



EDINBURGH GEOLOGICAL SOCIETY

Promoting public interest in geology and the advancement of geological knowledge

Spring Newsletter 2019

The lecture season is going well with a great range of speakers and excellent attendance and you will see the new programme of excursions is planned and we are ready to go! Do take the opportunity to see some geology this summer. Last year most excursions were close to fully booked, but generally there was room for everyone.

The Society is in good shape with increased membership and an enthusiastic Council. I'd like to highlight and thank Barbara Clarke and Andrew Rushworth for their excellent contributions. Both are standing down this year and we will miss their input.

Please respond to the request for comments on the EGS strategy. We focus on the core elements of our programme: lectures, excursions, The Edinburgh Geologist and the Scottish Journal of Geology. We are looking perhaps to expand our academic contributions through supporting conferences, such as the History of Geology event below, increase our award of small grants, and build our public outreach programme. All thoughts and ideas welcome!

Robert W Gatliff, EGS President, president@edinburghgeolsoc.org



EGS Strategy – Members' Views

EGS Council is reviewing our five-year Strategy and would welcome views from the membership. The current strategy for 2015-19 is available online at www.edinburghgeolsoc.org/home/about-edinburgh-geological-society/.

Please complete a short online survey (it has only 4 questions) that asks for your feedback on what we do and your ideas for the future. There is a modest prize draw! You can find the survey at www.edinburghgeolsoc.org/survey/.



HOGG comes to Edinburgh, 11-12 July

The History of Geology Group of the Geological Society and EGS are organising an open meeting: *Aspects of the History of Geology in Scotland and the north of England*, at the Surgeon's Hall, Nicolson Street, Edinburgh. This meeting will include presentations on Thursday 11 July, and a field day on Friday 12 July to sites linked with the history of geology around the city. Further details at historyofgeologygroup.co.uk.

Exploring Deep Time at the 2019 Science Festival

We are running Deep Time Walks in Holyrood Park as part of this year's Science Festival, in association with the award-winning Deep Time Walk app. Bring your friends and family along on this 4.6 km walk: 1 metre for every million years of Earth history. Starting at the creation of the Earth, the walk covers significant events, including formation of the Moon, plate tectonics, early evolution of life, dinosaurs, James Hutton and much more. Walks take place at 10am and 2pm on Thursday 11, Saturday 13 and Monday 15 April. www.sciencefestival.co.uk/event-details/deep-time-walk.

Deep Time Cards are now available to complement any Deep Time Walk – one illustrated card providing a concise summary in 100-million-year time segments. These cards will be on sale at the Science Festival walks, and from the EGS website.



DATES FOR YOUR DIARY

11, 13, 15 April
Deep Time Walks at the Edinburgh Science Festival

Wednesday 24 April, 7pm
Excursion: Corstorphine

Wednesday 1 May, 7pm
Excursion: Around Castle Rock

Wednesday 8 May, 7pm
Excursion: Hopetoun Shore

11-18 May 2019
Long Excursion to Cyprus

Saturday 1 June, 10am
Excursion: Dunbar Cement Quarry and Catcraig

Wednesday 5 June, 7pm
Excursion: Craiglockhart Hill

Saturday 15 June, 9am
Excursion: Bishop Hill

Wednesday 19 June, 7pm
Excursion: Pavement Palaeontology

Saturday 22 June, 9am
Excursion: Blairskaitth Quarry

Saturday 29 June, 9am
Excursion: East Lothian Quaternary

Sunday 7 July, 12.30pm
Intro Excursion: Joppa Rocks

11-12 July
History of Geology Conference

Wednesday 17 July, 7pm
Excursion: Binny Craig

Saturday 20 July, 10am
Excursion: Kinghorn to Seafeld Tower, Fife

Sunday 11 August, 11am
Intro Excursion: Roslin Glen

Wednesday 21 August, 7pm
Excursion: Cockenzie

Saturday 31 August, 10am
Excursion: Bathgate Hills

Saturday 21 September, 10am
Intro Excursion: Arthur's Seat

20-22 September
Weekend Excursion: Stonehaven

Excursion Programme 2019

At the core of our Excursion Programme are full-day excursions on Saturdays and shorter evening excursions on Wednesdays. The Excursions Programme is organised by Excursions Secretary Ian Kearsley, and each excursion is led by a geologist with expert knowledge of the locality. Visit the EGS website at www.edinburghgeolsoc.org/excursions/ for full details of each excursion. Please read and take note of the Code of Conduct & Safety Guidelines.

You must book in advance for all excursions, as numbers are limited for safety reasons. Bookings are taken by Alison Tymon, email excursions@edinburghgeolsoc.org or phone 01289 305842. Bookings can also be made online at www.edinburghgeolsoc.org/excursions/booking. Please give your address and phone number/s, and a contact in case of an emergency (name, relationship and phone number/s). This information will only be used in connection with 2019 excursion bookings. Please notify Alison if you have booked an excursion and are not able to attend, to avoid disappointing others who may be on a waiting list. For last minute problems *only*, phone Alison on 07395 271428.

Residential Excursions

11-18 May 2019

Long Excursion to Cyprus

Professor Alastair Robertson of the University of Edinburgh has kindly agreed to lead the EGS Long Excursion to Cyprus. There are still a few places available, if you are interested please contact Anne Burgess by e-mail to longexcursion@edinburghgeolsoc.org.

20-22 September 2019

Weekend Excursion: Stonehaven - Highland Boundary Fault

Dr Alan Crane of Aberdeen University will lead two full days examining the rocks around the Highland Boundary Fault and the fault itself. On Saturday, the programme will include structural and metamorphic features of the Dalradian Southern Highland Group between Mill of Muchalls and the fault. Sunday will visit the fault, and the rocks of the Highland Border Complex between Stonehaven and Skatie shore. Total walking distances of about 6 km each day. Transport will be by private car. There will be an introductory talk on Friday evening and a group dinner on Saturday evening. Participants will arrange their own accommodation in the Stonehaven area, where there are plenty of options available. If you are interested in joining this excursion, contact the Excursions Secretary Ian Kearsley, who can provide additional information and advise when bookings will be taken. Places will be limited to 20. Once booking opens, places will be allocated strictly in order of receipt of deposits.

Day Excursions

Saturday 1 June, 10am in Dunbar

Dunbar Cement Quarry and Catcraig

Leader: Fiona McGibbon

This is a field trip of two halves. In the morning we will examine the Carboniferous cyclothem sequence along the shore from White Sands to Barn's Ness and in the afternoon visit the nearby active quarry in the same strata as guests of the Tarmac Group. This is an opportunity to develop a 3D perspective on this famous site and contemplate global and astronomical forces that lead to cyclicity in sedimentary sequences.

Saturday 15 June, 9am

Bishop Hill

Leader: Rosalind Garton

This excursion will examine sedimentary rocks of the Kinnesswood Formation (Old Red Sandstone) and their passage upwards into the Carboniferous strata of the Strathclyde and Clackmannan Groups, intruded by a

quartz-dolerite sill. Quarries within the Lower Limestone Formation Charleston Main Limestone will be examined. The summit of Bishop Hill affords excellent views of the Eastern Ochil Hills and Strathmore.

Saturday 22 June, 9am

Blairskaithe Quarry

Leader: Neil Clark (joint with Geological Society of Glasgow)

This joint excursion will view the palaeontology and palaeo-environments of the rocks of Blairskaithe Quarry, in the upper part of the Lower Limestone Formation of the Lower Carboniferous. The main limestone is the Blackhall Limestone Member, which lies above non-marine deposits of shales and sideritic ironstones of the Campsie Clayband Ironstones. The Neilston Shell Bed, a series of rusty shales, also shows marine influence. In between, unfossiliferous mudstones are thought to represent river muds. Concretions have yielded the river fish *Watsonichthys*. After a joint high tea the coach will return to Edinburgh about 7pm.

Saturday 29 June, 9am

East Lothian Quaternary

Leader: Emrys Phillips

This excursion to the Haddington, Traprain and Stenton areas aims to unravel the glacial history, where low, streamlined hills preserve the base of an "ice stream" of relatively fast flowing ice. We will examine this glacial landscape and discuss the factors which would have promoted fast ice flow, and the impact the rugged hills had on it. The final stop at Pressmennan Wood will explore the role played by glacial meltwater during deglaciation.

Saturday 20 July, 10am in Kinghorn

Kinghorn to Seafeld Tower, Fife

Leaders: Ian Kearsley and Steve Livera

The excursion will consider the relationship between the Carboniferous igneous rocks (intrusive and extrusive) and the sedimentary rocks of the Lower Limestone Formation.

Saturday 31 August, 10am in Bathgate

Bathgate Hills

Leader: Con Gillen

The excursion will start at Beecraigs Country Park viewing Carboniferous limestone and a dyke. We will then visit Cairnpapple Hill, a Bronze Age burial site and viewpoint, and the Hilderston Silver-Lead mine. At the Knock - part of a quartz dolerite sill - we will view prominent features of the surrounding Bathgate Hills and Midland Valley. At Petershill Reservoir fossiliferous limestones of the Lower Limestone Formation will be examined.

Wednesday Evening Excursions



Borthwick Quarry, Duns. Photo: Ian Kearsley.

Wednesday 24 April, 7pm

Corstorphine

Leader: Ken Shaw

This geological and archaeological circuit of Corstorphine Hill will include disused quarries in Carboniferous sedimentary and igneous rocks, glacial landforms and processes, and Neolithic/Bronze Age cup-markings.

Wednesday 1 May, 7pm

Around Castle Rock

Leader: Andrew McMillan

We shall examine some of the building stones of 18th to 20th century buildings on the walk from Lothian Road to The Mound via the Lawnmarket, viewing the crag of the famous crag-and-tail of the Castle Rock and considering various interpretations of its origin. Contacts between the basaltic plug of the Castle Rock and early Carboniferous sedimentary strata into which it was emplaced will also be seen.

Wednesday 8 May, 7pm

Hopetoun Shore (joint with Botanical Society of Scotland)

Leader: Angus Miller

The section of the Firth of Forth shoreline near to Hopetoun House displays a variety of sedimentary layers and igneous boulders. We will explore how chemical and geological variety influences the types of plants and mosses that grow here.

Wednesday 5 June, 7pm

Craiglockhart Hill

Leader: Richard Smith

The excursion will examine the geology & geomorphology of the hill, making a circuit including the summits of Easter and Wester Craiglockhart.

Wednesday 19 June, 7pm

Pavement Palaeontology

Leader: Alistair J. McGowan

A tour of central Edinburgh localities that includes fossiliferous rocks used in the built-environment from Jurassic and Devonian localities. A particular highlight is the large number of fossil fish in the Caithness Flagstones outside the National Museum of Scotland on Chambers Street. The meeting point at Mr Wood's Fossils will feature a short talk about the late Stan Wood and his contributions to vertebrate palaeontology.

Wednesday 17 July, 7pm

Binny Craig

Leader: David Stephenson

Binny Craig is a most striking example of crag and tail and the summit is an ideal viewpoint for other features

of ice sculpting. The sill that forms the craig, and an accompanying dyke, are petrographical curiosities. Their field relationships are comparable to late-Carboniferous dykes and sills of quartz-dolerite in the Bathgate Hills and the upper part of the sill is quartz-dolerite, but the main outcrops are of porphyritic basalt, albeit with definite tholeiitic characteristics. Oil-shales in the country-rock have been 'distilled' by heat from the intrusions, which have been impregnated by bituminous material.

Wednesday 21 August, 7pm

Cockenzie

Leader: Alistair J. McGowan

The excursion will focus on the geodiversity of the Cockenzie Harbour area, including Lower Carboniferous sedimentary rocks. The western harbour wall takes advantage of a massive E-W trending dyke, part of the Permo-Carboniferous quartz-dolerite dyke swarm. In addition, we will use a combination of historic maps and documentary sources to examine the importance of the local hydrological and hydrogeological systems on human activity, including influencing the outcome of the Battle of Prestonpans in 1745.

Introductory Excursions

Aimed at new EGS members but open to all.

Sunday 7 July, 12.30pm

Joppa Rocks

Leader: Bob Gatliff

The Carboniferous sedimentary rocks at Joppa show excellent exposures that allow study of the sedimentology in a fluvio-deltaic system (sandstones, siltstones, mudstones, ironstones, coals) with marine transgressions (limestones and shales). Evidence for palaeosols is widespread. The sequence dips to the east into the Midlothian syncline with several well-exposed faults with some evidence of syn-sedimentary earthquakes.

Sunday 11 August, 11am

Roslin Glen (Midlothian Outdoor Festival)

Leader: Angus Miller

The power of running water is very evident along the River North Esk. The impressive gorge downstream of Rosslyn Castle was eroded by water from melting ice a few thousand years ago, but rivers also flowed here in Carboniferous times, forming the local sedimentary rocks.

Saturday 21 September, 10am

Arthur's Seat

Leader: Angus Miller

The Arthur's Seat volcano dominates the centre of Edinburgh and is a superb example of a small, partly-eroded basalt volcanic cone. It gives the opportunity of exploring different parts of the volcanic system including intrusions, lava flows and vent material. We will also visit Salisbury Crags to appreciate the contrast between surface volcanic activity and underground magma intrusion and the important site discovered by James Hutton.



Left: Baryte Mine, Strontian.

Right: Linkim Kip, Coldingham. Photos: Ian Kearsley.

Photography Workshop, Holyrood Park, Sunday 8 September, 10am

This informal, outdoor workshop will explore techniques for taking good geological photographs. No previous experience (in photography or geology) is required, just turn up with any camera. We will take you for a short walk experimenting with taking photographs at different scales – landscapes, outcrop and close-up details. Participants will be encouraged to submit their photos for future newsletters and the EGS website, and if there is enough interest we will arrange a follow-on indoor workshop in the autumn.

Book through Alison Tymon (booking info, page 2).

New book celebrates the life and legacy of Hugh Miller

The Scottish Geodiversity Forum and The Friends of Hugh Miller, supported by a grant from EGS, are publishing a new book – *Conversations in Stone – celebrating the life and legacy of Hugh Miller*. This anthology, edited by Larissa Reid, brings together prose and poetry inspired by Miller and his life, including the winning entries in the first two Hugh Miller Writing Competitions.

The book will be launched in Glasgow on 2 March, and will be available to purchase from the EGS website www.edinburghgeolsoc.org/publications/



Local Geoconservation Groups

Lothian and Borders GeoConservation and Tayside Geodiversity are committees of EGS, and work with local authorities and other partners to promote their local geoconservation. In recent years there has been a great deal of progress in designating Local Geodiversity Sites – the most important places for geology, geomorphology and soils outside statutorily protected areas. Over 100 sites are now included in Local Development Plans in East Lothian, Edinburgh and West Lothian.

The local groups work to raise awareness of sites and geodiversity through publications, interpretation boards and events. New members are always welcome, and there are a variety of ways in which you can get involved in these friendly, informal groups. You can find out more at www.edinburghgeolsoc.org/home/geoconservation/ or contact Mike Browne at lbgeoconservation@edinburghgeolsoc.org.

The Scottish Geodiversity Forum is organising a training day on Local Geodiversity Sites at Dunkeld on Saturday 27 April 2019. This is aimed at volunteers who would like to get involved in identifying Local Geodiversity Sites in their area, and Local Authority planners who would like support in enhancing recognition of geodiversity in Local Development Plans and Biodiversity Action Plans. This will be an informal day including a visit to a potential site to get hands-on practice in assessing a local site. For further information contact Angus Miller at chair@scottishgeodiversityforum.org.

Membership Subscriptions

Subscriptions for 2018-19 were due on 1st October 2018. If you have overlooked making your payment, please remedy this NOW by making a bank transfer to Edinburgh Geological Society (sort code 80-02-73, account number 00285438) giving your surname and first initial as a reference (e.g. Mair_B) or sending a cheque (payable to Edinburgh Geological Society) to the Membership Secretary. Setting up a standing order for your next renewal on 1st October 2019 will ensure you receive future mailings and reduce our administration time.

Contact the Membership Secretary if you are unsure about your membership category, and to update your contact details (e.g. telephone, postal and email addresses). This will ensure you are kept informed and all our publications reach you promptly. Email is our preferred method of communication for 2018-19!

EGS News email list

You may not have signed up to receive selected emails from our Honorary Secretary – we send out 2-3 emails a month to keep members informed of last-minute changes, upcoming events and other news of interest to members. Please email the Membership Secretary to be included.

Society contacts

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The Edinburgh Geological Society is a friendly and informal organisation with a wide range of members of varied backgrounds and interests, united in an interest in rocks and the science of the Earth. This newsletter is published in September and March, with details of our lectures and excursions programme.

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