

## Project proposal

Project title	Thorium and associated radionuclides in soils in the London region.	
First Supervisor	Professor <input type="checkbox"/>	<input type="text" value="Gavin Gillmore"/>
Second Supervisor	<input type="text" value="Dr Alan Flowers"/>	
School	Geography, Geology and Environment <input type="checkbox"/>	
Other member of supervisory team (no more than three KU supervisors in total)	<input type="text" value="C. Gowing"/>	
Specific requirements beyond 2:1 degree	<input type="text"/>	

### Project summary (max 4,000 characters)

This PhD studentship with the British Geological Survey will draw on data derived from the *London Earth* project, as well as collecting and analysing new material.

The *London Earth* project was a systematic high-density geochemical soil survey of the Greater London Area (GLA) aimed at giving an insight into the environmental impacts of urbanisation and industrialisation as well as the characterisation of the geochemical baseline of the UK's most populous city.

Soil sampling campaigns were carried out from 2005 to 2009, analyses were completed in 2010 and analytical data for over 50 elements is available.

The soil geochemical data was collected in order to:-

- Assess the geochemical background concentration of over 50 elements, including potentially harmful elements such as lead (Pb), arsenic (As) or nickel (Ni) in soils of the urban and developed areas.
- Inform and support local councils, developers and the general public of any environmental or health risks.

In the process of collecting the above baseline geochemistry data it became clear that there were anomalies and patterns of associated distribution that required further analysis and investigation. One element in particular that was perhaps unexpected was raised occurrences of thorium. As a result some preliminary investigations were undertaken by Kingston University who identified one hot spot as an ex clock and munitions factory.