



The
Geological
Society

serving science & profession

North West Regional Group &
Cymdeithas Daeareg Gogledd Cymru /
North Wales Geology Association

Meeting

Wednesday 12th November 2014

THE FOSSIL FOREST AT BRYMBO, WREXHAM: STUDIES ON PRESERVATION AND ECOLOGY OF CARBONIFEROUS PLANT FOSSILS

The Fossil Forest at Brymbo is of national and international importance because of its unique assemblage of plant fossils. About 14 m of Coal Measures of middle Duckmantian age are exposed at Brymbo including two coal seams; the Crank and 2-Yard Coals. There are laminated mudstones crowded by fragments of pteridosperms, ferns, Calamites and lycophytes. A thin layer of ironstone nodules has yielded a similar range of plant remains. Preservation of the two are different but both contain stems that have yielded cuticles and reproductive organs that yielded spores. Careful recording of the plant fossils has shown different assemblages to be recognised from the various strata enabling tentative ecological interpretations to be made.

About 20 erect arborescent lycophyte stems have been found at several horizons. Some are rooted in a coal parting where there are no recognizable *Stigmaria* bases. The stem casts are formed either in sandstone or less durable mudstone. One *Stigmaria* is complete spreading over nearly 5 metres and has a 1.7 m tall trunk.

Such well-preserved *Stigmaria* are uncommon. There are also large numbers of erect *Calamites* stems still in their original growth positions. The precipitation of an iron-bearing oxide mineral within the pith cavity of the partially buried stems formed a rigid layer allowing sediments to fill it. Kernel density map and nearest neighbour analysis of clusters of cross sections of *Calamites* suggests that each small patch of these pith casts represents an individual plant spread by rhizomatous growth.

CPD: *These events may be considered for contributing to a recognised Continuing Professional Development (CPD) scheme as part of personal development. Delegates should check their individual scheme requirements.*



Professor Thomas is an honorary professor within the Institute of Biological, Environmental & Rural Sciences (IBERS) at Aberystwyth University. His main area of research is in Carboniferous palaeobotany especially the taxonomy, geographic and stratigraphic distribution and ecology of the lycophytes and calamites. His other research interests are geoconservation and living spore-bearing plants.

Lecture start promptly at 7:00pm with teas and coffees available at 6:30pm in room opposite.

Venue: University of Chester Department of Biological Sciences, Parkgate Campus, Binks Building, Room CBK011, Chester CH1 4AR (car park in campus)
<http://www.chester.ac.uk/find-us>

Organised by the North Wales Geology Association & North West Regional Group of the Geological Society of London For further information contact the Group Secretary, Nik Reynolds at:
geologicalsociety.northwest@gmail.com