



Professor Jane Plant CBE.

## BGS scientists receive awards

Professor Jane Plant CBE, Assistant Director of the Minerals, Environment and Geochemical Surveys Division of the BGS, is to be presented with the Lord Lloyd of Kilgerran prize for 1999 by the Foundation for Science and Technology in September. The prize has been awarded 'for the application of fundamental geochemical modelling and sound observation in the development of simple, cost-effective methods of minimising the impact of contamination on the environment and particularly human health'. The Foundation's Council note that Prof. Plant's work 'has already reaped many benefits both in the UK and in the developing world'. This prestigious prize has previously been awarded to, among other notable scientists, Professor Ian Wilmut of the Roslin Institute, for his work in cloning Dolly the sheep, and Dr Tim Berners-Lee OBE, the inventor of the World Wide Web.

The Geological Society of London has awarded The William Smith Fund to Dr Simon Young for 'leadership and devotion to duty as the lead BGS volcanologist during the recent Montserrat eruption, and for its subsequent documentation'.

Dr Stephen Horseman of the Fluid Processes and Waste Management Group has received an Individual Special Merit promotion in recognition of his research activities on water, gas and solute movement in clay-rich materials. Dr Horseman, who is a long-standing member of the OECD Nuclear Energy Agency SEDE Working Group on Groundwater Flow in Argillaceous Rocks, will lead a team of scientists studying the role of clay-water interaction in the transport properties and behaviour of shales and mudrocks.

## Conference report – Isotopes in Palaeoclimate Research

The Natural Environmental Research Council (NERC) has identified Global Change as one of the five main issues on which its research should be focused in the next five to ten years, and the need to know about natural climate variation over a range of timescales is regarded as a key area for development. Since isotopic techniques are likely to continue to play an important role in gaining this knowledge, the NERC Isotope Geosciences Laboratory (NIGL) organised a forum where the future applications of isotopic methods in palaeoclimate research could be discussed. The forum, held on Wednesday 28th April 1999 at Leicester University, comprised the following seven keynote lectures:

- Stable isotopes in Quaternary palaeoclimate research — Prof. Neil Roberts (Plymouth University).
- Isotopes in the marine environment — Prof. Nicholas Shackleton (Cambridge University).
- Isotopes in the lacustrine environment — Prof. Alayne Street-Perrott (University of Wales, Swansea).

- Isotopes in speleothems — Dr Frank McDermott — (University College Dublin).
- Isotopes in Polar ice-cores — Dr David Peel (British Antarctic Survey).
- Isotopes in dendroclimatology — Prof. Mark Pollard (Bradford University).
- PAGES — The PAST Global changeS initiative — Prof. Frank Oldfield and Prof. Tom Edwards.

The forum was attended by over 250 delegates from universities and research institutes in Britain, as well as many from overseas. The NIGL (part of the BGS) is a central facility for providing isotopic scientific support to the UK's environmental research community.

*For copies of the conference proceedings or other information contact*

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**The NIGL webpage address is: <http://www.bgs.ac.uk/bgs/w3/nigl/index.htm>**



*From l to r. Prof. R. Parrish (head of NIGL/Leicester University), Prof. T. Edwards (ISOMAP director - PAGES), Prof. M. Pollard (Bradford University), Prof. Sir N. Shackleton (Cambridge University), Dr M. Leng (NIGL), Prof. N. Roberts (Plymouth University), Dr D. Peel (BAS), Prof. A. Street-Perrott (University of Wales, Swansea), Prof. J. Beeby (Pro Vice Chancellor, Leicester University), Prof. F. Oldfield (executive director of PAGES), Dr F. McDermott (University College Dublin).*



Peter Kilfoyle MP looks on as Dr David Falvey, Director of the BGS, signs the agreement with the Ordnance Survey at the Royal Observatory in Greenwich.

## BGS signs 'on the line'

The BGS, along with eight other public bodies and agencies, has signed an agreement with the national mapping agency, Ordnance Survey. The consortium will have access to consistent computer mapping and geographical information that can be related to the members' own data. Around 80 per cent of all information gathered in Britain has some geographical element, so the potential for linking different sets of information to a common framework is enormous.

Cabinet Office Public Service Minister, Peter Kilfoyle MP, backed the initiative as the agreement was being signed at the Royal Observatory in Greenwich.

'In our *Modernising Government* White Paper we have set out the importance of improving connections between the

different parts of government, both central and local, by giving staff better access to information and making it much easier for different parts of government to work in partnership with one another.'

The other first-wave signatories are the Department of the Environment, Transport and the Regions; Ministry of Agriculture, Fisheries and Food; Office of National Statistics; Welsh Office; Environment Agency; Forestry Commission; English Heritage; and English Nature.

Mr Kilfoyle said it was apt that the signing took place on the Prime Meridian at Greenwich, where the new millennium will officially start. 'It certainly gives real meaning to the phrase "signing on the line"—and it also helps focus our minds on where government services are heading as we approach the twenty-first century.'

## Groundwater in tomorrow's Europe

The British Chapter of the International Association of Hydrogeologists held a seminar entitled 'Groundwater in tomorrow's Europe—developments at the regulatory–scientific interface' in Nottingham on 16–17 May 1999. The meeting was co-sponsored by the Hydrogeological Group of the

Geological Society, the core members of the UK Groundwater Forum, EuroGeoSurveys and EUREAU.

The objectives of the event were: to provide a professional update for groundwater professionals, a forum for informed debate on groundwater resources and quality in the European context, and to produce a 'consensus' report reflecting current thinking in the groundwater community.

The meeting was attended by more than 100 delegates, with representatives from regulatory authorities, the water and chemical industries, consultants, research and academic institutions and the legal profession. The European context was emphasised by the presence of speakers and delegates from UK, Denmark, Sweden, Belgium, Netherlands, Spain, Germany, Ireland, Finland and Austria. Groundwater quantity and quality issues were discussed from both a scientific perspective and within the regulatory framework.

## HORSA project wins DTI LINK support

A DTI LINK award under the Sensor and Sensor Systems for Industrial Applications programme has been won by the BGS in conjunction with Soil Mechanics and Charnvel Ltd. The project is due to start in September 1999 and will last for 30 months.

The project is HORSA (Horizontally polarised shear wave source for site characterisation) and it will develop a new technology for environmental and civil engineering investigations.

The new equipment will augment the existing range of compressional and vertically polarised shear wave equipment manufactured by the BGS and will provide a powerful survey tool for formation type evaluation. It will speed up the taking of measurements, in line with the recommendations of the Egan Report to reduce the cost of engineering projects over the next five years.

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## Cleaning up our act

The BGS is improving its environmental performance and ensuring mandatory environmental requirements are met through the introduction of an Environmental Management System.

The Chartered Institute of Building Services Engineers believe that energy efficiency measures could save up to 30% of an organisation's existing energy

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consumption. The BGS's Edinburgh office, Murchison House, is leading the way in this area, as it now has the benefit of double-glazing throughout the building. Passive infra-red controls are fitted in corridors and toilets to control the lighting and all twin light fittings have been converted to single fittings. Individual room temperature controls are being installed in every office.

## *New lamps for old*

At Keyworth, a new energy-efficient boiler system for the site was recently installed, there is an ongoing programme to replace old fluorescent tubes with energy-efficient ones and double-glazing is being installed on a block-by-block basis. With the paper and cardboard recycling initiative at Keyworth, we now have an efficient recycling system in place, saving the BGS almost £9000 per annum in waste disposal costs.

Looking to the future, we are considering installing a combined heat and power system in one of our blocks, which would reuse much of the energy consumed there. We will also be examining the possibility of using alternatively-fuelled vehicles in the BGS fleet.

## *For more information contact:*

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## **BGS open day, Edinburgh**

Murchison House, the Edinburgh office of the BGS is opening its doors to the general public on Saturday 11 September between 10am and 5pm. The Open Day is part of Scottish Geology Week and admission is free. The previous Open Day in 1998 attracted over 500 visitors of all ages and backgrounds. Interested amateur geologists, schoolchildren (of all ages), in fact anyone with an interest in their environment is welcome to attend.

The main aim of the Open Day is to communicate the work of the BGS to the general public and to increase awareness of important geoscientific issues. There will be hundreds of 'hands on' and computer-generated displays and exhibits, rock, mineral and fossil collections, activities and quizzes. Highlights of previous Open Days include: panning for 'gold',

making your own earthquake, testing the 'rock doctor', looking at photographs in stereo, and cracking fossiliferous rock core. This year's Open Day will build on previous Open Days and include a range of new exhibits.

The DTI Core Store in Gilmerton Road, Edinburgh will also be holding an Open Day during the same hours and there will be a complimentary bus service operating between Murchison House and the Core Store.



*The fossil collection has always proven to be a star attraction at BGS Open Days.*

A selection of core will be on display to the public, illustrating various aspects of the geology of oil and gas, including:

- Oil-bearing sandstones and conglomerates from the South Brae Oilfield and samples of Kimmeridge Clay, the source of much of Britain's oil
- Gas source rocks and reservoir sandstones (river deposits) from the Murdoch Gasfield and aeolian dune reservoir sandstones from the Leman Gasfield
- Sealing or cap rocks (rock salt) from the Southern Gas Basin
- Volcanic ash beds, beach sands, fossil shells and plants, fossil soils, and core across the Cretaceous–Tertiary boundary will also be displayed

In addition, videos will be shown explaining how rocks provide many of the essentials for everyday living, including gas from the North Sea.

## *For more information contact:*

**BGS Murchison House,  
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DTI Core Store, Tel: 0131 664 7330**



*Gemmology: 'Lily-pads' – a typical inclusion in peridot as seen through a microscope.*

## **BGS and ILEX Technologies sign joint working agreement**

The BGS and ILEX Technologies Ltd have signed a Memorandum of Understanding enabling them to work together on projects, principally in the international oil and gas markets.

This partnership brings together the world's longest established national geological survey with a newly-formed high technology company based in Sussex.

David Ovidia, the BGS's Business Development Manager, said

'BGS has extensive assets of data, expertise and a history of working in over 100 countries. Whilst our core business is public good science, the partnership with ILEX creates a synergy between science and business that will ultimately benefit the UK economy. We are looking forward to working with ILEX.'

Mario Cataldo, Managing Director of ILEX, said

'We have long recognised the enormous skills and experience within the BGS. Our partnership with them opens up many new opportunities for both of us. Our clients will benefit from ILEX's business focus and the BGS's world class reputation.'

ILEX supports strategic PC-based exploration and production applications, and the IT and Data Management environment within which these applications operate, for oil and gas companies that no longer have the in-house expertise, time or resources to manage these important functions.

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Vicky Hards © BGS, NERC

Above: An example of Shan Wareham's art: the BGS's rock and mineral collections proved a rich source of inspiration. Right: The artist at work in the BGS Core Store at Keyworth.



Vicky Hards © BGS, NERC

## The BGS petrological collections in art

The BGS's petrological collections, specifically samples from the Museum Reserve and Mineral Reference collection, were recently put to a novel use as subjects for the work of a young artist, Shan Wareham. Shan is currently in the final year of a GNVQ course in art and design at South Nottingham College, and the pieces she produced during her recent visit to the BGS at Keyworth will form part of the final show at the end of her course. She was originally inspired by the wealth of colours, shapes and textures

occurring naturally in rocks and minerals, and her work captures beautifully, in a slightly abstract form, some of the essence of these.

The BGS petrological collections are kept both for reference and as a resource for future investigations. They have few rivals in providing the basis for detailed petrology studies and characterisation of the UK landmass, and represent the solid evidence for the BGS's maps and many historic geological discoveries. Outcrop material from all parts of the country is supplemented by samples from boreholes and quarries. Many of the sites are no longer accessible.

Use of the petrological collections both in scientific research and other applications is encouraged, enquiries are welcome and material may be examined at the BGS's offices or loans arranged.

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## Our Dynamic Earth

On the 3rd July 1999 a unique visitor attraction was opened in Edinburgh by HM The Queen. *Our Dynamic Earth* has firm roots in the landscape and history of Edinburgh. Situated at the foot of Arthur's Seat, at the end of the crag and tail feature stretching from Edinburgh Castle to the Palace of Holyroodhouse and just a few hundred metres from where James Hutton, the Father of Modern Geology, wrote his Theory of the Earth, *Dynamic Earth* takes a holistic view of the planet Earth, exploring how it was formed and the diversity of environments that have been produced. BGS geologist, Dr Stuart Monro, has been on secondment to *Dynamic Earth* as its Scientific Director and was responsible for co-ordinating the scientific story.



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HM The Queen visiting the *Dynamic Earth* exhibition earlier this year.