



THE GEOLOGICAL SOCIETY OF GLASGOW

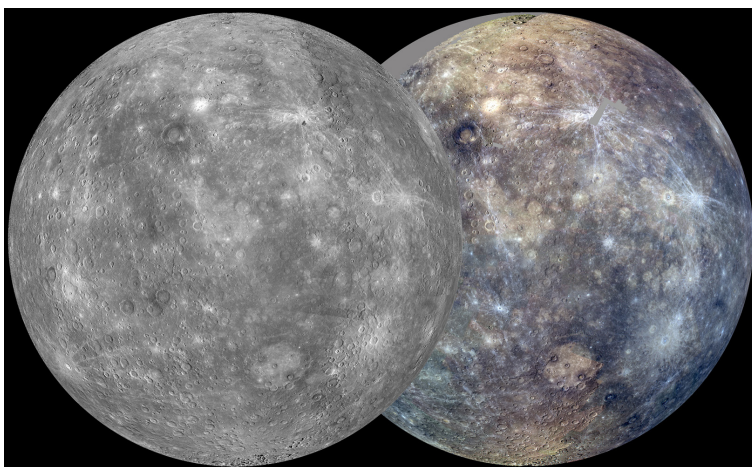
Registered Scottish Charity No. SC007013

President: Dr. Neil Clark

www.geologyglasgow.org.uk

September 2020

163/1



Mercury from the Messenger probe in 2011. Simon Cuthbert will tell us more about the geology of this enigmatic planet online the 10th September. See inside for further details. (Photo courtesy NASA)

In this newsletter:

- Lecture details for September, October and November
- Scottish Geology Festival

Lecture Programme 2020-21 (Session 163)

This session is obviously different. The continuing Covid-19 pandemic means we have to organise our lectures on-line. We aim to keep to the usual dates of the second Thursdays of each month - starting this month. The programme is organised for the next few months. News about December onwards in the next newsletter.

All lectures below will be held online using Zoom. Invites will be emailed to members who have provided an email address a few days prior to the meeting. The lectures will commence at 7.30 pm. Lectures will last about an hour plus there will be some time afterwards for questions and a vote of thanks.

If you have access to an email address but have not given it to the Society and wish to view these lectures please contact meetings@gsocg.org

The speakers may grant permission for the lecture to be recorded. In these cases it will be posted on Youtube.

Thursday 10th September 2020

Professor Simon Cuthbert, University of Science and Technology, Krakow, Poland.

“The Geology of Mercury”

Mercury has been recognised as a “wanderer” of the night sky since Babylonian times, but its proximity to the Sun has made it a difficult body to study. The situation has changed dramatically since the recent MESSENGER mission, which has revealed a fascinating and distinctive member of the family of terrestrial planets.



Dubbed the “iron planet” it has a huge metallic core and a relatively thin rocky mantle. In some ways the geology and landforms of Mercury resemble Earth’s Moon with its heavily cratered surface, extensive smooth lava plains and lack of an atmosphere, but it is unusually dark - a possible vestige of a primordial crust made of graphite! Tectonic features suggest that the entire planet has shrunk by several kilometres since it originally solidified.

This presentation will explore current knowledge about this rather uncelebrated planet and consider how its curious nature might be inherited from the special environmental conditions close to the Sun during the very earliest history of the Solar

System. A look ahead to the upcoming Bepi-Colombo mission will anticipate some exciting new insights about this mysterious “pink dot”.

Simon is long-standing member of the Society and was until recently based at the University of the West of Scotland. He is now Assistant Professor in the Department of Mineralogy, Petrography and Geochemistry, at the University of Science and Technology, in Krakow, Poland.

Thursday 8th October 2020

Professor Matthew Thirlwall, Royal Holloway, University of London.

“New isotopic age determinations from the Northern Highlands and their implications”

Over the last 15 years we have carried out a large number of new age determinations on metamorphic rocks from the Moine and its basement inliers. Some of these are published and some not. They include Lu-Hf and Sm-Nd ages on garnets and Rb-Sr ages on white mica and biotite. Lu-Hf garnet ages are probably close to crystallization ages, while Sm-Nd garnet ages in most cases represent stages on a cooling trajectory. This can clearly be demonstrated on a few samples where core Sm-Nd ages are younger than rim Lu-Hf ages. White mica ages are in some cases substantially younger than Sm-Nd garnet, and in other cases agree well.



We see a long record of Proterozoic events, but there are few if any Archean ages on the basement inliers. There are almost no Silurian ages, neither from garnets, nor from white micas, implying that Scandian events did not result in substantial new garnet or mica growth. White mica ages largely cluster in the late Ordovician around 445Ma, and are clearly too old to reflect final collision.

Matthew was an undergraduate in Oxford and did his PhD in Edinburgh, on the Late Caledonian volcanic rocks. Since 1984 he's been employed by Royal Holloway University of London, and the last few years has enjoyed only 20% employment.

Background Reading: Bird, Anna; Cutts, Kathryn; Strachan, Rob; Thirlwall, Matthew F.; Hand, Martin. (2018): First evidence of Renlandian (c. 950–940 Ma) orogeny in mainland Scotland : Implications for the status of the Moine Supergroup and circum-North Atlantic correlations. *Precambrian Research*, **305**, p. 283-294.

Thursday 12th November 2020

Professor Bruce Levell, University of Oxford.

“The Argyll Group: Two Beauts. ”

The Neoproterozoic Argyll Group (Dalradian Supergroup), is a well-exposed, 10km thick, sequence recording a transition from glacial through shallow marine to slope and deep-water sediments and pillow lavas. It probably represents the rift-to-drift sequence of the Laurentide margin of Iapetus.

Two units are presented: the Port Askaig Formation, probably the Sturtian phase of “Snowball Earth”, and the Jura “Quartzite”, a 5km thick cross-bedded, sandstone. These allow general points to be made about “Snowball Earth” and preservation bias in the sedimentary record respectively.



Bruce has a D. Phil from the University of Oxford. He worked for Royal Dutch Shell, from 1978 to 2013 when he became a Visiting Professor back at the University of Oxford. With Shell he worked as an explorer in Sarawak, Sabah, USA, UK and Oman, and as a researcher on basin modelling, seismic stratigraphy, and regional geology. He was variously Exploration Manager in Petroleum development Oman, VP of New Ventures in Shell Global Exploration, VP Emerging Technologies in Shell Research

and Shell Group Chief Scientist for Geology. Within Shell he lead several advanced training programmes in Geology and in Leadership. He was awarded the Silver Medal of the Petroleum Group, Geological Society of London in 2009. He is currently editing a Sedimentology textbook as well as engaged in research projects in Scotland, Oman, and Zambia.

News and Topical Articles

Scottish Geology Festival

The Scottish Geology Festival has been organised by the Scottish Geology Trust and will run from 12 September to 31 October. It will feature both visitor and virtual events across the country. The festival will host field trips, online exhibitions, fossil hunting and talks as well as Geopoetry 2020. The range of events and activities will be of interest to all whether you're familiar with geology or not. There will be fantastic opportunities to get involved and learn about Scotland's fascinating geology for families, communities, tourists and those making the most of Scottish staycations.

Any in-person events or activities will adhere to relevant Scottish Government advice and social distancing measures will be in place. See below for the event list. Check for access details and any updates at www.scottishgeologytrust.org/events

The events shown in Red type are being hosted by the Geological Society of Glasgow and members will receive an email invite a few days prior to the event

Geowalks – Arran Geology Weekend

10 September @ 3:00 pm - 13 September @ 5:00 pm

John Muir's Birthplace John Muir and Geology Online Exhibition

12 September @ 12:00 am - 31 October @ 11:30 pm

Friends of Hugh Miller Fossil Collection

12 September @ 10:00 am - 10:15 am

GeoBus University of St Andrews – Geology at Dundee Law

12 September @ 2:00 pm - 3:30 pm

Lochaber Geopark: Camas nan Geall, Ardnamurchan, shore and moorland day walk

13 September @ 10:00 am - 5:00 pm

Jurassic fossils from Skye and Eigg with Elsa Panciroli and colleagues

14 September @ 7:00 pm - 8:30 pm

'Why geology matters in Scotland' Online Seminar

15 September @ 5:30 pm - 6:30 pm

Mull Geology Walks – The Loch Bà Ring Dyke

16 September @ 10:00 am - 2:00 pm

Online talk: How geology shapes Scotland

16 September @ 7:00 pm - 8:00 pm

Mull Geology Walks – Calgary Bay (morning)

17 September @ 10:00 am - 12:30 pm

Mull Geology Walks – Calgary Bay (afternoon)

17 September @ 2:00 pm - 4:30 pm

North West Highlands UNESCO Global Geopark Geotour

19 September @ 9:00 am - 22 September @ 5:00 pm

GeoBus University of St Andrews – Fossil Hunting at Pittenweem

19 September @ 10:00 am - 12:00 pm

Lochaber Geopark: Onich Shore section afternoon walk

20 September @ 1:30 pm - 4:30 pm

Online talk: Edinburgh, Geology City

20 September @ 4:00 pm - 5:00 pm

Virtual Geo-Tour of the Fossil Grove and Quarry Knowe, Victoria Park, Glasgow

21 September @ 7:30 pm - 8:30 pm

Mull Geology Walks – Ardmore Forest

24 September @ 10:00 am - 2:30 pm

Virtual field trip: the Braid and Blackford Hills, Edinburgh

24 September @ 7:30 pm - 8:30 pm

Nigel Trewin Memorial Lecture 2020

25 September @ 5:00 pm - 6:30 pm

North West Highlands UNESCO Global Geopark Highland Controversy Geotour

27 September @ 9:00 am - 30 September @ 5:00 pm

Lochaber Geopark: The abandoned Corranree Lead Mine, forest and moorland hill day walk

27 September @ 10:00 am - 5:00 pm

'Why geology matters in Scotland' Online Seminar

28 September @ 5:30 pm - 6:30 pm

Mull Geology Walks: Isle of Iona

30 September @ 10:00 am - 4:30 pm

Virtual walk in the Glasgow Necropolis following the Geological Trail devised by Strathclyde Geoconservation Group

30 September @ 7:30 pm - 8:30 pm

Fife Fossils Online with Dr Katie Strang

1 October - 31 October

Geopoetry 2020

1 October @ 9:30 am - 6:30 pm

Mull Geology Walks – Fionnphort, the Ross of Mull Granite

1 October @ 10:00 am - 2:00 pm

North Sea Core: Exploring Offshore Scotland Through Geological Core Material

3 October @ 1:30 pm - 2:30 pm

Lochaber Geopark: Cuil Bay to ‘Tiger Rock’ coastal day walk

4 October @ 10:00 am - 4:00 pm

GeoBus University of St Andrews – New tools for old sites: examining the landscapes of stone circles

8 October @ 6:00 pm - 7:00 pm

Lochaber Geopark: Rubha na h’Earba Moine/Devonian unconformity

11 October @ 10:00 am - 4:00 pm

GeoBus University of St Andrews – Ancient Volcanoes and Elie “Rubies”

11 October @ 2:00 pm - 4:00 pm

Lochaber Geopark: Ardgour to Lochaline

18 October @ 9:30 am - 6:00 pm

GeoBus University of St Andrews – What can rocks tell us about the history of air?

19 October @ 6:00 pm - 7:00 pm

Lochaber Geopark: Glen Coe

20 October @ 10:00 am - 4:00 pm

Lochaber Geopark: Road to the Isles from Fort William to Mallaig

21 October @ 10:00 am - 5:00 pm

For specific event updates or questions, please contact the event organiser directly. Please email project.manager@scottishgeologytrust.org for any festival queries or additional events.

Subscriptions & Memberships

There are still a significant number of members who have not paid their subscriptions for the current session. Membership will lapse unless you bring any arrears up to date.

Please contact the Membership Secretary (address below) if you need details on how to pay or renew your membership

The uncertainty surrounding the lecture programme renders the usual membership card obsolete, however if you require evidence of membership please contact the Membership Secretary.

Campbell Forrest, Strathview, Fintry Road, Kippen, Stirlingshire, FK8 3HL email : memsec@gsocg.org

Email Contact

If you have access to an email address but have not given it to the Society you are likely to miss out on much of the planned geological events during this pandemic.

If you don't use email then please consider getting an email address or asking a family member or friend to get online access. If you do wish to get online then please let us know your email address. Contact meetings@gsocg.org

AGM Notice

The AGM of the society will be held, as usual, immediately prior to the December lecture on Thursday 10th December at 7:30. It will be an online Zoom meeting. 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 late-November) will contain all the reports and papers.

Hon. Secretary: Walter Sample

email: sec@gsocg.org

Newsletter Coordinator: David Webster

email: meetings@gsocg.org

