

Short Curriculum Vitae

David John Kerridge

1. Summary

I joined the British Geological Survey (BGS) in 1983 where I now lead the BGS Seismology and Geomagnetism Programme, and am a member of the BGS Environment and Hazards Directorate management team. My programme is responsible for, among other things:

- running the UK seismic network (145 stations)
- providing part of the BGS scientific team running the Montserrat Volcano Observatory
- conducting seismic hazard studies for locations worldwide
- running the three UK magnetic observatories and two observatories overseas

My scientific background is in geomagnetism and my PhD involved the construction of a mechanical laboratory model designed to investigate the dynamo processes involved in the generation of the geomagnetic field. In BGS my scientific work has included production of candidate models for the International Geomagnetic Reference Field, oversight of the BGS magnetic observatory modernisation programme, and solar and geomagnetic activity forecasting, motivated by the space weather hazard affecting Low-Earth-Orbit satellites.

I became leader of the BGS Geomagnetism Group in 1991 and assumed managerial responsibility for BGS's work in earthquake seismology, and a major project on rock physics in 1997. I have been extensively involved with government agencies and industry to build multi-client consortia to support applied science. As result, the Seismology and Geomagnetism Programme has a successful record of transferring knowledge into 'real-world' applications with economic and societal benefits.

In 2005 I led a multi-agency study, commissioned by the UK government, to assess the tsunami threat to the UK and I have represented the UK on the GEO Tsunami Working Group. (See Section 3 for more details of my work within BGS.)

I have been involved in international science throughout my career, holding the following positions:

- **2003-2007:** Member (past-President), Executive Committee of the International Association of Geomagnetism and Aeronomy (IAGA)
- **1999-2003:** President IAGA, and member of the Executive Committee of the International Union of Geodesy and Geophysics (IUGG)
- **1995-1999:** Vice-President, IAGA
- **1991-1995:** Chair, IAGA Division V (Geomagnetic Observatories, Analyses and Surveys)
- **2003 -present:** Chair, INTERMAGNET Executive Council

Further details of my work in IUGG and IAGA are given in Section 2.

Throughout my career I have been a strong supporter of fundamental global geophysical observations and the products and services based on them. I have a wide appreciation of geophysical and geological hazards at local, regional and global scales, and the role IUGG plays in developing the fundamental science needed to improve understanding of the underlying processes. I have a strong commitment to the involvement of young scientists and scientists from Less Developed Countries in IUGG science.

2. Activities in the IUGG and IAGA

- 2003-2007 **Member (as past-President), Executive Committee of the International Association of Geomagnetism and Aeronomy (IAGA)**
- I am a member of a Task Force on the future of IAGA formed by the current IAGA President.
 - I maintain the Association's web site.
 - I help in the production of IAGA News.
 - I was Chairman of the IAGA Resolutions Committee at the Toulouse Assembly, 2005.
- I am Chairman of the IUGG Statutes and By-Laws Committee, with the responsibility to report to the IUGG Council in Perugia, 2007.
- 1999-2003 **President IAGA, and member of the Executive Committee of the International Union of Geodesy and Geophysics (IUGG)**
- I was responsible for the Association's Scientific Assembly in Hanoi, and for laying the ground for the Toulouse Assembly in 2005.
 - I helped to plan for the 2003 IUGG General Assembly in Sapporo.
 - The electronic Geophysical Year (eGY) was conceived at an IAGA Executive Committee in Hanoi. The idea has been taken up and pursued energetically by the present IAGA President, Charles Barton.
 - I increased the allocation of IAGA funds for topical and regional meetings and workshops with the aim of increasing opportunities for young scientists and scientists from the Less Developed Countries to participate in IAGA science.
 - I brought forward the idea of a constituting a Young Scientist's committee, which was subsequently formed, and has operated successfully.
- 1995-1999 **Vice-President, IAGA**
I represented IAGA on the Scientific Programme Committee for the 1999 Birmingham Assembly.
- 1995-1999 **Chair, IAGA Division V (Geomagnetic Observatories, Analyses and Surveys)**
- I reorganised the Working Group structure of the Division.
 - I started 'Program Outreach' encouraging member countries to assist magnetic observatories in Less Developed Countries.

2003 - **Chair, INTERMAGNET Executive Council**

INTERMAGNET is independent of IAGA, but has the Association's endorsement and has received support through several ICSU grants. INTERMAGNET has existed for 15 years and was constituted to encourage magnetic observatories worldwide to adopt modern instrumentation and to accelerate processing and dissemination of data. The project now has more than 100 observatory members (of the approximately 180 observatories around the globe), many able to supply data in near real time. INTERMAGNET has effectively evolved into the international professional body for magnetic observatory operators. I have been a member of the INTERMAGNET Executive Council since 1992.

3. Employment history and responsibilities

- 2000- Following a BGS reorganisation in 2000, I was appointed Manager of the Seismology and Geomagnetism Programme with projects and staff broadly similar to those in 1997-2000. The Seismology and Geomagnetism Programme is part of the BGS Environment and Hazards Directorate.
- I am responsible for the operations of the UK magnetic observatories and seismic network, research projects in geomagnetism and seismology, and for the Edinburgh Anisotropy Project, which develops advanced seismic techniques applicable to the hydrocarbons industry. The Programme has an overall budget of about £3 million per year, including a substantial contribution from government departments and industry supporting applied research.
- 1997-2000 Appointed as Manager of the BGS Earthquake and Forensic Seismology and Geomagnetism Group, responsible for around 45 members of staff and 5-8 PhD students working on projects in earthquake and geomagnetic monitoring, nuclear test ban monitoring and research into the applications of seismic anisotropy.
- 1992-1997 Appointed as Manager of the Geomagnetism Group, responsible for 19 members of staff working on projects on geomagnetic monitoring and modelling.
- 1987-1989 Project leader for commissioned research on solar and geomagnetic activity forecasting for the European Space Operations Centre, Darmstadt. The results have been used for the ERS-1, ERS-2 and ENVISAT satellites.
- 1983-1987 Project leader for the UK magnetic observatory operations, implementing processes for automated data analysis and dissemination following the adoption of digital recording at the observatories.
- 1983 Appointment to the British Geological Survey (BGS). Responsible for establishing a new UK magnetic repeat station network. Worked on UK, regional and global magnetic field models including those used for the World Magnetic Charts published by the UK Admiralty and the International Geomagnetic Reference Field produced under the auspices of the International Association of Geomagnetism and Aeronomy.
- 1978-1979 Teacher of physics and mathematics at a Secondary School in Sabah, Malaysia under the Voluntary Service Overseas scheme.

4. Personal Details

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5. Education

University of Newcastle upon Tyne, Department of Geophysics, 1979-83 PhD (1983)
Title of thesis: A laboratory investigation of mechanisms related to those responsible for the generation of the geomagnetic field.

Oxford University, 1975-76 PGCE (1976)
Postgraduate Certificate in Education

Cambridge University, Natural Sciences (Physics), 1972-75 BA (1975)