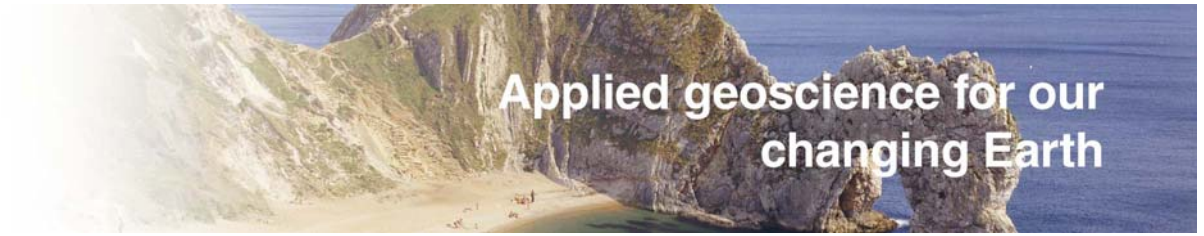
British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL



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

NATURAL ENVIRONMENT RESEARCH COUNCIL

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 heath 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 though 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).

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