



EDINBURGH GEOLOGICAL SOCIETY

Promoting public interest in geology and the advancement of geological knowledge

Autumn Newsletter 2018

Welcome to the Society's 185th session! We are looking forward to a busy year, with a full lecture programme and other public events. Each year we like to welcome new Council members as old hands complete their stints. This year it has been a delight to work with a splendid team who are enthusiastic and willing to contribute. Please do get in touch with me or any Council member if you would like to be nominated to join Council.

Next year will see the end of our current strategy, and we will be seeking input from members in the New Year on priorities for the future. In the meantime we are working to offer our members more events, such as the public lecture, and will try in 2019 to address the increased demand for places on field excursions.

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



DATES FOR YOUR DIARY 2018

29 September 2018
BGS Lyell Centre Doors Open Day

10 October
Lecture: Prof Roy Thompson, Univ Edinburgh

12-14 October
Arran Geofest, contact info@arrangeopark.co.uk

24 October
Lecture: Dr Graham Leslie, BGS Scotland

27 October
EGS Workshop: The North West Highlands Geopark

7 November
Lecture: Robert Gatliff, EGS President

21 November, 6.30pm
Public Lecture: What did the Ice Age ever do for us?

5 December, 6.30pm
Fellows' Night

2019

9 January 2019
Lecture: Dr Dave Millward, BGS Scotland

23 January
Lecture: Dr Roger Anderton

6 February
MIS/EGS Joint Lecture: Dr Hugh Barron, BGS Scotland

20 February
Clough Medal and Joint GSG/EGS Lecture: Dr Tim Dempster, Univ Glasgow

6 March
Lecture: Prof Frank Rennie, UHI

20 March
AGM (7pm) & Lecture: Brigid Ó Dochartaigh, BGS Scotland

Lothian and Borders GeoConservation Volunteer Group meets upstairs at the Morningside Library, 184 Morningside Road, EH10 4PU at 10.30am on Wednesdays 24 October, 21 November, 23 January, 20 February and 20 March and 24 April. All welcome.

What did the Ice Age ever do for us? Public Lecture

Wednesday 21 November, 6.30pm at Dynamic Earth, Holyrood Road, Edinburgh EH8 8AS

Scotland's scenery has been shaped by moving ice and meltwater over hundreds of thousands of years, but the Ice Age has also affected the sea bed around Scotland and it influences today's society in surprising ways.

This public lecture, organised by the Edinburgh Geological Society and Dynamic Earth, gives the opportunity to hear first-hand about recent advances in our understanding of the Ice Age. Chaired by Hermione Cockburn, the panel will include Carol Cotterill,

Emrys Phillips (both from the British Geological Survey) and Tom Bradwell (Stirling University).

Tickets £5, free for students and under 18s. Book online at edinburghgeolsoc.org/public-lecture



Edinburgh Castle Rock. Photo: Barbara Clarke

EGS Workshop: The North West Highlands Geopark

Saturday 27 October 2018, 11am

The North West Highlands UNESCO Global Geopark spans 2000 sq km of mountain, peatland, beach, forest and



Students exploring the geology of the Moine Thrust Belt at Knockan Crag. Photo: Rob Butler

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. Book online at edinburghgeolsoc.org/geopark-workshop

Society Medal and Awards

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

The Clough Medal is presented annually to a geologist whose original work has materially increased the knowledge of the geology of Scotland and/or the north of England, or who is Scottish by birth or by adoption and residence and has significantly advanced the knowledge of any aspect of geology. This year's recipient is Tim Dempster from the University of Glasgow, in recognition of the exceptional contribution that he has made to advancing the understanding of the geology of Scotland, particularly the metamorphic geology of the Highlands, where he has employed a wide range of technologies to better understand the processes, and his dedicated training of undergraduate students using the Highlands of Scotland as a 'natural laboratory'.



The Clough Memorial Award is a monetary award, given to a geologist of British nationality and normally under 35 years old whose research on some aspect of the geology of Scotland or the north of England is considered as having outstanding merit. It is normally awarded biennially, and nominations are sought for 2019-2020.

Fieldwork Grants from the Clough and Mykura Funds are normally of the order of a few hundred pounds, and support geological field work at home or abroad. This year grants were given to Kelly Snow for fieldwork at Esha Ness in Shetland and Joanna Brims to investigate undocumented volcanoes in the Darien Gap, Panama.

Nominations for the Clough Medal and Clough Memorial Award for 2019-2020 and applications for fieldwork grants from the Clough and Mykura Funds are invited by 31 January 2019. Full details are on our website at edinburghgeolsoc.org/home/grants-and-awards/

Long Excursion to Cyprus 11-18 May 2019

Professor Alastair Robertson of the University of Edinburgh has kindly agreed to lead the EGS Long Excursion to Cyprus. Anyone wishing to participate is requested to contact Anne Burgess to express interest, preferably by e-mail to longexcursion@edinburghgeolsoc.org, or by letter to Anne Burgess, Long Excursion Organiser, Edinburgh Geological Society, 21 Woodside Place, Fochabers IV32 7HE.

Right: Serpentinite massifs host a wide range of endemic species: the example here is *Fritillaria serpenticola*, in Antalya province, SW Turkey. Dave Millward will tell us more on 9 January. *Photo: Dave Millward*



Geo-activity in Berwickshire

Berwickshire has seen the appearance of three U3A geology groups in the last few years. The East Berwickshire U3A, based in Eyemouth, started a geology group two years ago with 25-30 members attending each monthly session. Berwick-upon-Tweed U3A's geology group got underway last autumn with lectures and visits to local geological sites. Duns and District U3A has its inaugural enrolment in October and amongst the many subjects offered is geology.

This flowering of interest in rocks and landscapes in Berwickshire led to an HLF-funded project based in Duns, which included school sessions, walks and talks along the Berwickshire coast, earthcaches and coastal walks leaflets as well as the publication of *Berwickshire Coast Rocks!* Further information at berwickshirerocks.org.uk.



Publications News

EGS has recently received copies of the newly published excursion guide *Berwickshire Coast Rocks!* by Helen Page - available to EGS members for £8 (RRP £10). This book provides an illustrated guide to the geology of the Berwickshire coast from Berwick to Cove, including spectacular sites such as St Abb's Head and Siccar Point. 16 short walks include visits to Silurian greywackes, vertical beds at Burnmouth, volcanic features at Eyemouth and Carboniferous sequences at Berwick. To help the amateur reader, geological jargon has been avoided, and there are sections explaining common geological concepts, such as folding, faulting, sedimentary features and fossils.

Copies of this and other geological books are available for inspection and purchase at EGS lecture nights. Alternatively all of these books can be purchased through the EGS website at edinburghgeolsoc.org/publications/geological-excursion-guides/.

Evening Lecture Programme 2018-2019

Our varied programme of illustrated lectures runs from October to Easter, on Wednesday evenings at 7.30pm. These meetings are open to the public, there is no charge, and visitors are most welcome. Tea and biscuits are served afterwards, providing an informal opportunity to chat to other members. The lectures take place in the Hutton Lecture Theatre of the Grant Institute, The King's Buildings, James Hutton Road, Edinburgh EH9 3FE. Information about the lectures, including more detailed abstracts where available, from edinburghgeolsoc.org/lectures/ or from Graham Leslie, Lectures Secretary agle@bgs.ac.uk

2018

Wednesday 10 October, 7.30pm

Prof Roy Thompson, University of Edinburgh
Scotland's Energy Trilemma

Resolving the energy trilemma involves striking a satisfactory balance between the three conflicting options of low prices, low-carbon emissions and energy security. This lecture will focus on the geological underpinnings of this trilemma. How long will UK oil and gas last? Could a vibrant fracking industry be established in Scotland? Are the UK's plans for geological disposal of nuclear waste viable? What do geological and historical data tell us about the global climate-change problem? How will the lights be kept on in a post-Brexit world? The talk will conclude with an outline of an optimal stratagem for Scotland's energy future.

Wednesday 24 October, 7.30pm

Dr Graham Leslie, BGS Scotland
What place for world class geology in future Singapore?

BGS is developing a modern understanding of the geology and sub-surface architecture of Singapore. Singapore's geology is dominated by a late Permian to Triassic volcanic arc, and a broadly contemporaneous, Upper Triassic, marine and fluvial, volcano-sedimentary forearc succession. These strata were deformed during collisional accretion tectonics in the Indosinian Orogeny. Subduction-related granitic rocks form a world-class example of arc magmatism. Understanding that complex geological setting is critical to planning, design and construction of a future-proof city infrastructure for Singapore, including enormous underground storage facilities for traded commodities and secure domestic water supplies, as well as state-of-the-art transport.



Wednesday 7 November, 7.30pm

Robert Gatliff, EGS President
Exploring the oceans - minerals, hazards and ecosystems

Trials to mine manganese nodules from the sea bed were undertaken in the 1970s. Since then cobalt crusts and massive sulphides (with black smokers) have been discovered but there has been no commercial mining so far. How will we licence areas of the ocean, appraise, develop, and care for the environment if commercial mining takes off?

Wednesday 21 November, 6.30pm

Public Lecture: What did the Ice Age ever do for us?

See page 1 for details.

Wednesday 5 December, 6.30pm

Fellows' Night

This meeting, close to the anniversary of the foundation of the Society, is a chance to meet other members informally, with refreshments served from 6.30pm, followed by a series of short talks given by members. The event will be held in the upper level of the Lyell Centre, Heriot Watt campus (Research Ave S, Edinburgh EH14 4AP) and booking is not required. We are very grateful to BGS Scotland for hosting this event. If you would like to give a short talk on a subject of interest to members, please email Chris Lofthouse on fellowsnight@edinburghgeolsoc.org.

2019

Wednesday 9 January, 7.30pm

Dr Dave Millward, Honorary Research Associate, BGS Scotland

Rock plants for a geologist

The connection between landscapes, rocks, soils and the plants that grow on them is well acknowledged, yet is often ignored by geologists and botanists alike. For more than 40 years as a field survey geologist, Dave Millward has combined his professional observations on rocks and landscape with an interest in field botany and of cultivating plants that originated from mountain regions. Dave will discuss aspects of geology that control the relationship with plants: for example, why plant communities of limestone landscapes are so biodiverse, why serpentinite massifs support high numbers of endemic species, and why some rhododendrons do grow on limestone, despite the belief of gardeners to the contrary.

Wednesday 23 January, 7.30pm

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, Lorn and Mid-Argyll has been interpreted using a new high-resolution bathymetric survey produced by SAMS (Scottish Association for Marine Science). Dalradian rocks underlie the whole area SE of the Great Glen Fault. Overlying the Dalradian are two areas of Old Red Sandstone including much of the western Firth. Triassic rocks are largely confined to the NW side of the Great Glen Fault both onshore and in the Sound of Mull, while Jurassic deposition appears to have been unaffected by the fault.

Wednesday 6 February, 7.30pm

MIS/EGS Joint Lecture: Dr Hugh Barron, BGS Scotland
The Glasgow Geothermal Energy Research Field Site

BGS and the Natural Environment Research Council are developing two world-class subsurface energy research test centres in the UK, one of which is in the Clyde Gateway area in the east end of Glasgow. This Glasgow

Geothermal Energy Research Field Site is part of a £9M project to study low-temperature geothermal energy from the flooded mine workings below Glasgow.

Wednesday 20 February, 7.30pm

Clough Medal Lecture/ Joint Lecture with the Geological Society of Glasgow: Dr Tim Dempster, University of Glasgow

Sideways views of Scottish garnets: insights into metamorphic processes

Garnets are capable of recording original compositions during growth and hence allow determination of pressure-temperature paths and durations of metamorphic events. However studies of garnet from the Scottish Highlands have questioned some key concepts of metamorphic equilibrium. Surface and internal zoning patterns reveal a failure to equilibrate at both staurolite and sillimanite isograds, and question assumptions about fluid availability and rates of intergranular transport. This emphasises the importance of kinetic controls on metamorphic reactions. Individual porphyroblasts may have a unique response to prograde metamorphism and control both subsequent reaction pathways and index mineral distribution.

Wednesday 6 March, 7.30pm

Prof Frank Rennie, University of the Highlands and Islands
A Lewisian Perspective: The basement of the Earth

An introductory tour of the geology of the Isle of Lewis, with particular emphasis on sharing good field exposures for visitors. The geology of the Lewisian Gneiss is complicated, but is so much more than simply boring monotypic banded rocks, and this lecture highlights features to look out for in the landscape.

Wednesday 20 March, AGM 7pm, Lecture 7.30pm

Brigid Ó Dochartaigh, BGS Scotland
Scotland's aquifers: an introduction to aquifer properties, baseline chemistry, groundwater use & management in Scotland

Brigid Ó Dochartaigh is a Senior Hydrogeologist with BGS Scotland in Edinburgh. She has worked on the Africa Groundwater Atlas and the Baseline Scotland project, a joint project between BGS and SEPA which is providing new groundwater chemistry data for Scotland. This new data provides essential information to sustainably manage Scotland's water environment, as required by Scottish, UK and European water legislation.

Details of this talk were not available when the newsletter went to press but further information will be posted on the EGS website in advance.

Data Protection and Privacy Policy

We have published our new data protection and privacy policy on the EGS website at edinburghgeolsoc.org/data-protection/. The introduction of the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 requires organisations to have a legal basis to collect and hold Members' personal data. The basis we use is one of 'legitimate interest' and we only collect, store and use data to enable participation in the activities of the Society. The details are laid out in our policy, and any queries can be sent to the President or Membership Secretary.

Event Volunteers Needed

EGS is keen to organise more events for the general public and members. If you would like to get involved in planning, promoting and running events in the future, please contact the Promotion Coordinator, Angus Miller.

Membership Subscriptions

Subscriptions for 2018-19 are due on 1 October, and we would ask members to help the Membership Secretary by making sure that you are paying the correct amount at the right time! Payment by Standing Order is preferred, or by bank transfer: in both cases please use a reference of your surname and first initial (e.g. Surname_A).

Please contact the Membership Secretary by email or phone to confirm changes to your address or email address, or to check your membership, subscription, and Gift Aid Declaration status. Members in arrears for 2017-18 will not receive any future mailings.

AGM 20 March 2019, 7pm

Please note that to help streamline our administration and reduce postage costs, this year's AGM will be held immediately before the final lecture of the session. Papers for the AGM will be included in the spring mailing in early March.

Society contacts

President Robert Gatliff
president@edinburghgeolsoc.org

Honorary Secretary Neil Mackenzie
secretary@edinburghgeolsoc.org

Honorary Treasurer Christian Ranken
treasurer@edinburghgeolsoc.org

Membership Secretary Bruce Mair
6 Liberton Drive, Edinburgh EH16 6NN 0131 621 0532
membership@edinburghgeolsoc.org

Lectures Secretary Graham Leslie, agle@bgs.ac.uk

Excursions Secretary Ian Kearsley excursions@edinburghgeolsoc.org

Publications Sales Officer Don Cameron
booksales@edinburghgeolsoc.org

Promotion Coordinator Angus Miller 0131 555 5488
promotion@edinburghgeolsoc.org

**Edinburgh Geological Society,
The Lyell Centre, BGS - Second Floor, Research Ave S,
Edinburgh EH14 4AP**

edinburghgeolsoc.org

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.

ISSN 2399-7001

The Edinburgh Geological Society is a charity registered in Scotland No SC008011

©Edinburgh Geological Society 2018