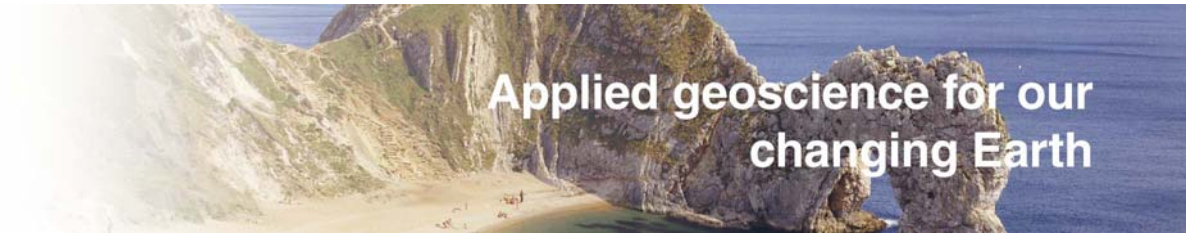




**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL



The NERC Radioactivity And The Environment (RATE) Programme

‘Where we are and what we are doing’

Dr Joanna Wragg (British Geological Survey)
RATE Science Co-ordinator



Dr Richard Shaw

- Principal Scientist, British Geological Survey.
- Mining Geologist.
- Karstic sediments (PhD).



- 7 years Uranium exploration.
- 20+ years Geological Disposal of Radioactive Waste (UK, Sweden, France, Japan etc).

Dr Joanna Wragg

- Senior Scientist, team leader
Geochemical Baselines & Medical
Geology
- British Geological Survey
- Geochemistry (PhD)
- 20 years analytical chemistry, environmental geochemistry
and health and contaminant fate & transport.
- Secretary and Co-ordinator of projects for the
BioAccessibility Research Group of Europe (BARGE).



NERC has commissioned a new £8.6m, five-year research programme:

Radioactivity & the Environment (RATE)

It is part of NERC's Environment, Pollution & Human Health (EPHH) strategic theme.

Projects planned to run between 2013-14 and 2017-18 and should start by October 2013

Funding of £8.6m comprised £5m from NERC, £2M from NDA-RWMD, £1M from the EA and 0.6M from STFC.



Topics and Approach:

- Set through an expert group who met in May 2012
 - High priority science areas
 - Capacity building
- Opportunity to comment was provided to stakeholders via the web
- Call launch event held in October 2012
- Overseen by Programme Executive Board
 - NERC
 - NDA
 - EA
 - STFC



The high priority science areas are:

- Biogeochemical coupling including deep multiphase transport processes;
- Technological innovation for rock mass characterisation at a range of spatial scales;
- Learning from natural radioactive analogues and made-made contaminated environments (natural laboratories);
- Innovative approaches to ecosystem/food chain radionuclide uptake and transport processes for key radionuclides relevant to waste disposal facilities and contaminated land;
- Effects of chronic exposure on plants and animals;
- Cross-cutting theme: model testing, scientific robustness, uncertainty.

Capacity building recommendations are:

- PhD studentships in multidisciplinary projects;
- Potential long-term career path;
- Sustainability of funding;
- Geosciences (including geochemistry, geology, geophysics, geomicrobiology), because of strong competition with other industries and under capacity;
- Environmental radioactivity and radioecology (including radioanalytical skills, radiochemistry, field radioecology and modelling) because of significant under capacity;
- Participation in and creation of wide, and;
- That RATE will create a group/network that will have a much greater longevity than the RATE project itself.



Three awards starting in October 2013:

- Transfer Exposure Effects (TREE)
 - Lead PI – Dr Benda Howard, NERC Centre for Ecology and Hydrology (bjho@ceh.ac.uk)
- LOng-lived Radionuclides In the Surface Environment (LO-RISE)
 - Lead PI – Professor Francis Livens, The University of Manchester (francis.livens@manchester.ac.uk); and,



- Hydromechanical and Biogeochemical Processes in Fractured Rock Masses in the Vicinity of a Geological Disposal Facility for Radioactive Waste
- Lead PI - Professor Robert Zimmerman, Imperial College London
(r.w.zimmerman@imperial.ac.uk).



What are the next steps?

- SCT
 - Website
 - Developed and hosted by the BGS site
 - Information related to the programme, consortia, projects, outreach events, meetings etc
 - Attendance of project start-up meetings
 - Commencing October 1st 2013
- Outreach events
 - Nuclear Champions meeting
 - GeoRepNet
 - EnvGeoNet
 - EPSRC Geowaste network



Programme Launch

- The plan
 - March 2014 in Birmingham
 - Attendance by consortia, funders, stakeholders, etc.,
- Annual summer schools
 - Open to all interested parties
 - Linkage to EPSRC Geowaste and other events



More information on RATE
available at:

<http://www.nerc.ac.uk/research/programmes/rate/>

(EG report also available
from here).

Richard Shaw rps@bgs.ac.uk
Joanna Wragg jwrag@bgs.ac.uk



The screenshot shows the NERC website header with the logo and tagline 'the science of our changing world'. The main navigation bar includes links for HOME, FUNDING, RESEARCH, WORKING WITH BUSINESS, CAREERS, NEWS, EVENTS, PUBLICATIONS, and ABOUT US. The breadcrumb trail reads: YOU ARE HERE: HOME > RESEARCH > RESEARCH PROGRAMMES > RADIOACTIVITY AND THE ENVIRONMENT.

The page title is 'Radioactivity & the Environment'. On the left is a navigation menu with categories: About us, Funding, Research (with sub-links for Research news, Introduction, Science themes, and Research programmes), Opportunities, and a list of research programmes including Former collaborative centres, Aerosols and Clouds, Algal bioenergy, Analytical Science and Technology, Arctic Research Programme, BESS, Carbon Capture and Storage, Changing Water Cycle, Coastal Sediment Systems, Earth System Modelling Strategy, EEH, Environmental Nanoscience Initiative, Environmental Virtual Observatory, ESEI, ESFA, Flooding from Intense Rainfall, GHG Emissions and Feedbacks, HIRDLS, Human-modified Tropical Forests, Ice Sheet Stability, Increasing Resilience to Natural Hazards, Insect Pollinators Initiative, JWCSP, Land Based Renewables, and Life and the Planet.

The main content area features a radiation warning sign in a landscape. Text below the image states: 'There are many important reasons to expand UK research on radioactivity in the environment. In response to tough targets for reduction of greenhouse gas emissions, it is possible that a new generation of nuclear power plants may be commissioned in the UK and elsewhere. The UK faces serious legacy issues associated with radioactive waste and contaminated sites; and there has been a recent change in paradigm for environmental protection from radiation. To address this, NERC is commissioning a £5m, five-year capacity-building research programme - Radioactivity & the Environment - with projects planned to run between 2013-14 and 2017-18. It will form part of the NERC contribution to the wider RCUK Energy Programme and falls under NERC's environment, pollution & human health (EP+H) strategic theme.'

On the right, there is an 'About the programme' sidebar with links to: Radioactivity & the Environment home, Background, Events and announcements, Awards, facts and figures, Management, Resources, and Contacts.

Below the main text, there are sections for 'Events and announcements' and 'Radioactivity and the Environment Expert Group'. The 'Events and announcements' section includes a 'Radioactivity and the Environment - Programme brokerage event' on 10 Oct 2012, described as a brokerage event to bring the community together. The 'Radioactivity and the Environment Expert Group' section, dated 16 Feb 2013, states that membership of the Expert Group to advise on the scope of the Radioactivity and the Environment research programme has been confirmed.