Hertfordshire Geological Society – 12th September 2019

Speaker: **Dr. Ian T. Williamson**
Talk Title: **Exploring the Palaeocene Lava Fields of the Hebridean Igneous Province, NW Scotland**

Talk Outline:

This illustrated talk is not going to be about phase diagrams, Harker plots or graph-ridden laboratory-based science, but rather it's more about what can only be gleaned about the rocks and landscapes themselves from careful field observation.

The Hebridean lava fields are often perceived as being little more than dull, monotonous piles of grey, featureless basalt hardly worthy of study, and it can certainly look that way when they are set-beside the magnificent mountain ranges of Skye, Rum and Mull. However, these continental flood-basalt-dominated lava sequences are much more complex and varied than you might expect. For example, there are good examples of structures more readily seen in modern-day sequences or on active volcanoes, and there are complex stratigraphical and facies relationships. There are also interbedded sedimentary formations providing evidence for a range of syn-volcanic sedimentary facies and depositional environments. Fossils (yes, even in basalt!) confirm the development of a succession of ephemeral ecosystems during the development of these volcanoes some 60-58 million years ago.

Following a brief introduction to the Province, primarily focussing on the nature and architecture of the lava fields, my talk will explore this diversity by featuring case studies from the Hebridean islands of Skye, Canna, Rum and Mull and will conclude by weaving-in some geology-history-cultural links.

Speaker's (Geological) Background:

I was born in St. Andrews, Fife, Scotland in 1952 and my interest in geology was sparked at an early age through discovering fossil ferns in the Carboniferous strata of Largo Bay. I studied Geology at Edinburgh University, and during field trips and independent mapping projects, fell in love with the Inner Hebrides and their 'ancient volcanoes'. So naturally, a Ph. D at Durham University followed, with research into the stratigraphy and petrology of the Palaeocene lavas of West-Central Skye.

My working career started at the Nature Conservancy Council visiting and documenting Scottish Carboniferous-Permian and Palaeocene Igneous SSSIs for the Geological Conservation Review. Then followed a long, varied and enjoyable career with the British Geological Survey. My worked ranged across the geological column with projects across England and Wales and including a secondment to Botswana; my doctorate mapping was incorporated into the most recent maps for Skye. Prior to retirement, I worked for Natural England in conservation grants management.

My research interest into the lava fields of the Hebridean Igneous Province remains as keen as ever and I have been fortunate to have had the opportunity to examine, first hand, coeval formations in Greenland, Iceland and the Faeroe Islands, and also other volcanic sequences elsewhere in the world. I have published several papers and was co-author of the Tertiary Igneous Activity chapter in the major publication 'The Geology of Scotland'. I try to visit the Hebrides 2-3 times each year and currently finalising work based on the Small Isles of Canna and Sanday. I like to share my expertise and enthusiasm with others and lecture to group sand societies on a regular basis and also lead residential field excursions to the Hebrides.