



THE HIGHLAND GEOLOGICAL SOCIETY

Scottish Charity No. SC004427

SEPTEMBER 2016

Dear Members,

More dates for your diary from other organisations that you may be interested in:

Saturday 24th September – Channel 4, *Walking through time*, 8 pm

‘Dr Tori Herridge searches for the site of a huge meteorite that landed on Scotland’s beautiful NW coast a billion years ago; one of the world’s biggest asteroid impacts’. The following programmes on 1st and 8th October will look at ‘Britain’s Lost Mammoths’ and ‘the Jurassic Coast’ respectively.

Saturday 8th October – Elgin Museum Geology Group

An invitation to join volunteers from Elgin Museum on a short excursion around the Permian and Triassic rocks of Hopeman and Burghead. This is an informal day led by sedimentologist Bob Leppard, a specialist in oil and gas exploration. Booking essential – please contact Alison for more information.

Wednesday 19th October – Inverness Field Club Meeting, Millburn Academy, Inverness, 7.30 pm

Jurassic Footprints on Skye, Dr Neil Clark, Hunterian Museum, Glasgow

Neil will discuss the discovery of the most extensive dinosaur fossil site yet known in Scotland: a coastal outcrop of the Duntulm Formation (Bathonian) at Cairidh Ghluimaig, Skye, a site visited by the HGS on our April excursion with Iain Allison.

Note also that the latest version of ‘Hugh’s News’ is available from the Friends of Hugh Miller at:
<http://s3.spanglefish.com/s/27844/documents/newsletters/newsletterautumn16.pdf>

WINTER PROGRAMME 2016 – 2017 ** NOW INCLUDES DATES FOR 2017 ******

5 October – *Diamond - the most elusive gemstone?* Don Duncan, Duncan Geological Consulting Ltd.

The world of diamond exploration was, until the 1980’s, largely unknown outside of one or two companies. Upper Mantle studies were confined to a handful of geoscientists worldwide until a partnership was formed with the diamond industry and those studies proved to have applications in not only finding, but also in exploiting kimberlites and lamproites. The talk is set out as a journey from exploration concepts through exploration methods, ending in the evaluation of kimberlites as potential mines. On the way, there will be illustrated diversions to various countries, together with anecdotes and asides.

Don has worked for over forty years in mineral exploration and mining in Africa, China and Australia, with the occasional foray into Russia and South America. He is also the author of ‘*The Psychologist’s Just Been...*’ which is written under the pseudonym of Tom Lindsay. This is a tale in the style of the James Herriot ‘vet’ books: young geologist goes off to seek fame and fortune, then, somewhat older but no wiser, writes about his adventures. The central character has thus far led a life more reminiscent of that of an explorer in the 1800’s than that which might be expected of a modern scientist. His somewhat wry views on many issues are coloured by the numerous locations and cultures in which he’s not only worked, but lived, often during periods of significant social change.

The book is available on Amazon Books (and other internet sellers) in both paperback and Kindle format and has received numerous positive reviews. Don will be happy to sign copies for members after his talk.

9 November – *A Geologist's Perspective of the Role of the Highlands and Islands in Hydrocarbon Exploration and Production*, Jim Ritchie, Subsurface Director, Speedwell Energy Ltd, Aberdeen

Major engineering facilities in the Highlands and Islands provide visual evidence of the impact of the oil and gas industry in the region. Examples include the platform fabrication yards at Ardersier, Kishorn and Arnish Point on the Isle of Lewis, the exploration rig maintenance yards at Invergordon and Nigg with mobile rigs lined up in the Cromarty Firth and, further north, the oil terminals at Flotta and Sullom Voe, as well as the subsea production and control bundles fabrication facility at Sinclair's Bay. What is perhaps less well known is the important contribution of the Highlands and Islands to the understanding of the subsea geology in the Moray Firth, North Sea and Atlantic Margin. The consequent successful exploration for, and development of, oil and gas in these areas continues to be very important to the economy of Scotland and the UK. Jim's talk will give some examples of applying outcrop studies to the offshore environment and will also describe some onshore hydrocarbon exploration and development activity. There will also be a description of the components needed for a working petroleum system, which is essential for successful hydrocarbon exploration.

7 December – *The real mineral resources of the UK*, Professor Peter Scott, Peter W. Scott Ltd. and Camborne School of Mines, University of Exeter

Rocks and minerals mined or quarried in the UK provide many of the raw materials for our basic industries. Those currently extracted include sand and gravel, limestone, dolomite, sandstone, igneous rocks, silica sand, gypsum, potash, salt, china clay, ball clay, common clay, building and dimension stone, slate, fluorite, barite, and talc. They are worth about £2.5 billion to the UK economy and provide around 20,000 jobs at about 2,000 sites of extraction. Processing and manufacture into mineral-based and other products that contain one or more of these minerals add considerably more value and gives even more employment. By contrast, metal ore extraction in the UK in recent years was worth about £1 million, although this will increase with a new tungsten mine now on-stream in Devon. The lecture will describe the geological features of some of the minerals that were once extracted in the UK and discuss the geological problems in extracting some of the present ones.

11 January – *WWII mica mines – Knoydart*, Andy Moffat, HGS

During WWII mica was extracted for military purposes from a remote Knoydart pegmatite in the Moine 6 km SSE from Inverie and 550 m above the north shore of Loch Nevis. The non-commercial operation ceased with the end of the war. Beryl was later investigated as a potential resource for the nuclear industry. Andy Moffat has made several visits to this fascinating locality. The presentation includes the geology and location details, the extraction, processing and uses of the mica, recent and historical photographs, geological maps and reports plus a number of specimens.

22 February – **AGM**

Following the successful format of previous AGMs, the important business part of the society's activities will be followed by a short talk:

Looking for life on Mars? Dr Alison Wright, HGS

The question of where life originated is one that has puzzled scientists for decades. Some authors have suggested that life was carried to Earth from Mars via meteorites, a theory supported by the announcement that bacteria-like fossils had been found in a Martian meteorite, ALH84001, in 1996. This claim was not supported by the wider scientific community, but, due to the presence of water, life may still have evolved on Mars. Alison shares the results of work that she did investigating why fluid inclusions in evaporites might be the best place to look for evidence of life on Mars.

