

THE GEOLOGICAL SOCIETY OF GLASGOW

Registered Scottish Charity No. SC007013

President: Dr Jim Morrison

www.geologyglasgow.org.uk

September 2018

161/1



Late Neoproterozoic (c. 600 Ma) metabasite sill at Port Ellen, Islay. The basal margin of the sill has been substantially altered by metamorphic fluids; with amphibole and epidote being converted to calcite, quartz and chlorite and the development of a pronounced foliation. In the October lecture Prof. Alasdair Skelton will explain how quantitative modelling of the fluids can lead to a calculation of CO₂ flux-rates.

In this newsletter:

- Introduction to new session's lecture series
- Lecture details for October, November and December
- Geology Courses at Glasgow University
- Fossil Grove update

Introduction to the Lecture Programme 2018-19 (Session 161)

Welcome to Session 161! Hopefully we have arranged a set of lectures with different themes and topics that has something for everyone. Things may change but as we go to press this is what I hope will unfold.

First up on the **11th October** is [Professor Alasdair Skelton](#) of the University of Stockholm who will be presenting a case study of metamorphic fluid flow from the SW Scottish Highlands (including Islay).

On the **8th November** we welcome [Professor Ian Alsop](#) from the University of Aberdeen who will talk about earthquake induced soft-sediment deformation. See photo below.

Our speaker for the **13th December** lecture will be [Dr. Roddy Muir](#) from Midland Valley Exploration here in Glasgow to talk about the Ben Nevis North Face Survey in his talk entitled "Ben Nevis - remnant of a lost volcanic landscape" (This will be preceded by the usual **brief** AGM).

Into the New Year. On the **10th January** our President, [Dr Jim Morrison](#), will deliver his Retiring Presidential Address entitled "A broader view of the Moine Thrust".

We welcome [Dr Nick Fraser](#) from the National Museums of Scotland on the **14th February** where he will be telling us all about the amazing variety of Triassic beasts. This is a joint lecture with the Glasgow Natural History Society.

Our colleagues from the Edinburgh Geological Society are again hosting a Joint Celebrity Lecture and awarding their C.T. Clough Medal to [Dr Tim Dempster](#), of the University of Glasgow on the **20th February** in Edinburgh. Tim's talk is entitled "Sideways views of Scottish garnets: insights into metamorphic processes".

On the **14th March** we welcome [Dr Bernard Besley](#), a consultant with Besley Earth Science Ltd. Bernard is an expert in Carboniferous sedimentology and will talk on "Basin evolution in the Variscan foreland in southern Britain"

On the **11th April** our speaker will be [Dr Nick Schofield](#) of the University of Aberdeen who will speak on "Hydrocarbon exploration in volcanic-affected basins"

Finally don't forget the usual Members' Night on **9th May**.

David Webster meetings@gscog.org



Earthquake induced slump folds in the Late Pleistocene (70-15ka) Lisan Fm. exposed around the present Dead Sea - the subject of Prof Ian Alsop's lecture on 8th November

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.

Lectures usually last about an hour plus there is some time afterwards for questions and a vote of thanks. Tea and Coffee are then served upstairs where there is a chance to socialise, browse the books and publications for sale and talk to the speaker in a less formal setting.

Thursday 11th October 2018

Professor Alasdair Skelton, University of Stockholm

"Is mountain building a sink or source of atmospheric CO₂? A case study of metamorphic fluid flow from the SW Scottish Highlands"

In global carbon cycle models, mountain building is often viewed as a sink for atmospheric CO₂, acting on tectonic timescales. However, recent attempts to quantify fluxes for CO₂ produced by metamorphic reactions and released to the atmosphere suggest that these are an order-of-magnitude greater than CO₂ uptake by chemical weathering of silicate minerals, and that metamorphic CO₂ is released on millennial timescales. These hypotheses have gained support from both measurements of CO₂ emissions from present-day mountain hot springs in the Himalaya and studies of metamorphic rocks from the SW Scottish Highlands. This talk will focus on findings from three decades of work in the SW Scottish Highlands.

Further reading: Skelton, 2013: Is orogenesis a net sink or source of atmospheric CO₂? *Geology Today* **29** (3), 102-107.



Alasdair graduated from Cambridge University in 1989. He completed his PhD in 1993 at Edinburgh University. The title of his thesis was "Petrological, geochemical and field studies of fluid infiltration during regional metamorphism of the Dalradian of the SW Scottish Highlands". He was a NERC postdoctoral fellow at Edinburgh University from 1993 to 1997, Ocean Drilling Program shipboard and post-cruise scientist in 1998, and a Marie Curie postdoctoral fellow at Uppsala University from 1999 to 2000. He worked as a science communicator at the Museum of Evolution in 2001. He was appointed as Professor of Geochemistry and Petrology at the Department of Geological Sciences, Stockholm University in 2001. He served as Head of Department from 2004 to 2012. He has led the SGU financed project Metamorphic Map of Sweden since 2011. He has been Director of the Research School for Teachers focusing on Natural Hazards since 2012 and Director of the Bolin Centre for Climate Research since 2013. His main research interests are metamorphic petrology focusing on carbon fluxes during mountain building and natural hazards focusing on groundwater chemistry as a proxy for fracturing before and after earthquakes.

Thursday 8th November 2018

Professor Ian Alsop, University of Aberdeen.

“Unravelling soft sediment deformation in earthquake-triggered mass transport deposits”

Text books frequently suggest that sedimentary slump folds are “characteristically chaotic”, display “little symmetry” (Van der Pluijm & Marshak 2004) or that “folds do not propagate in any systematic predictable manner” (Davis & Reynolds 1996). However, is this really the case? Using examples from the Late Pleistocene (70-15ka) Lisan Fm. exposed around the present Dead Sea, a number of fundamental questions regarding mass transport deposits (MTDs) are addressed in this talk including:

- (i) What controls transport directions of basin-scale mass transport patterns?
- (ii) What is the structural sequence of deformation during formation of MTDs?
- (iii) Why do some fold hinges rotate and others roll during slumping?
- (iv) Is it possible to recognise multiple events and reworking within MTDs?
- (v) Why do some fold hinges verge back up slope?
- (vi) Are existing models of MTDs adequate to explain the observations?



Ian is currently Chair in Structural Geology and Head of Geology and Petroleum Geology at the University of Aberdeen. Before joining the University in 2009 he was based at the University of St. Andrews, and had previously held research positions at the universities of London, Durham and ETH, Zurich. He currently sits on a number of editorial boards including the Journal of the Geological Society, the Journal of Structural Geology, the Scottish Journal of Geology and Geology Today.

Ian is internationally recognised for his work on tectonics and structural geology, and in particular the 3-D analysis of complex geometries. His research addresses the ability of rocks and sediments to flow and fracture at a variety of scales and rates, both within the Earth and close to its surface.

*Background Reading: Alsop, G.I. (2013) Seismogenic slump folds formed by gravity-driven tectonics down a negligible subaqueous slope. *Tectonophysics*, **605**, p.48-69.*

Thursday 13th December 2018: AGM followed by:

Dr Roddy Muir, Midland Valley Exploration, Edinburgh.

“Ben Nevis - remnant of a lost volcanic landscape”

For three summers between 2014 and 2016, field geologists worked alongside professional climbers and botanists to undertake a new survey of the geology and Alpine flora found on the North Face of Ben Nevis, Britain’s highest mountain. The survey was co-ordinated by the Nevis Landscape Partnership, a charitable trust established in 2003 to help guide and manage opportunities for visitor enjoyment and appreciation of the

wider Nevis area. Data on the geology and botany was gathered on iPhones using a digital compass clinometer FieldMove Clino, and the data was then transferred to the software application Move for further analysis and model building.

In 2015, geological field mapping was extended to include the whole of the late Caledonian Ben Nevis Igneous Complex (~430 Ma) and the late Precambrian Dalradian metasedimentary country rocks. The results of the new field mapping and 3D model building have provided important insights into the geometry, emplacement and preservation of the plutonic and volcanic rocks in this classic area of world renowned geology.

Structural data indicate that the plutonic rocks forming the Ben Nevis Igneous Complex have a laccolithic (blister like) form with a gently domed roof and was fed by magma rising up steep-sided NE-SW trending fissures in the core of the Appin Syncline. The summit region of Ben Nevis consists of late Silurian to Early Devonian age volcanic rocks originally interpreted as a thick sequence (>600m) of andesite lavas and agglomerates that were down-faulted during caldera subsidence. New field mapping has revealed that the volcanic rocks consist largely of volcanoclastic debris flows, and extensive block and ash flow deposits with minor air-fall tuff units. There is no evidence of any andesite lava flows or a volcanic vent. The volcanic detritus was derived from a volcanic centre situated to the NW of Ben Nevis, perhaps several tens of kilometres away. The rocks forming the summit region of the mountain have been re-interpreted as a large roof pendant or keel of the former late Silurian to Early Devonian volcanic land surface that once covered much of the SW Highlands of Scotland. Without the granites of the Ben Nevis Igneous Complex surrounding and protecting the volcanic rocks from recent glacial erosion, there would have been no evidence for the remnant landscape now preserved at the summit of the highest mountain in Britain.



Roddy joined Midland Valley in 2006 and has a strong background in structural geology, with particular emphasis on the influence of basement structure on basin architecture. He is also an experienced petroleum geologist, having worked on numerous prospect evaluation studies ranging in scale from global deep water basins to detailed licence block and field reviews.

News and Topical Articles

Doors Open Day

As well as all the wonderful buildings open during the week of the Doors Open Day initiative there are some geological events you might be interested in going to see:

**DOORS
OPENDAYS**
Get into buildings!



12th September 10-12. Building Stones of Central Glasgow. See the city from a new perspective on this tour exploring the geology and origins of the rocks cladding many of Glasgow's central buildings. Much of the stone used in the construction and cladding of the buildings in Glasgow was initially quarried in and around Glasgow before improvement in transport brought rock from further afield. This walk will discuss where the rock came from and also the

geological age and environment which produced these rocks. Everyone on the tour will receive a booklet describing the walk. Meet at the Scott Monument in George Square.

15th and 16th September 12-4 Fossil Grove, Victoria Park. Guided tours of the Fossil House and quarry area which houses a unique collection of fossil trees, formed 325 million years ago. This once vast forest eventually became the coal that powered Glasgow's industry. Marvel at this piece of ancient history in the beautiful surroundings of Victoria Park. No booking required



Fossil Grove Update

The Fossil Grove Trust comprises 3 members of the Society, representatives of local community groups and Glasgow City Councillors. However, the Trust has no control over the Fossil Grove as it is owned, maintained and operated by the City Council through its Parks (Land & Environmental Services) Dept. In effect the Trust is a lobbying body with a fund of money but with limited power to use the fund.

The latest Trustees Meeting was held on 14/8. The Trustees agreed to buy three new environmental monitors to supplement the existing one. Historic Environment Scotland are planning a new sampling, mapping and salt clean-up programme. The Parks Department are scoping some (urgently needed) lighting improvements and their drainage contractor has done/is doing some more work.

The Trustees have written formally to the Glasgow Life Board requesting that they rethink the possibility of them taking it over. The other option that is being exploring is some form of integration with the Community Trust being planned for Victoria Park. Things are moving very slowly and frustration is growing.

The Friends of Victoria Park - along with the Parks Dept - have been clearing the quarry area of excess vegetation, reinstating the pond and redirecting the Fossil House rain gutters into the pond. Funding is now being sought for a major programme of fern planting with the aim of restoring the area to something like its former Victorian glory.



Arran Geofest 2018

The annual Arran Geofest runs from 12-14 October this year.

The programme is as follows:

Friday 12th

18:30—20:00 Talk: Introduction to Arran Geology. Tea and scones. (Heritage Centre)

Saturday 13th

10:00—12:00 Walk 1: Hutton's Unconformity (Lochranza)

11:00—16:00 Walk 2: Geology of North Arran (Lochranza)

11:00—15:00 Walk 3: King's Cave to Drumadoon (King's Cave Carpark)

13:00—16:00 Family event: Interactive geology activities (Brodict)

19:00—20:30 Talk: Dr Simon Cuthbert - Arran's Journey Through Deep Time (Corrie Village Hall)

Sunday 14th

10:00—13:00 Walk 4: Glacial landscapes at Glen Rosa. (Glenrosa Campsite car park)

10:00—12:30 Walk 5: Corrie shoreline with Dr Simon Cuthbert (UWS). (Corrie Primary School)

email info@arrangeopark.co.uk or give them a call at 01770 830680. To register online go to <https://www.eventbrite.co.uk/e/arran-geology-festival-15-16-17-sep-2017-tickets-37158874193>



North-West Highland Geopark Workshop

Saturday 27 October 2018, 11am

The North West Highlands UNESCO Global Geopark spans 2000 sq km of mountain, peatland, beach, forest and coastline north of Ullapool, including some of the most well-known and important rocks in the UK. This half-day workshop in central Edinburgh will focus on the work of the Geopark, explore the historical development of ideas about thrusting and mountain building and give an overview of the modern understanding of the Moine Thrust Belt.

The event will include short presentations from Geopark representatives and scientific overview from Rob Butler and Clare Bond (University of Aberdeen), with opportunities for discussion. Tickets £15 (£12 students) including lunch. Details and on-line booking at at <https://www.edinburghgeolsoc.org/geopark-workshop/>.

Ochils Conference

The Forth Naturalist and Historian/Friends of the Ochils Conference 'The Ochils – A Special Place' takes place on Saturday 10th November 2018 at Stirling University The programme doesn't seem to recognise that the character of this special place starts with the geology!. Still, maybe some of us can go along and make that point! You can download a booking form at: <http://www.fnh.stir.ac.uk/symposium/symp18/fnh%20symp%202018%20booking%20form%20for%20print.pdf>



Earth Heritage Magazine

The 50th issue of Earth Heritage magazine will be published in the autumn. Being the 50th issue, and 25 years since the publication of the first issue, it will contain some reflective items and thoughts on how geodiversity conservation and promotion is likely to develop in the next 25 years.. <http://www.earthheritage.org.uk>



Friends of Hugh Miller Newsletter

The latest special edition of the Friends of Hugh Miller newsletter, "Hugh's News" has just been published. The publication is packed full of articles about the writing competition and its growing legacy, and includes the winning entries for this year published in full. To download a copy go to: <http://s3.spanglefish.com/s/27844/documents/newsletters/newsletteraugust18.pdf>

Dippy the Dinosaur Visit- Local Societies Day: Sat 16th February, 11am - 4pm

To celebrate the visit of Dippy from the NHM., Kelvingrove Museum will welcome local natural science societies to the galleries where they will host stalls and activities. This is a chance to find out about different groups and the work they do to raise awareness of the importance of our natural environment.

Partners including RSPB, SWT, Glasgow Botanic Gardens, Glasgow Natural History Society, Strathclyde Geoconservation, Scottish Geodiversity Forum, Friends of Hugh Miller and will all be there.

The Geological Society of Glasgow will be hosting a stall and are looking for volunteers to help out on the day. Come along to help promote Scottish geology and inspire people to recognise the value of the natural world around them.

If anyone would like to volunteer please contact a member of the GSG committee.



Photo: Glasgow Museums

Notices

IN SEARCH OF SNOWBALL EARTH by Walter Semple

I am not a geologist but am fascinated by the story of the Earth told by looking at its rocks. I recently visited Islay as part of the 2017 Geoheritage Festival and spent two very enjoyable days looking at evidence for the so-called 'Snowball Earth'.

About 650 million years ago, the evidence of the rocks of that age in various parts of the world indicates that the whole or most of the Earth was encrusted with ice.

If you go to Islay by boat you may arrive at the harbour of Port Askaig. In the cliff above the carpark is to be found evidence for "Snowball Earth". The rocks have no obvious bedding or cleavage. Geologists have interpreted that this is typical of the detritus left by the movement of glaciers which have melted leaving behind the detritus which they have accumulated. If you examine the cliff carefully you will see that it contains red stones of different sizes. These stones are red granite. There is no red granite in or near Islay, so the stones have come from somewhere else. 650 million years ago, Scotland was physically nearer Scandinavia than it is now. Some believe that these red granite boulders and pebbles could have come from there.

This glacially deposited rock is known as the Port Askaig Tillite. There are other exposures of it in Islay, mainly exposed at or near the seashore on the east coast. At a shoreline burn mouth about a mile south of Port Askaig, the tillite has been eroded by the sea. Pebbles from it are lying on the stone beach and can be picked up and examined.

The rocks exposed on the surface in Islay include formations which preceded the glaciation and others which followed the glaciation. The underlying beds are mostly limestone. It can easily be seen on the surface because of the lush vegetation which the calcareous soil produces. This ancient limestone is exposed in the hills near Loch Lossit. The lower or earlier part of the tillite contains fragments of limestone likely to come from the local limestone bed rock. This can be compared with the red granite rocks in the older part of the tillite found at Port Askaig.

You can also see the rock formations which immediately followed the glaciation. Good exposures are found at the shoreline between the Caol Isla and Bunnahabhain distilleries. These formations also comprise limestone and dolomite. A feature of these rock formations are stromatolites, which are a primitive form of bacterial life which

live on carbon dioxide, water and sunlight. They discharge oxygen as a waste product. Their large numbers caused an increase in atmospheric oxygen and allowed the development of more sophisticated forms of life which required oxygen, and ultimately to human beings.



Subscriptions

Annual subscriptions for Session 161 are due from 1 October, 2018 at the following rates:-

Ordinary Membership	£25	Includes Scottish Journal of Geology
Associate Membership	£12.50	Eligible to those over 60, or spouses of Ordinary Members, or members of the Edinburgh Geological Society.
Junior Membership	£6.25	Eligible to those under 25, full time undergraduates, or recent (4 years) graduates. Scottish Journal of Geology is available on payment of a £6.25 supplement.

Method of Payment

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'. Let the Membership Secretary know if you wish to pay your membership subscription by use of a bank transfer.

Members who currently pay by cheque

Please note that the membership card enclosed with this newsletter indicates our expectation that you intend to renew your membership subscription for Session 161. If you currently pay by cheque then please remember to send in your subscription to the Membership Secretary for Session 161.

If you would like to make future payments by Bankers Standing Order (**this is the preferred method of payment from the Society's point of view**), please advise the Membership Secretary when you send in your cheque for this Session. We will send you a Bankers Standing Order form so you can arrange to make future payments via your bank. Alternatively you can download a Bankers Standing Order form from the GSG website and forward the completed form to the Membership Secretary.

Members who currently pay by standing order

If you have an existing Bankers Standing Order payment should happen automatically on 1st October. However there are still a few members who have not notified their bank to update their existing Bankers Standing Order when we increased membership fees in Session 157.

Address changes

The Society maintains the only mailing list of Society members* and any changes should be communicated 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 25p on every £1.00 paid, thus increasing the value of your subscriptions to the Society (e.g. we can reclaim £6.25 for a £25.00 subscription).

Many members have already signed up to Gift Aid which means that we have approximately an additional £900 pa available to support sponsorships that promote and spread interest in geology and geodiversity. Please contact the Membership Secretary if you wish to sign up for Gift Aid or if you are uncertain if you have already done so.

Membership Card

The enclosed card not only gives information on the lecture programme, but can also be used to provide proof of membership when necessary. To validate it you need to add your name and reference number. This number is printed on the mailing label used for this newsletter. The number will also be repeated on the label for the next newsletter or can be obtained from the Membership Secretary.

You can use the card to join the University Library. Proof of identity e.g. photo driving licence, passport, travel card, matriculation card (through an Adult Education Class) will also be required, in addition to the presentation of a membership card for Session 161.

Membership Secretary: Any queries regarding the above can be addressed to: The Membership Secretary: Campbell Forrest, email : memsec@gsocg.org

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

Fiona Raffaelli
Derek Raffaelli
Chris McCulla
Christopher Graham
Pamela Rattigan
Joel Burkin
Shona MacLeod
John Kelly

Courses at the Glasgow University Centre for Open Studies

Coral Reefs: Ancient and Modern

Coral reefs are one of the most diverse environments on Earth, and are often in the news because of threats to their stability in the modern world. We will consider some of these problems. Coral reefs have a long geological history, and we will examine some of their precursors from the Devonian and Jurassic, as well as look at some modern examples, and study the evolution of the Great Barrier Reef of Australia. The course will consist of lectures and practical work examining specimens of fossil and recent corals.

Date: Nov 10 2018

Tutor: Michael Keen

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.

Dates: Apr 17 - May 15, 2019

Tutor: Michael Keen

Introducing Geology

Geology is the study of our planet, Earth. Earthquakes, volcanoes, climate, rivers, glaciers and life have all shaped the Earth during its 4.5 billion year history. We will examine these processes with examples from around the globe and you will get to explore the intricate and beautiful world of rocks, minerals and fossils. Scotland has some of the most diverse and accessible geology in the World, and you will see many examples in our classes. By the end of the course you should have achieved the basic skills to start exploring geology yourself.

Dates: Sep 26 - Nov 28, 2019

Tutor: Simon Cuthbert

Introduction to the Composition and Structure of the Earth

A study will be made of scientific evidence for present-day models of the earth's evolution and internal structure and how this complements geological evidence for the theory of plate tectonics. The nature of internal processes will be investigated through the study of rocks and minerals, volcanic activity, earthquakes, structural forms and metamorphism. Processes including erosion, transportation and deposition of sediments will be examined in a wide variety of surface environments and note taken of the role of palaeontology in geology. Students should acquire basic skills in identification of rocks and minerals in the laboratory and in the field.

Dates: Sep 26 2018- Mar 13 2019

Tutor: Jonathan Doody

Mission to Earth: Exploring the strange blue planet

You're a scientist from a distant exo-planet, sent to explore a strange, watery world orbiting a nearby star. How will you survey this novel, complicated world? What is it made of? What processes shape it? Is there life and is it responsible for some of the planet's odd characteristics? What is this planet's story? The planet is, of course, Earth. In this course we explore our home planet from an outsider's perspective to see the big picture of how it works, how it came to be and our own role in its future.

Date: Sat Feb 9 2019

Tutor: Simon Cuthbert

Mountains under the microscope: A practical guide to geological microscopy

One of the most useful tools of the geologist is the petrological microscope. This course provides practical experience in its operation for examining thin sections of rocks. The images are both beautiful and informative, opening up a fascinating new world of interest. More sophisticated techniques such as electron microscopy will be introduced. Applications in archaeology, conservation and forensic science will also be touched upon. A basic knowledge of common rock types is recommended.

Date: Sat Mar 23 2019

Tutor: Simon Cuthbert

The Earth's Resources

This course considers the role of geology in the exploration for mineral deposits, hydrocarbons, coal and water. We will examine where these resources are found, how we find them, and how they form. The link to plate tectonics will be explored. Practical work includes mineral recognition, description of common mineral and rock assemblages of economic importance, and methods of hydrocarbon exploration including seismic sections and sequence stratigraphy. Examples from around the world, as well as from Britain, will be described.

Dates: Sep 27 2018 - Mar 14 2019

Tutor: Michael Keen

The Life and times of Dippy the Diplodocus

Dippy the Diplodocus is visiting Scotland from the Natural History Museum in London, where it has been exhibited since 1905. This is the first time it has toured Britain and Kelvingrove is the only venue in Scotland that it will visit. Dippy is a cast of the type specimen of *Diplodocus carnegii* and was named after the Scottish-American industrialist and philanthropist Andrew Carnegie. The course will consist of a talk about *Diplodocus* on the university campus, followed by a visit to Kelvingrove for a guided tour of Dippy.

Date: Wed Feb 6 2019

Tutor: Neil Clark

For more information and to book see: www.gla.ac.uk/study/short/book/category/167

AGM Notice

The AGM of the society will be held, as usual, immediately prior to the December lecture on Thursday 13th December at 7:30. Annual reports from Council officers will be presented along with the annual accounts of the society. Election of officers will also feature. We are always looking for members to join the Council - as ordinary members so if you are even remotely interested please contact any Council member. The next newsletter (due in mid-November) will contain all the reports and papers.

A special plea from our Treasurer, Ben Browne. He has diligently been making the tea and coffee for after the lectures for a number of years and is keen to have someone take

over these duties. We are also looking at sourcing more sustainable cups and spoons once the current stock has been used up. Bring your own cup!

Society Website and Facebook Page

Don't forget that the website and facebook pages contain up-to-date news and events as well as any last-minute changes to lecture programmes, excursions etc..

Mailchimp

We use the Mailchimp app to send out news updates and links to the newsletters by email. If you currently receive the newsletter by email link and would prefer a printed copy then please let the membership secretary know. Likewise if you get a printed copy but would prefer an electronic (pdf) version. If you are on the email list you can unsubscribe at any time by clicking on the link in the last email you received, and likewise if you currently don't get emails from the society but would now like to then please let Campbell know.

Events from other geological societies

Edinburgh Geological Society: www.edinburghgeol Soc.org

Wed 10th Oct: Prof Roy Thompson: Scotland's Energy Trilemma

Wed 24th Oct: Dr Graham Leslie: What place for world class geology in future Singapore?

Wed 7th Nov: Robert Gatliff: Exploring the oceans – minerals, hazards and ecosystems

Wed 21 Nov: Public Lecture at Dynamic Earth: What did the Ice Age ever do for us?

Aberdeen Geological Society: www.aberdeengeol Soc.org.uk

No information to date, see website for updates

Highland Geological Society: www.spanglefish.com/highlandgeologicalsociety

10th October – Jurassic Mammals of Skye and their Ancient Freshwater Ecosystems, Elsa Panciroli, NMS / University of Edinburgh

7th November – The Caledonian Unconformity, Professor David Macdonald, University of Aberdeen

5th December – Seychelles - a Unique Microcontinent, Dr Alan Crane, University of Aberdeen

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.

The Newsletter of the Society is published four times each session. The September issue contains an overview of the session's lectures with details of the autumn lectures. The November edition includes the AGM papers, officers' reports and details of the spring lecture programme. In February we publish the excursion programme and a final edition in April contains any updates on the excursion programme and information about Members Night.

Hon. Secretary: Walter Semple

email: sec@gsocg.org

Newsletter Coordinator: David Webster

email: meetings@gsocg.org