



EDINBURGH GEOLOGICAL SOCIETY

Promoting public interest in geology and the advancement of geological knowledge

Autumn Newsletter 2021



Wow, there is a lot going on! Although the pandemic definitely isn't over and many EGS members will still be cautious in their interactions with the rest of the world, there is a sense of renewal and hope in the air. This is exemplified by the upcoming Scottish Geology Festival, with over 100 events across the country. I'm sure you will find many events of interest, both in-person and online.

A sense of hope in the air? Well, perhaps not with news

of climate catastrophe from around the globe – but COP26 in Glasgow does present the opportunity for action, so it is appropriate that our focus this autumn is on geological aspects of climate change and the ways in which our science is crucial in understanding the challenges and providing the solutions. Please support the events and publications outlined below – tell your friends and family about them! I look forward to seeing you in person at our public lecture.

Tom Challands, EGS President,
president@edinburghgeolsoc.org

Public Lecture **Climate change in Edinburgh: Past, Present, Future** Wednesday 6 October, 6.30pm at Dynamic Earth

Our public lecture will explore geological aspects of climate change in the past, present and future. The panel of guest speakers will consider what the sedimentary rocks of this area tell us about climate in the geological past and evidence from Scotland's coasts of changes in the last millennia and decades. We'll look to the future, and discuss how geology and geological processes are at the heart of climate change adaptation and mitigation. There will be opportunity to engage the speakers in questions and discussion.

This will be an in-person event at Dynamic Earth. Participant numbers may be restricted, but we think it is important to gather together again. The event will be recorded and available afterwards online, but we do encourage you to come along if you can.

Tickets £5, free for EGS members and young people. Book at <https://www.edinburghgeolsoc.org/public-lecture/>

The Scottish Geology Festival – 1 September to 17 October 2021

The Scottish Geology Trust and partners have planned a packed programme of activities from Stranraer to Shetland to showcase and celebrate Scotland's geology. For Scotland's Year of Coasts and Waters, a series of Beach Pebble events will encourage local people and visitors to explore the story hidden in every pebble. There are around 100 events in the programme, but here are our top picks that will especially appeal to EGS members:

From Monday 6 September, 6.30pm
A six-week online course on the Geology of Scotland

Sunday 5 September, 12-4pm
Polishing Pebbles from Scottish Beaches Exhibition,
Leith Lapidary Club workshop, St Margaret's House

4, 12, 19 September and 3 October Cruises on the
Berwickshire coast from Eyemouth with In Our
Nature, including trips to Siccar Point

Sunday 19 September, 12-4pm
Open Day at Siccar Point

Wednesday 29 September, 7pm
Online talk: An introduction to the Rhynie chert,
the hidden gem of Scottish geology with Sandy
Hetherington, University of Edinburgh

Above right: Polished beach pebbles, on display at Leith Lapidary Club on 5 September. *Photo: John Taylor.*



Lothian and Borders GeoConservation Volunteer Group

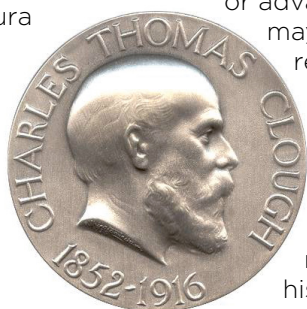
will have online meetings this winter, at 7.00pm on Wednesdays 22 September, 27 October, 24 November, 26 January, 23 February, 23 March. All welcome, contact Angus Miller promotion@edinburghgeolsoc.org for details.

Society Medal, Grants 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. Nominations for the Clough Medal for 2022-23 and applications for fieldwork grants from the Clough and Mykura Funds are invited by 31 March 2022.

Full details are on our website at <https://www.edinburghgeolsoc.org/home/grants-and-awards/>.

The Clough Medal is the Society's premier award, presented to a geologist whose original work has materially increased the knowledge of the geology of Scotland and/or the north of England, or any geologist working in Scotland or the north of England who has significantly advanced the knowledge of any aspect of geology.



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.

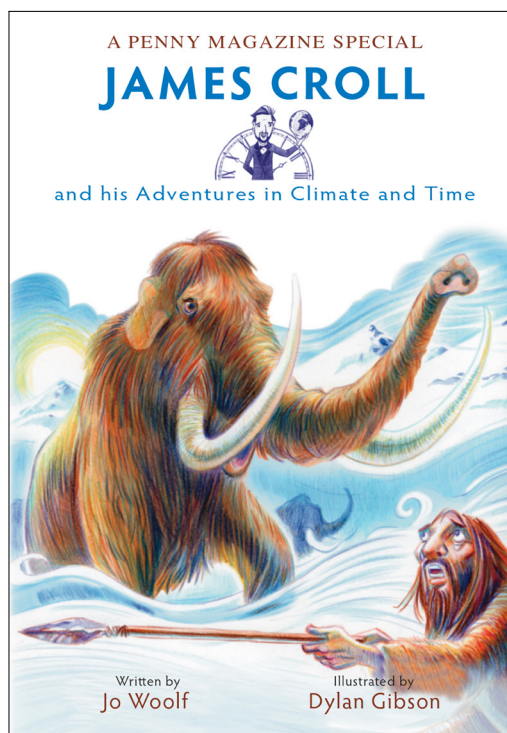
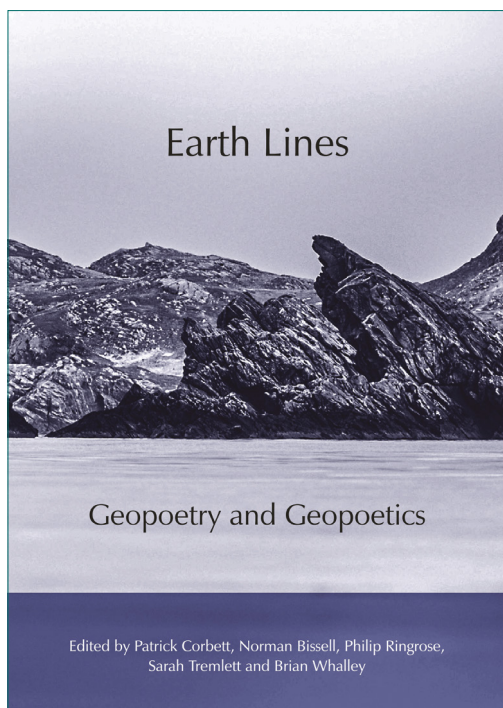
The Society also makes Project Grants to support projects that encourage public interest in geology or advance geological knowledge. Applications may be from organisations or individuals, and requests of up to £1,000 will be considered. The next submission deadline for Project Grants is 31 October 2021.

The Clough Medal for 2021-22 will be awarded to Dr Tim Smithson for "his exceptional work on his paradigm-shifting research on early limbed vertebrates and his outstanding contributions to the geology and palaeontology of Scotland and northern England". Tim will give the Clough Medal lecture on 2nd March. The Clough Memorial Award for 2021 was made to George Guice, recognising his work on mafic and ultramafic rocks within the Lewisian.

Two very different new books, with a theme in common

EGS is delighted to publish, in association with a wide range of poets and authors, a new book: *Earth Lines: Geopoetry and Geopoetics*. This compilation of poetry and essays grew out of the inspirational online Geopoetry 2020 event last October, led by EGS member Patrick Corbett. Geology and geologists feature heavily in the book, but it is more than that. The editors hope that deeper appreciation of the planet-people interaction may come from reading these earth lines.

Earth Lines will retail at £15, but the usual EGS member discount of 20% applies, meaning that this thought-provoking and beautifully presented book can be in your hands for just £12, UK postage free. The book will be available from our online bookshop in mid-September, with an official launch event on 1 October.



James Croll and his Adventures in Climate and Time has just been published by the Royal Scottish Geographical Society with support from EGS. This delightful, colourful volume aims to bring the story of James Croll alive, to mark the bicentenary of Croll's birth and bring attention to his work as a Scottish climate scientist in the run-up to COP26.

An excellent present for the young people in your life, to help them understand the deep roots of our modern understanding of the Earth's climate.

Buy from the RSGS: <https://www.rsgs.org/Shop/james-croll-and-his-adventures-in-climate-and-time>

Evening Lecture Programme 2021-2022

Our varied programme of illustrated lectures runs from October to Easter, on Wednesday evenings. These meetings are open to the public, there is no charge, and visitors are most welcome.

After last winter's successful lecture programme, delivered online to larger-than-usual audiences, the programme will continue online until we can meet again at the Grant Institute. Once in-person lectures restart, we will continue to offer some lectures online or via recordings. Details of any changes will be posted on our website and sent out to members via the EGS News email group.

For information about each lecture, including more detailed abstracts where available, visit <https://www.edinburghgeolsoc.org/lectures/>.

Contact Angus Miller for details of how to access the online lectures: promotion@edinburghgeolsoc.org

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



Road cut on the A9. Photo: Jessica Smith

Wednesday 1 December, 7pm

Dr Helen Fallas, British Geological Survey **Geoscience in the delivery of new planning policy for Scotland**

Helen is a Chief Geologist with BGS and has research interests in groundwater systems and groundwater resources, particularly issues of demand, vulnerability and access and in sedimentology. Helen has been working as part of the Key Agencies Scotland sub-group tasked with understanding the environmental evidence and the evidence-based approaches required to inform the development, and delivery, of new planning policy approaches for Scotland's future places and people.

Wednesday 15 December, 7pm

Fellows' Night

This meeting, close to the anniversary of the foundation of the Society, is an informal meeting with a series of short talks given by members. If you would like to contribute, please get in touch with Chris Lofthouse on fellowsnight@edinburghgeolsoc.org.

2022

Wednesday 19 January, 7pm

Prof Charles H Wellman, Sheffield Univ. **Life on land one-billion years ago: barren wilderness or evolutionary cradle?**

Torridonian deposits in the northwest Highlands provide a rare example of billion-year-old terrestrial deposits and critical insight into what life was like on land. Fossils include mat structures and trace fossils, dispersed microfossils and fossils preserved in phosphor nodules. The latter represent a Lagerstätte with fossils exquisitely preserved in three-dimensions. These fossil assemblages are surprisingly diverse, providing a snapshot of life on land and supporting the hypothesis that early life may have diversified on land rather than in the oceans.

Wednesday 2 February, 7pm

Dr Florian Füsseis, Edinburgh Univ. **How x-rays and neutrons allow us to challenge established concepts in tectonics**

Florian is a Senior Lecturer in Structural Geology at the School of GeoSciences, University of Edinburgh. He leads process-oriented research in the related sciences of rock deformation, fluid-rock interaction and diagenetic/metamorphic processes, all with a growing interest in applied geosciences. An experienced field structural geologist, Florian is a leading developer of 4D in-situ x-ray imaging of processes in shear zones and other rock failures, e.g. in earthquake-prone regions.

2021

Wednesday 6 October, 6.30pm

Public Lecture Climate change in Edinburgh: Past, Present, Future – see page 1 for details

Wednesday 20 October, 7pm

Dr Louis Howell, Keele Uni. and Cairn Energy **Repurposing the Carboniferous**

A vast quantity of subsurface data exists for Britain's onshore Carboniferous coal-bearing strata and basins. Despite this, the structural and geodynamic processes which governed these basins remain poorly understood. Louis will discuss his recent PhD on basins in the northern Pennines. Understanding the nature of Britain's Coal Measures has gained renewed importance given the need to reduce carbon emissions and seek alternative sources of energy.

Wednesday 3 November, 7pm

Eimear Deady, British Geological Survey **Critical metals**

Eimear is an economic geologist with research interests in critical metal mineralisation and geomaterials, valorisation of mining waste, and mining heritage. She works on critical metal mineralisation research in Southwest England, with a focus on tungsten, bismuth and antimony in association with the Camborne School of Mines, and the EU Horizon 2020 HighTech AlkCarb Project to develop new geomodels for critical metal exploration in carbonatites and alkaline rocks.

Wednesday 17 November, 7pm

Jessica T Smith, Atkins **Engineering geology: infrastructure delivery**

Engineering geologists are central to Scotland's delivery of major infrastructure projects, including the A9 dualling and the proposed Coire Glas pumped storage hydro scheme, and achieving Net Zero. These projects also provide a valuable opportunity to encourage and upskill future generations of geoscientists and others, as exemplified by Transport Scotland's award-winning Academy9 initiative. There is an ongoing need for greater diversity in geoscience and engineering. How are barriers to participation being broken down?

Wednesday 9 February, 7pm

Kevin Smith BGS (retired)

The Forties (Rattray) Volcanic Province in the Central North Sea 1970 – 2020

Middle Jurassic volcanic rocks were discovered in the North Sea in 1970. A broad historical review reveals how interpretations of the volcanic province have benefited from advances in hydrocarbon exploration techniques, and from efforts to explain the origin and distribution of volcanism away from plate margins. With examples from comparable mid-plate volcanic areas in Scotland and North Africa, a new synthesis is presented which raises doubts about recent alternative models of North Sea volcanism and tectonics during the Jurassic.

Wednesday 16 February, 7pm

MIS/EGS Joint lecture: Mark Austin, Alba Minerals Clogau Gold Mine exploration, North Wales

The Clogau-St David's Gold Mine in Wales is the source of most of the UK's gold, mined historically from very rich gold seams. Alba's technical team are applying a multi-disciplinary approach, employing modern exploration tools such as 3D scanning & mine modelling, and drilling from both the surface and underground. Mark has a career spanning four decades with a particular focus on gold.

Wednesday 2 March, 7pm

Clough Medal Lecture: Dr Tim Smithson, Zoology, Cambridge Univ.

A new beginning: recent discoveries in the early Carboniferous of northern Britain reveal rapid faunal replacement following the end-Devonian extinction. The end-Devonian extinction marked a profound change

in the diversity of vertebrates. The dominant taxa were suddenly replaced by minor components of the fauna. This replacement began in the early Carboniferous, coinciding with a fossil impoverished interval called Romer's Gap, and evidence for it has been poor. Here we will consider how recent discoveries in the Ballagan Formation of northern Britain have shown that vertebrates recovered quickly following the end-Devonian extinction. Diversity was much greater than previously recognised and Romer's Gap is an artefact of previous unsuccessful collecting.

Wednesday 16 March, AGM 7pm, Lecture 7.30pm

Kit Hardman, Hull Univ.

The geology and evolution of near-surface fissure systems in Calabria, Italy and other areas

Kit currently manages the Laser Ablation ICP-MS Lab at the University of Hull where he analyses a variety of materials on behalf of industry and academia. His personal focus is on developing techniques for radiometric dating of deformed geological fabrics.

Wednesday 30 March, 7pm

Prof Mark D Bateman, Sheffield Univ.

The day a tsunami hit Scotland

Around 8150 years ago a huge submarine landslide caused a tsunami around the North Sea, including over 600 km of Scottish coastline. This talk will look at what caused the tsunami, where it impacted and how sedimentological evidence has helped characterise the tsunami waves. For Scotland's east coast, modelling constrained by sedimentary evidence shows multiple waves over 6 m high penetrated >30 km inland, flooding areas up to 11 m above sea level. Could this disaster happen again?

Reminder of other events coming up

18-19 September **2021 Weekend Excursion: Northumberland Coast**

15-17 October 2021 **GA Annual Conference in Edinburgh**. Friday evening reception at the Playfair Library, talks at Surgeon's Hall on Saturday and field trips on Sunday morning. Book at geologistsassociation.org.uk/conferences/.

10-16 May 2022 EGS **Long Excursion to the Isle of Man**. Contact Ann Burgess longexcursion@edinburghgeolsoc.org.

14-21 May 2022 **WGS/CGS Excursion to Anglesey**, led by Graham Leslie. Contact Susan Beale c/o Ian Kearsley.

Membership Subscriptions

Last year EGS moved to a new online membership database, hosted with WebCollect. Members who set up a direct debit need to take no action – your subscription for next year will be taken automatically on 1 October and you will see it on your bank statement as "Gocardless Edinburghgeo".

If you do not have a direct debit set up, please consider doing so – log in to <https://webcollect.org.uk/edinburghgeolsoc> to renew your subscription; contact our membership secretary, Euan Mitchell if you cannot remember your log in details or if you have any questions.

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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. ISSN 2399-7001

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