership Secretary	Campbell Forrest	J Morrison	N Clark
Librarian	Bob Diamond	C Burton	B Browne
Day Excursions Secretary	Roy Bryce*	J Morrison	C Forrest
Junior Representative	Matthew Staitis*	D Webster	W Gray
Minutes Secretary	Vacant#		
Ordinary Member (x5)	Vacant+		
Editor of SJG	Brian Bell*	J Morrison	M Donnelly
Editor of SJG	Colin Braithwaite*	J Morrison	N Clark
Independent Examiner	Ian Anderson*	B Browne	M Donnelly

### Notes:

\* Denotes retiring postholder willing to stand again

# M Donnelly and B Diamond have agreed to share taking the Council minutes until April 2018, but a new postholder is sought to commence duties from Sept 2018

+ The Council can have up to six ordinary members. Currently there is one. If you are willing to join the Council as an ordinary member then please get in touch.

### Retirees:

**Chris Burton** has stood down as Librarian after 44 years of service! **David Brown** has stood down as an Ordinary Member. **Margaret Greene** (Minutes Secretary), **Robin Painter** (Membership Secretary) and **Helen Kennedy** (Ordinary Member) resigned during the session. We thank them all for their valuable contributions.

### Continuing Officers:

The following continue in office: **Jim Morrison** - President, **Brian Bell** - Vice President, **Ben Browne** - Treasurer and Vice President, **Walter Semple** - Hon. Secretary, **David Webster** - Meetings Secretary and Newsletter Coordinator, **Bob Diamond** - Publications Officer, **Mina Cummings** - Proceedings Editor, **Bill Gray** - Webmaster, **Maggie Donnelly** - Residential Excursion Secretary, **Emma Fairley** - Website Coordinator, **Simon Cuthbert** - Ordinary Member, **Margaret Anderson**, Assistant Librarian/Archivist