In the footsteps of Professor Lidenbrock: a geochemical journey to the centre of the Earth

Locations	Palaeo Lab - Aston Webb Building G21
Date(s)	Monday 11th March 2013 (17:00-18:00)
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Part of the Lapworth Lecture Series

Speaker: Professor Rob Ellam FRSE, Director - Scottish Universities Environmental Research Centre

Abstract:

In Jules Verne's Journey to the Centre of The Earth, Prof. Otto Lidenbrock leads an expedition that begins in Iceland and ends with the explorers erupted from the Stromboli volcano. My own geochemical journey mirrors that of Lidenbrock; starting in the Aeolian Islands and focusing more recently on Iceland and the continental flood basalts (CFB) of the N. Atlantic margin.

CFB document the largest magmatic events preserved on Earth and some suggest that they offer the deepest magmatic probes of the centre of the Earth. However, their geochemical signatures have been difficult to unravel because they represent complex mixtures of sub-lithospheric mantle heterogeneity upon which a variety of lithospheric signals are superimposed. Moreover, CFB are immensely variable and appear to carry petrogenetic information that is paradoxical and contradictory. In this lecture I will discuss much of what we have learnt about CFB in recent years and some of what remains to be understood.

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