



Circular 455 Web Version

November 2023

Registered Charity No: 503617

President: Tony Waltham

www.emgs.org.uk

EAST MIDLANDS GEOLOGICAL SOCIETY

WINTER 2023/2024
LECTURE PROGRAMME

Saturday, 9th December 2023 – 6.00 pm

Dr Richard Shaw – The Ecton Copper Mines - brief history and recent discoveries

To be followed by the Christmas Buffet

PLEASE BRING YOUR OWN GLASS

Saturday, 13th January 2024 – 6.00 pm

Speaker: Dr Jack Matthews

Celebrating the Origins of Animals Life: Building a UNESCO Global Geopark in Charnwood Forest, UK

Saturday, 10th February 2024 – 6.00 pm

Speaker: Dr Tony Waltham

Diamond Geology

Saturday, 9th March 2024 – 6.00 pm

Speaker: Professor Peter Worsley

Geology of Stonehenge and the Bluestone controversy

After AGM

Saturday, 13th April 2024 – 6.00 pm

Speaker: Paul Hildreth

The Lower Cretaceous 'East Lindsay Group' – a jewel in the geological crown of Lincolnshire

Saturday, 9th December 2023

Speaker: Dr Richard Shaw, Director of Peak District Mines Historical Society

The Ecton Copper Mines - brief history and recent discoveries

To be followed by the Christmas Buffet

Ecton was initially worked in the Bronze Age about 3500 years ago, either for pigment or for both pigment and copper. No copper working then until the mid-1600's though there are some Medieval lead workings on the hill. Dutchmen Level is the location of the first or second use of gunpowder for blasting in a British mine (the other location is Cromford Sough though they were close) in the 1660's, though the mine was not a success at that time.

On land owned by the Chatsworth Estate the mine was leased out to 'adventurers' in early 1700's who followed the vein down from the top of the hill. In 1724 they had reached about river level and in 1724 started Deep Ecton Level to drain the workings. About 20m below the level the mine became very rich and the adventurers renewed their lease in 1731 before it expired in order to benefit from the rich deposit. The mine was taken 'in house' by the estate in 1760 and worked it to a depth of about 300m below river level before the ore values decreased. In House mining ceased in 1823 and through the rest of the 19th century the mine was worked by a number of companies, sometimes in conjunction with the adjacent Clayton Mine, most of which were share scams based on the mine's past wealth. The mine was finally abandoned in 1889.

In the 1960's Geoff Cox bought the mine and mineral rights and the mine was used for a variety of mining related educational purposes. Following his death the mine and mineral rights were vested in Ecton Mine Education Trust (EMET) and the educational related activities in Ecton Hill Field Studies Association (EHFSA). EMET have responsibility for the mine, other property and their safety and continued maintenance while EHFSA use the mine for educational activities from older primary school level upwards in subjects relevant to the mining industry. In 2019 EMET was part of the EU funded UNEXMIN project developing autonomous underwater vehicles for the exploration of flooded abandoned mine workings and the mine was one of the test sites. This resulted in a series of submersible dives in all the flooded openings allowing a more thorough understanding of the workings and their geology to be developed. A follow-up project, UNEXUP, also used the site in 2022 to test a redesigned submersible and there have been several ROV dives in the mine. Despite these explorations much of the mine remains unexplored below water level.

The presentation will include a brief history of the mine, a summary of the results of the underwater explorations with a focus on improved geological understanding of the deposit and, technology permitting, a short video of the underwater conditions.

Saturday, 13th January 2024 – 6.00 pm

Speaker: Dr Jack Matthews

Celebrating the Origins of Animal Life: Building a UNESCO Global Geopark in Charnwood Forest, UK

Charnwood Forest in Leicestershire is host to some of the oldest animal fossils in the world, many of which have been key to our understanding of the rise of animals during the Ediacaran period around 570 million years ago. In addition to its internationally significant palaeontology, the area is also home to a number of working and historic quarries whose lithologies have shaped the built environment of the United Kingdom for more than 2000 years. This presentation will outline the internationally significant geodiversity of Charnwood

Forest - including the outstanding ancient fossils - and the ways it has shaped the landscape, communities, and people of Britain's 'unexpected upland'.

Saturday, 10th February 2024 – 6.00 pm

Speaker: Dr Tony Waltham

Diamond Geology

In both their geology and their industry, diamonds are like no other mineral. For centuries, the world's supply came almost entirely from the alluvials of Golconda in India. Only in 1870 were kimberlite pipes discovered, and it was a long time after that before their gas-rich explosive origins were really appreciated. The main source of gem-quality stones switched to Kimberley in South Africa, but this has subsequently been displaced by Botswana, Russia and then Canada. Exploration for diamond-bearing pipes continues today, and has involved some exciting stories with both lone prospectors and major companies.

Saturday, 9th March 2024 – 6.00 pm

Speaker: Professor Peter Worsley

Geology of Stonehenge and the Bluestone controversy

This lecture will take place after the AGM

Stonehenge has recently come into the public eye due to the publication of the results of new geochemical work. The Sun newspaper declared 'Mystery of where the giant rocks came from SOLVED' whereas The Guardian was more cautious with a headline 'Archaeologists discover likely source of Stonehenge's giant sarsen stones'. The senior English Heritage properties historian said that she was delighted that one of the most intriguing questions about Stonehenge had been answered. The background to this euphoria will be critically examined and the geological fundamentals reviewed.

Apart from the sarsens, the other geological problem lies with the assemblage of 'foreign' rocks incorporated into the henge structure, i.e. the so-called Bluestones. There now appears to be little doubt that the Bluestones are primarily derived from outcrops in south-west Wales but the mechanism whereby they arrived to Salisbury Plain is far from being resolved. Most archaeologists have accepted the hypothesis that Neolithic people were responsible for the transport of the Bluestones from their source to the plain but over time the favoured routes have changed drastically. In contrast geologists have been split between those who accept the human transport mode and those who favour natural earth surface processes as being responsible for transportation – i.e. glaciation. The strengths and weaknesses of these competing ideas will be discussed.

Saturday, 13th April 2024 – 6.00 pm

Speaker: Paul Hildreth

The Lower Cretaceous 'East Lindsay Group' – a jewel in the geological crown of Lincolnshire

The county of Lincolnshire is often overlooked as a venue for geology field trips and even research but it possesses several opportunities for examining significant and interesting exposures. The Elsham Sandstone is a unique, local deposit within the Kimmeridge Clay Formation and at Welton-le-Wold neighbouring sites offer exposures of three glacial tills and an interglacial gravel deposit.

The county's jewel in the crown however is the under-published Lower Cretaceous sequence coeval, at least in part, with the very well-known Wealden Group of south east England and the enigmatic Speeton Clay of Filey Bay. This 'East Lindsey Group' is unique to

Lincolnshire. It thins northwards to feather out north of Caistor and experiences facies changes in the area beneath The Wash which pass into an East Midlands suite transitional with those of the south of England.

The impact of the 'East Lindsey Group' is threefold. It has influenced the shape of the western edge of the Lincolnshire Wolds producing an attractive fringing landscape between the broad Upper Jurassic (Oxfordian - Kimmeridgian) clay vale and the Chalk scarp. It has supplied three locally-important and distinctive building stones that can be recognised in the villages and towns of East Lindsey. It has provided the raw material, ironstone, for a relatively short-lived but locally important mining industry, the scars of which are still visible in the hillsides and valleys of the Claxby and Nettleton area.

The various lithologies and palaeontology of the rocks comprising the 'East Lindsey Group' allow for a reconstruction of the palaeogeography of the Lincolnshire area during early Cretaceous times (145 – 113 million years ago) and its relationship with other parts of the present day United Kingdom.

LECTURE VENUE

Indoor meetings are now held in the School of Geography on the Nottingham University campus which is in the Sir Clive Granger Building. Enter the University by the North Entrance, off the A52, and follow signs to the main Visitor Car Park. As you enter the car park, the Sir Clive Granger building is on your left.

The Society is indebted to the School of Geography at the University, who are sponsoring our lectures, for the use of these facilities.

New Members

Dr Tim Pharaoh, Keyworth, Nottingham
Dr Gareth Brown, Matlock, Derbyshire
Mr Alan Whiteley, Nottingham

Mercian Geologist

We apologise that the latest edition of the Journal was not available at the October meeting as we had hoped but copies will be available for collection at the meeting on 11th November, so please remember to pick up yours and also take any others that you may be able to hand deliver locally. Those not collected at the meeting will be posted as usual.

East Midlands Geological Society now on Facebook

We now have a Facebook page! The page was launched in mid-August and currently includes information on Society events for the remainder of 2022. New events in the 2023 programme will be added as soon as they are finalised.

Most other societies like EMGS have well-established Facebook pages and use them for sharing information on lectures, field trips, exhibitions and other news of interest to their members and the wider geological community. As editor of the EMGS page I'll be keeping it up to date with news from other geological societies including details of lectures and field trips that are open to EMGS members to attend. I'll also be adding news of general geological interest to members.

If you have a Facebook account, you can view our page by opening the Facebook website or app on a smartphone, tablet or computer and entering 'East Midlands Geological Society' into Facebook's search box. If you don't have a Facebook account (and don't wish to sign up) simply open a web browser on your computer, phone or tablet and navigate to <https://www.facebook.com/EMGSRocks> . Facebook will display a banner asking you to Sign in or Create an Account, but you can close this and still view most of the content of the page.

Finally, if you are already a keen Facebook user, you can help broaden our Facebook profile by 'Following' our Page, and 'Liking' posts. Page followers will automatically see new EMGS posts on their personal Facebook newsfeed. Facebook puts extra effort into promoting pages once they get 100 Followers, so that is our first target.

SUBSCRIPTIONS

A reminder that these were due on 1st February, so please can those of you who do not pay be standing order check whether you have paid your subs for the year.

Also a plea please to those of you who do pay by standing order to check whether you are paying the correct amount. Subscription rates have remained unchanged for several years (for current rates please see list below) but some members are still paying at old rates. If you are unsure a) whether you have paid for this year, or b) whether you are paying the correct rate, please contact the treasurer who will be able to assist.

If you currently opt to receive your Circular by post an additional annual payment of £10 per year will be required to cover the costs with effect from 1st January 2022.

Subscription rates remain unchanged and are as follows:

Individual	- £18.00
Joint	- £22.00
Full time student	- £5.00

Our bank details are: *redacted from web version, Members should consult their emailed copy of this Newsletter.*

Derbyshire Blue John book

This new publication is a Third Edition, edited by Tony Waltham and Noel Worley, of the book by Trevor Ford which was first published in 2000, and now updated with superb colour photographs and much additional information.

The book has received excellent reviews and is now available for sale to members at a discounted price of £5.00.

DATA PROTECTION

Many thanks to those of you who have already returned your Confirmation of Details form but if you have not already done so, it would be appreciated if you could please return these as soon as possible to the Secretary either by post or email. If you have mislaid the original form please contact the Secretary at secretary@emgs.org.uk to request another.

Society Publications

- (1) **East Midlands Field Guide;**
- (2) **Sandstone Caves of Nottingham (now in its 4th Edition)**

(3) Derbyshire Blue John

Copies available by contacting the Secretary or at Indoor Meetings.

Information for Other Societies

We hold information of lectures and field meetings for other local societies such as the NSSGA, Black Country Geological Society and Leicester Lit & Phil Society. If you would like details of any of these, please contact the Secretary.

The next Circular will be published in January 2024 .

The next Council Meeting will be held on 16th January 2024.

Secretary: Dr Vanessa Banks, e-mail: secretary@emgs.org.uk