



# THE GEOLOGICAL SOCIETY OF GLASGOW

## Christmas 2022 Newsletter

### Lecture Programme

**12th December 2022 at 7:30pm** Lecture Theatre A407 Boyd Orr Building

**This will be an 'in-person' lecture, and will be recorded but not live zoomed**

**Professor Mark Williams (Leicester University)**

**"The Anthropocene: a Planetary scale change to the biosphere, and the future well-being of planet Earth"**

Over the past ten millennia humans have halved the mass of the biosphere, concentrated most of the mass of terrestrial mammals in themselves and the animals that feed them, and in their billions of individuals now account for most of the numerical abundance of primates. Of itself, this indicates a level of domination that is exceptional for a single large species in the history of the biosphere. To that we must add the systematic reconfiguration of ecosystems globally and the 1000s of non-native species that have been translocated therein. Many of these changes have left a distinctive palaeontological signature in the sedimentary record, one likely to be recognisable in most regions and ecosystems of the world, and one which may help to define a new epoch of geological time, the Anthropocene. If sustained, this change may denote a permanent state-shift in the structure of the biosphere. If it fails, it will likely be the result of excessive human consumption resulting in a mass extinction. I will discuss how palaeontology contributes to quantifying the degree of Anthropocene change, and how it might be used to influence our strategies towards a more sustainable relationship with nature.



*Palaeontologist Professor Mark Williams examines the evolution of life over geological timescales.*

*Over three decades his research has taken him from the tropics to the polar regions, working across terrains as diverse as glaciers, deserts, jungles and everything in between. Professor Williams' current focus is on studying patterns of human induced changes to life, such as the impacts of introduced species into ecosystems as far apart as San Francisco Bay and the*

*Leicestershire countryside. His research explores solutions to human induced*

*changes to the biosphere. Those changes may be one of the defining characteristics of a new geological epoch known as the Anthropocene. Mass extinctions in the past have been caused by a massive asteroid strike, rapid and substantial changes in climate, and sustained super-volcanic eruptions. Professor Williams' research explores how humans might avoid becoming part of this ignoble group of causes of mass extinction.*

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### **Past Lecture Recordings**

I have setup a Youtube [Channel](#) for past recordings to which you can subscribe. They are also available on the Society website

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### **AGM Report**

New appointees as follows: we extend a very warm welcome to new members of Council - Lindsay Smith, John Guerrier and Bobby Alexander.

HON SECRETARY	DAVID WEBSTER
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	LINDSAY SMITH
SJG EDITOR	COLIN BRAITHWAITE
INDEPENDENT EXAMINER	BRIAN O'NEILL

As well as agreeing to the proposed change to the quora for Council meetings (from 10 to 8) there was a discussion about the lecture venue, lecture format and post-lecture socialisation.

Rest assured these are key issues for the new Council and we will constructively address them in the coming months and report back to members.

Meantime we still feel that attendances at in-person lectures would be adversely affected should we offer a live zoom feed - although we will keep this in constant review. We are exploring the option of having some extra zoom-only lectures with an internationally well-known geoscientist from outside the UK/Ireland.

For the rest of this session lectures will be in the Boyd Orr and we are recommending socialising afterwards at the Oran Mor - where you can order tea/coffee from the bar should you not want a 'pub' drink. We've always found seats and its not particularly noisy. Its very close to the usual hotel we use for visiting speakers so its very convenient for them.

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### **Out -of Doors**

The Fossil Grove was featured on last Saturdays Out of Doors Programme on Radio



Scotland. Catch up with it using BBC sounds app. Simon and I are on for two six-minute slots at 22:45 and 49:30. The rest of the programme is very good too and it's well worth subscribing to it. <https://www.bbc.co.uk/sounds/play/m001g8j4>

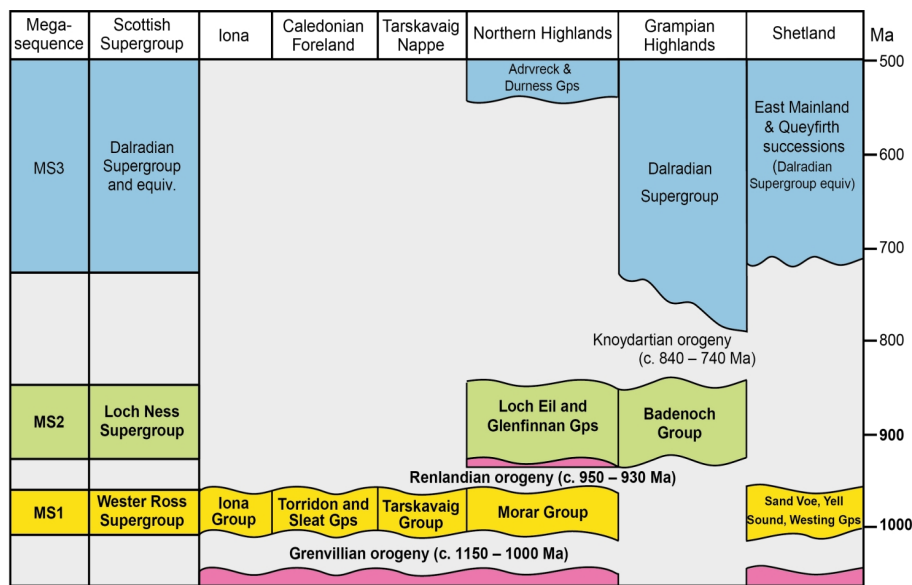
**Scottish Geology Trust**

Latest newsletter [here](#)

**Edinburgh Geological Society**

The EGS lecture programme is focussing on the 2023 publication of the new (5th) edition of the 'Geology of Scotland' - required reading for all those interested in Scottish geology! Full details at: <https://www.edinburghgeolsoc.org/lectures/> where you can subscribe to their youtube channel

The lecture given recently by Martin Krabbendam <https://youtu.be/E9ob2bVxtNM> described the new stratigraphic subdivision of the Torridonian and Moine into two new Megasequences. The third megasequence (aka the Dalradian) will be the subject of their next lecture by Tony Prave on the 18th January. I shall be driving through to attend in person, let me know if you want to car-share.



**Friends of Hugh Miller Newsletter**

A message from Stephanie Kulesza (Membership Secretary): " ... I attach the [52nd Issue of Hugh's News](#) which I hope you will find time to read despite such a busy time of year! Many thanks to the very hard work of our Editor Lara Reid and our wonderful Production Editor Piers Hemy for producing it in time for Christmas. If you'd like to respond to any of the articles or require any more information please do contact us" Stephanie can be contacted at [membership@thefriendsofhughmiller.org.uk](mailto:membership@thefriendsofhughmiller.org.uk)

**Stuart Failey**

We have learned that Stuart Fairley, formerly Chair of Strathclyde RIGS, died on Wednesday 14th December. We await detail of the funeral, but understand it will be



**Festive greetings for Christmas and the New Year to all our Members**

### GOLDEN FIND ON A BEACH IN SOUTH AFRICA!

In an astonishing story, we hear about a gold mounting ring engraved with Hugh Miller's name, birth date and death date. Found by Cornelli Smart with her metal detector at Gordon's Bay, South Africa, in June 2022. (continued on p2)



Cornelli Smart with the ring on the beach where she discovered it. One of the pieces of Great Green and Grey © 2012, Cornelli Smart



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Find us on @friendsofmiller

on Thursday 29th December at Clyde Coast & Garnock Valley Crematorium above Largs. Please do let me know if you would like the details once known.

## Geology Bites

The latest podcast episode is about a new technique for performing combined dating and trace-element abundance measurement of laser-beam-sized spots within a mineral. The method is remarkable in that each measurement takes just a few seconds, and the sample used for obtaining the date (age) is exactly the same as the sample

used to measure the trace-element abundances. This means that hundreds or even thousands of measurements can be made with the assurance that the dates are consistent with the abundance measurements.



In the podcast, Oliver talks to John Cottle, who leads the team at the University of California, Santa Barbara, that developed the technique. It goes by the unwieldy name of laser ablation split-stream inductively-coupled plasma mass spectroscopy. Since John is a bit understated, it may not sound like it, but it was a technological *tour de force* to work out how to effectively split the stream from a laser ablation system and feed each stream into its own mass spectrometer, one

optimized for the measurement of the uranium and lead isotopes to obtain the age, and the other tuned to the measurement of trace elements.

more information at <https://www.geologybites.com/>

## Volcanic Experiences escorted group tours

Several trips are already fully booked but they still have vacancies on their trip to **Iceland** in September 2023 (8th-15th). Covering the active north of the country, it will be based for much of the time at Lake Myvatn, surrounded by landscape features created by historic and recent volcanic activity. Visits will include the volcanic caldera Krafla and the magnificent and dramatic waterfall at Dettifoss. The cost of the trip is £1950, which includes flights, high-quality accommodation, meals and all local transport.

More information at <http://www.volcanic-experiences.co.uk>

## Some interesting online links to articles

**Oldest-ever DNA shows mastodons roamed Greenland 2 million years ago**

[https://www.nature.com/articles/d41586-022-04377-x?  
utm\\_source=Nature+Briefing&utm\\_campaign=3c24abe29a-briefing-dy-  
20221208&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-3c24abe29a-44022293](https://www.nature.com/articles/d41586-022-04377-x?utm_source=Nature+Briefing&utm_campaign=3c24abe29a-briefing-dy-20221208&utm_medium=email&utm_term=0_c9dfd39373-3c24abe29a-44022293)

### **67-million-year-old fossil upends bird evolutionary tree**

[https://www.nature.com/articles/d41586-022-04181-7?  
utm\\_source=Nature+Briefing&utm\\_campaign=c2faae4cd1-briefing-dy-  
20221201&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-c2faae4cd1-44022293](https://www.nature.com/articles/d41586-022-04181-7?utm_source=Nature+Briefing&utm_campaign=c2faae4cd1-briefing-dy-20221201&utm_medium=email&utm_term=0_c9dfd39373-c2faae4cd1-44022293)

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### **New palaeontology online short course from the Natural History Museum**

They have recently developed a new programme of public, six-week short courses which are taught online, on-demand by Museum scientists about some of the cutting-edge research being undertaken behind the scenes in the Museum. You can find out more about the new Masterclass programme here: [https://www.nhm.ac.uk/our-science/courses-and-students/NHM\\_Masterclass.html](https://www.nhm.ac.uk/our-science/courses-and-students/NHM_Masterclass.html)

One of the first courses they are launching (which begins on 16<sup>th</sup> January 2023) is **Life Through Time** – a six-week course that covers recent discoveries in contemporary palaeontological research being undertaken at the Museum, covering the origin of animal through to the rise of mammals.

Details of the course can be found here: [https://www.nhm.ac.uk/our-science/courses-and-students/NHM\\_Masterclass/life\\_through\\_time.html](https://www.nhm.ac.uk/our-science/courses-and-students/NHM_Masterclass/life_through_time.html)

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