



Geomagnetic Scientist

UKRI – NERC – BGS

The Lyell Centre, Edinburgh

£30,357 to £32,997 per annum (depending on qualifications and experience)

Full-Time – 37 hours a week (a range of flexible working options may be available)

Permanent Appointment

About the role

We have an opportunity for a talented and motivated Geomagnetic Scientist to join our Earth Hazards & Observatories Science Directorate at our Edinburgh Office.

The Geomagnetism Team (www.geomag.bgs.ac.uk) undertakes long-term monitoring of the Earth's magnetic field through the operation of magnetic observatories in the UK and overseas. We use worldwide land, marine, airborne and satellite data to make global models describing how the Earth's magnetic field changes in space and time and what that reveals about physical processes within the solid Earth. We also research the magnetic field changes in satellite and observatory data that result from space weather and solar activity.

We apply our science in precision navigation, including directional drilling for oil and gas and studying the impact of space weather on ground-based technology and our environment.

The specific tasks of the successful applicant will be to:

- Compute regular updates to several global geomagnetic field models using the BGS High Performance Cluster and other scientific computing hardware.
- Undertake scientific research into the Earth's natural magnetic fields leading to improved modelling and understanding of their sources.
- Undertake algorithm development to fulfil BGS's commitment to the ESA Swarm satellite scientific exploitation consortium.
- Prepare magnetic data sets over new oil fields for later provision of BGS magnetic referencing services to the oil industry.

You will also be expected to:

- Provide IT support across Geomagnetism Team activities.
- Develop tools to monitor global magnetic field model web services logs.
- Pursue a programme of continuing personal development as a scientific researcher.
- Participate in scientific outreach to customer groups and the general public.

About us

The British Geological Survey (BGS) is an applied geoscience research centre that is housed in UK Research and Innovation (UKRI) and affiliated to the Natural Environment Research Council (NERC). It is a world leading geological survey that provides a core science mission to inform government of science related to the subsurface and its interfaces



and also undertakes applied research for solutions to earth and environmental processes, both in the UK and globally. It is funded directly by UKRI as well as through research grants and via private sector contracts.

BGS has an annual budget of approximately £60 million and employs 650 people. It has two main sites, a head office in Keyworth near Nottingham and the Lyell Centre, which is a joint collaboration with Heriot Watt University in Edinburgh. BGS works with more than 150 private sector organisations as well as having close links with 40 universities and sponsors approximately 100 PhD students each year.

About you

Candidates must have a PhD in geophysics, space science, physics or mathematics, or a similar relevant discipline – or have equivalent post-graduate level experience in a scientific or other research environment.

Candidates should also be able to demonstrate knowledge of geomagnetism and geophysical inverse theory. Furthermore, scientific programming skills in at least two languages are essential, and experience of High Performance Cluster programming would be desirable.

This post would suit a self-motivated person with excellent communication skills and who is willing to be an active team player. The post is based in the BGS Edinburgh offices and candidates must be able to attend the office during normal working hours. The role will require the post-holder to occasionally travel both nationally and internationally for meetings and conferences.

What we offer

A generous benefits package is also offered, including a very competitive pension scheme, 30 days annual leave plus bank holidays, free parking and access to flexi-time. For a salary at the top end of the advertised range, you will also need to meet the desirable criteria detailed on the TopCareer.jobs website.

We also offer the 'Bike to Work' scheme, free parking, health and wellbeing support, social clubs and on-site sports facilities.

Please note that any internal BGS staff applying for this post would, if successful, be appointed to new UKRI Terms and Conditions and pay.

How to Apply

Applicants are required to include a cover letter outlining their suitability for this role. We would stress the importance of this paperwork in our selection process. **A well thought through application addressing the advertised essential and desirable criteria for the post will be considered far more favourably than a generic covering letter and CV.**

Applications are being handled by UK Shared Business Services, to apply please visit our job board at http://www.topcareer.jobs/Vacancy/irc247662_8961.aspx



Applicants who are unable to apply online should contact us by telephone on +44 (0)1793 867000.

Closing date for receipt of applications is 9 January 2019. Interviews are likely to be held in early February 2019 in Edinburgh.

BGS provides a range of flexible working options including flexible working patterns, compressed hours and home working so if you have a need for flexibility, please raise this in the recruitment process when your needs, balanced with the requirements of the role, will be fully considered.

We are committed to promoting equality and diversity across our organisation as well as across all areas of our science community. As such, we aim to have a workforce with employees from all backgrounds with people who are passionate about earth science and who share our commitment to work for the good of the environment and the benefit of society.

We will actively seek to avoid discrimination on the grounds of age, being or becoming a transsexual person, being married or in a civil partnership, being pregnant or on maternity leave, disability, race (including colour, nationality, ethnic or national origin), sex or sexual orientation.

The British Geological Survey is an Investors in People organisation and has achieved Bronze status for Athena SWAN – a scheme that recognises an organisation's commitment and progress in developing a diverse and inclusive workforce.



| Specific Skills Criteria | | |
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| | <i>Essential</i> | <i>Desirable</i> |
| QUALIFICATIONS | <ul style="list-style-type: none"> • PhD in geophysics, space science, physics or mathematics, or a similar relevant discipline, or equivalent post-graduate level experience in a scientific or other research environment | <ul style="list-style-type: none"> • Research qualification or work experience that includes aspects of geomagnetism |
| EXPERIENCE | <ul style="list-style-type: none"> • Experience in analysing scientific datasets and presenting scientific results • Experience in scientific computer programming | <ul style="list-style-type: none"> • Experience in analysing geomagnetic data from satellites and observatories |



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| | | <ul style="list-style-type: none"> Formally or informally leading or managing others Experience of working in a customer service environment |
| KNOWLEDGE | <ul style="list-style-type: none"> Working knowledge of at least two scientific computing languages or packages (e.g. FORTRAN, C, Java, Python, Matlab, GMT) Basic knowledge of geophysical inverse theory and of the Earth's magnetic fields | <ul style="list-style-type: none"> High Performance Computing skills Knowledge and experience of geomagnetic fields and sources of geophysical inverse theory Familiarity with Fourier transformation techniques |
| SKILLS AND ABILITIES | <ul style="list-style-type: none"> Good English: verbal, written and presentation skills Ability to prioritise work and meet tight deadlines Demonstrates the ability to solve problems Demonstrates the ability to pay attention to detail | <ul style="list-style-type: none"> Peer-reviewed publication(s) Ability to train others |
| PERSONAL QUALITIES | <ul style="list-style-type: none"> Able to express themselves clearly and concisely both in writing and verbally Approachable by colleagues and external stakeholders and a good team player Able to occasionally travel off-site, both nationally and internationally | |
| MOTIVATION | <ul style="list-style-type: none"> Displays an enthusiasm for scientific aspects of geomagnetism Displays an enthusiasm for applied aspects of geomagnetism | <ul style="list-style-type: none"> Demonstrates a commitment to your own Continuing Professional Development Demonstrates self-motivation |

