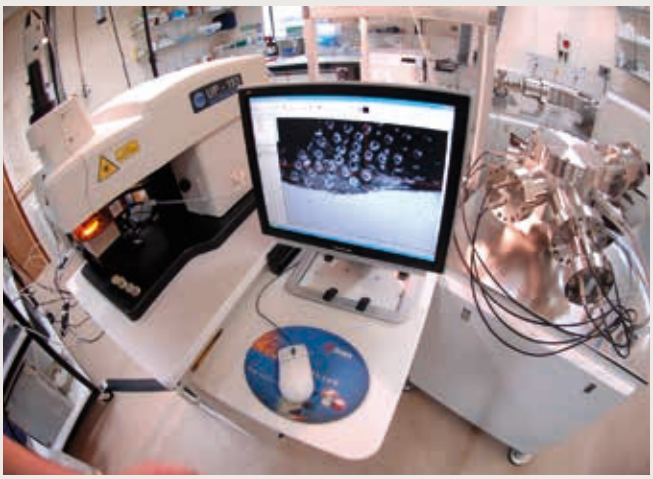
New Centre for Environmental Geochemistry opens in Nottingham



The British Geological Survey (BGS) and the University of Nottingham have announced a new research facility, the Centre for Environmental Geochemistry.

It brings together existing facilities and groups within the two institutions to do research that addresses some of the most pressing environmental problems we face, as well as offering teaching and training.

Initially it's focusing on three main themes – reconstructing past environmental and climate change; understanding how chemicals cycle through soils and bodies of water; and developing new tools to research the underground environment.

The first theme uses geochemistry to understand and measure the environmental changes that have happened in the past over timescales from decades to millennia. This kind of research is essential to shed light on how the Earth system will respond to human activities – for example, how climate change will affect ecosystems, or what changing land and river management practices will do to the availability of water.

Professor Melanie Leng, head of the BGS Stable Isotope Facility, leads this theme as well as serving as the centre's overall director. She plans to continue her research on environmental change, from understanding ocean circulation to modelling the roles of lakes and wetlands in the carbon cycle under different climate conditions.

'BGS and the University of Nottingham already collaborate in many areas, but the idea here was to take some of the best geochemical expertise from both and focus it on a few really important scientific questions,' she says. 'We aim to use geochemistry to help address some of the most pressing environmental problems that society faces.'

Research on biogeochemical cycling through the soil and waters is vital for food security and understanding changes in land use. For example, it has applications for urban farming and protecting food production systems from pollution, analysing soil mineral deficiencies that may be hampering agriculture in parts of the developing world, and applying soil-management techniques by taking into account soil conditions and other local factors. Dr Michael Watts, head of the BGS Inorganic Geochemistry Laboratory, leads this strand of research.

The third theme, research on the subsurface environment, also has many practical applications – for instance, in finding and extracting energy in a way that's secure even over geological timespans. Research will look at improving resource estimates by simulating natural oil and gas generation in geological basins and quantifying the amount of gas that can be generated from different rocks. This theme is led by Dr Christopher Vane, head of the BGS Organic Geochemistry Laboratory.

The centre already has PhD students and postdoctoral researchers, who are working on everything from environmental change in Lake Baikal and the movement of heavy metals through British soil to the spread of fallow deer across Europe. Leng hopes that it will eventually become a self-sustaining facility that researchers from all over the UK can turn to for geochemical expertise.

Professor Melanie Leng
Email: mjl@bgs.ac.uk
www.environmentalgeochemistry.org