



### **Post-Doctoral Research Scientist – Marine E-tech – 2 year Fixed Term Appointment**

The British Geological Survey (BGS) is one of the world's leading and forward thinking environmental science institutes with a focus on both public good science for government and geoscientific research to understand earth and environmental processes. We are looking for a postdoctoral research scientist (24 months) as part of a new large, NERC-funded project (MarineE-tech), which is investigating the E-tech element (the metals required for environmental and cleaner energy technologies) potential of marine ferromanganese (Fe-Mn) deposits. MarineE-tech is a complex, cross-disciplinary project that brings together national and international partners, with the overall objectives of: determining the E-tech element resource potential of Fe-Mn deposits; assessing the potential for using low-carbon extraction technologies to recover these elements; and the environmental impacts of their extraction.

Our research will focus upon samples collected on four research cruises where Fe-Mn deposits from the north-east Atlantic will be mapped and sampled, and compared with those from similar latitudes in the south-west Atlantic. One 50-day cruise will focus on Fe-Mn deposits on the Tropic Seamount. Three other cruises (total of 55 days) will be led by our Brazilian-partners at the University of São Paulo and will focus on Fe-Mn deposits on the Rio Grande Rise.

You will principally be involved in the physical and chemical characterisation of Fe-Mn deposits using a combination of whole rock geochemistry, microbeam imaging, and high spatial resolution trace element and isotope studies (e.g. Nd, Hf, Pb) in both 2D and 3D, to develop a litho-, bio-, chemo-stratigraphic framework across prospective areas of the Tropic Seamount.

You will be a proficient researcher, with a background in marine geology and/or geochemistry. You should have experience of high precision radiogenic isotope geochemistry, and ideally be trained in LA-(MC-)ICPMS and elemental geochemistry. You will be expected to undertake high spatial resolution characterisation (SEM and other techniques) and micro-sampling of the Fe-Mn crusts, ready for chemical purification and high precision isotope and trace element analyses using a range of methods. You will work in an ultra-clean isotope laboratory environment, developing sample preparation procedures for low-blank chemical purification in order to undertake high-precision isotope ratio analysis using a range of mass spectrometry instrumentation. You will also use LA-(MC-) ICPMS to assess temporal and spatial variation in metal content of the samples and elucidate the 2D and 3D formation history of the deposits. Combined with other activities these data will allow us to assess the temporal and spatial environmental factors, and processes that influence the compositional, textural and thickness characteristics of marine Fe-Mn deposits.

You will have a high level of attention to detail with respect to technically challenging analytical techniques, data collection, reduction and interpretation, and be able to organise your time and priorities efficiently in a busy lab environment. The post will require you to undertake offshore field work on survey vessels. In addition, you must possess excellent communication skills, both oral and written. You should be able to demonstrate an ability to present your work both in high-impact journal papers and in seminars. The post involves team working; therefore you



should be able to work flexibly and effectively with others, have good time management skills and be able to work on several tasks concurrently. Specifically you will be expected to interact closely with all members of the MarineE-tech research team including others at BGS, the National Oceanography Centre Southampton, University of Leicester, University of São Paulo (Brazil) and our industry partners, as well as members of the other NERC Security of Supply of Mineral Resources (SoS Minerals) Research Programme projects.

This is advertised as a full time post but we will consider applications from those who require more flexible arrangements.

Starting salary for this 2 year post will be between £28,200 per annum and £30,600 per annum depending on qualifications and experience. Working hours will be 37 per week excluding lunch breaks. A generous benefits package is also offered, including a company pension scheme, childcare voucher scheme, 30 days annual leave plus 10.5 days public and privilege holidays.

Applications are managed by the RCUK Shared Services Centre; to apply for this post please visit our job board at [http://www.topcareer.jobs/Vacancy/irc222929\\_6335.aspx](http://www.topcareer.jobs/Vacancy/irc222929_6335.aspx) and complete an online application form. Applicants who would like to receive this advert in an alternative format (e.g. large print, Braille, audio or hard copy), or who are unable to apply online should contact us by telephone on 01793 867003, Please quote reference number IRC222929.

Closing date for receipt of application forms is 8 May 2016.

The Natural Environment Research Council is an equal opportunities employer and welcomes applications from all sections of the community. People with disabilities and those from ethnic minorities are currently under-represented and their applications are particularly welcome. The British Geological Survey is an *Investors in People* organization and has achieved Bronze status for Athena Swan – a scheme that recognizes excellence in women's employment in science, technology, engineering, maths and medicine (STEMM) in UK higher education.

There is a guaranteed Interview Scheme for suitable candidates with disabilities.

**NATURAL ENVIRONMENT RESEARCH COUNCIL**