

# Newsletter - November 2023

THE GEOLOGICAL

SOCIETY OF

**GLASGOW** 

## Lecture Programme

All lectures are held in Room 407 of the Boyd Orr Building (unless otherwise noted). Note: Meetings commence at 7.00 pm. Room 407 is on the 4th floor. We will record the lectures but not the Q&A and will not be offering a live zoom.

## Thursday 9<sup>th</sup> November 2023

# **Professor Tony Prave,** University of St Andrews "Birth of the Dalradian Supergroup and its path through Neoproterozoic Earth history"

The most enduring concept of the Dalradian Supergroup is that it formed during a prolonged phase of extensional tectonism, starting with breakup of the supercontinent Rodinia and ending with opening of the Iapetus Ocean. This evening Tony will revise and refine that concept, integrating the Dalradian's rock record into the geological and environmental conditions recognised currently as those that define the latter half of Neoproterozoic time worldwide.

Although polyphase deformed and metamorphosed, the Dalradian Supergroup nonetheless contains a rich record of Neoproterozoic Earth history. During the past several decades, researchers have begun reconstructing that history by differentiating deformational features from those that inform on original depositional frameworks. This talk will present the latest such findings and ideas about the Dalradian and how they are revising and refining understanding about the timing of its formation and evidence for breakup of the supercontinent Rodinia and opening of the Iapetus Ocean.

Tony's research utilises field-based observations and isotope geochemistry to create, test and constrain ideas about the processes that shaped Earth's surface environments. His interests are keenest on those pivotal times of geological history during which wholesale Earth system change occurred.

#### Further reading

Prave, A.R., Fallick, A.E. and Kirsimare, K 2022. Evidence, or not, for late Tonian breakup of Rodinia? The Dalradian Supergroup, Scotland. *Journal of the Geological Society, London*, **180**, jgs2022-134, <u>https://doi.org/10.1144/jgs2022-134</u>

Krabbendam, M., Strachan, R. and Prave, T. 2022. A new stratigraphic framework for the early Neoproterozoic successions of Scotland. *Journal of the Geological Society*, **179**, jgs2021-054, <u>https://doi.org/10.1144/jgs2021-054</u>



# Future Lectures

<u>Thursday 7<sup>th</sup> December 2023</u> Note: The Lecture will be preceded by the AGM and Special Members' Meeting *Professor Craig Storey, University of Portsmouth* "The onset of modern plate tectonics"

Since the 1960s we have accepted the plate tectonic paradigm as being central to how our planet operates at the present day. However, there is much ongoing debate as to when plate tectonics began and how similar it was to the current observable mode. Hypotheses range from the Hadean to the Neoproterozoic and therefore span across profound changes in the Earth system, including atmospheric oxygenation and the proliferation of life.

Thursday 11th January 2024 Steven Hollis, University of Edinburgh.

"The Closing of the lapetus and associated mineralisation"

# Past Lectures

A recording of the October lecture on Vikings and isotopes can be found here: https://youtu.be/ZUtCfCZxP1o

#### AGM and Special Members Meeting

The Society's AGM will be held on Thursday 7th December at 7:pm immediately preceding the evening's lecture. The first part will be a 'Special' Meeting of the Society to vote on approval (or otherwise) of the new Constitution. See article below. This will be followed by the usual AGM. Agendas, papers and the Proceedings will be emailed/posted at the end of November.

As usual we will be electing members of the Society to the Council at the AGM. If you are interested in helping out with the running of the Society in any way, then please get in touch with the secretary, David Webster sec@gsocg.org

#### New Constitution

The Council intends to propose the adoption of the new Constitution at a Special Meeting of Members immediately preceding the AGM in December. The changes are extensive compared to the existing Constitution, so we are allowing a further three weeks for consultation with Society members in advance of the AGM. A draft of the new Constitution accompanies this newsletter as an email attachment – or it can be obtained from the Hon. Secretary.

This draft Constitution has been submitted to OSCR, the Scottish Charity Regulator, who have consented to the revised charitable purposes set out in Clauses 2 and 3.

The final deadline for responses to this consultation is 21st November 2023. Please send any requests for copies, comments, queries or proposals for amendment to the Hon. Secretary by email (sec@gsocg.org) or by post to The Geological Society of Glasgow, c/o School of Geographical & Earth Sciences, Molema Building, University of Glasgow, Lilybank Gardens, Glasgow G12 8QQ.

#### New Membership system

The new system (Webcollect) is now up and running and has greatly simplified the jobs of the treasurer, membership secretary and the secretary. Lots of you have signed up, logged in and paid your membership by direct debit (having cancelled any previous standing orders). If you still haven't then please do so at: <u>https://webcollect.org.uk/mem/</u>Contact Ian Miller at <u>meetings@gsocg.org</u> or Ian Veitch <u>treas@gsocg.org</u> if you are having problems.

We acknowledge that some members do not access the internet or have email addresses. These members will continue to receive newsletters and the Proceedings – not being able to access Webcollect is not a barrier to continuing membership!



#### Geo Natter

These popular sessions continue. Venue Kelvinhall from 13:30 to 15:00. Dates are: 1, 15 and 29 November 13 December

# News from Edinburgh Geological Society

<u>Wednesday 1st November</u> The next lecture in the Autumn Series will be given by Dr John Marshall (University of Southampton) starting at 7pm at the Grant Institute, Kings Building Campus. The title of his



talk is "Geology of Scotland, Chapter 9: the Old Red Sandstone". Further details can be found on their website <u>here</u>. The website also has links to recordings of previous lectures.

The "Time Traveller: Charles Lyell at Work" exhibition runs from the 27th October 2023 to 30th March 2024 at the Edinburgh University Library, George Square, Edinburgh, EH8 9LJ.



Rhynie Chert reconstruction by Victor Leshyk

#### New and Recent Papers on Scottish Geology

Wellman, C.H., Lopes, G., McKellar, Z. and Hartley, A. 2023. Age of the basal 'Lower Old Red Sandstone' Stonehaven Group of Scotland: The oldest reported air-breathing land animal is Silurian (late Wenlock) in age. *Journal of the Geological Society*, jgs2023-138. <u>https://doi.org/10.1144/jgs2023-138</u>

Ezcurra, M.D., Marke, D., Walsh, S.A. and Brusatte, S.L. 2023. A revision of the 'coelophysoid-grade' theropod specimen from the Lower Jurassic of the Isle of Skye (Scotland). *Scottish Journal of Geology*, sjg2023-012. <u>https://doi.org/10.1144/sjg2023-012</u>

Carver, F., Cartwright, J., McGrandle, A., Kirkham, C. and Pryce, E. 2023. The continuation of the Mull Dyke Swarm into the Southern North Sea. *Journal of the Geological Society*, **180**, jgs2023-039. <u>https://doi.org/10.1144/jgs2023-039</u>

# Down to Earth





Latest edition of 'Extra' can be downloaded here

# **Geology Bites**

The latest episode is with Catherine Mottram, Associate Professor at the University of Portsmouth, on the radiometric dating of low-temperature processes. Against challenging odds, Catherine has succeeded in turning calcite into an in situ uranium-lead geochronometer. This is vastly harder than using zircon because calcite usually incorporates two orders of magnitude less uranium, and therefore generates correspondingly less radiogenic lead. To make matters worse, calcite has an affinity for common lead, which can swamp measurements of radiogenic lead. Despite this, she and her colleagues have succeeded in using calcite to date fossils, sedimentation, and fluid processes.



She ends the episode with an account of her fieldwork last summer in the Yukon, Canada, where she used calcite to unravel an impressive history of very long-lived pulsed hydrothermal



flow and faulting that may have generated the economically valuable gold deposits there.

Get the podcast at https://www.geologybites.com/

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