University Geoscience UK
"Future Science: a vision for the next 25 years"
Burlington House, London
21-22 February 2017

Discussion Chair's Brief

The context, scope and aims of the meeting are given in the document appended below.

The role of discussion chairs is to steer the discussion in a direction that ensures that the aims are met, and to ensure that there is a broad discussion that is not dominated by a few individuals.

The discussion could be framed around some questions – some possibilities are given below:

Session 3:

What will be the key societal issues that geoscience can address over the next 25 years?

Are these issues appropriately recognized by policymakers and funders?

What do we need to do to ensure that we are addressing these issues, and to ensure that they are appropriately recognised?

Session 4:

How is technology going to drive or facilitate new science directions?

What are the critical technologies that we need to develop to pursue our scientific goals?

How do we organize ourselves to ensure that these technologies deliver what we need them to deliver?

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The overarching aim of this meeting is to explore the future, and the research challenges for the UK Geoscience Community over the next generation.

We aim to define:

- **a vision for the next 25 years, encompassing the major research questions and challenges we, the UK geoscience community, should be addressing.**
- **a roadmap to achieving this vision, using our collective strengths, in terms of scientific capacity and to map to and ultimately inform and influence policy makers and the funding landscape.**

University Geoscience UK

University Geoscience UK is the new name for what was CHUGD (Committee of Heads of University Geoscience Departments). UGUK works for the collective good of geoscience research and teaching in the United Kingdom. As a community we face two major challenges:

- The need to establish a focal point for our science and,
- progressive reduction in funding from what have been traditional sources; the UK Research Councils and the European Union (Framework programmes and other instruments).

The Challenges

Anecdotal evidence and informal conversations with scientists in other disciplines reveal what we geoscientists might consider a strange perception; that we have as a discipline solved all our major challenges, and that geology and geophysics are old with no big questions still to address. This contrasts strongly with perceptions of astronomers, cosmologists, biomedical scientists, materials scientists and others. Indeed, many of these groups act collectively and are able to demonstrate to society the vital science yet to be done and, in doing so, promote their case for funding. We, the geoscience community, now need to come together to define the big challenges we should be addressing over the next 25 years, including both the fundamental science questions and the research needed to address societal needs, for safe, secure and prosperous lives, and for sustainable management of the Earth's resources.

Funding for geosciences in the UK both in terms of research and teaching is changing rapidly as budgets from government and industry are under increasing pressure. The style of funding that is available is also changing as NERC and other research councils move to 'demand side' management of awards, penalties are imposed for unsuccessful bids and match funding becomes the norm. There is uncertainty at best over the future of EU funding.

Nonetheless, despite the squeeze on funding, new opportunities are arising as a result of the introduction of initiatives such as the Global Challenges Research Fund (GCRF) requiring integration

of the traditional research disciplines. As a result geoscientists can expect to work with social scientists, medical and bio-scientists and to bid for a greater diversity of funding.

Industry funding has been hit badly by low and volatile natural resource prices but, while resource-assessment related funding may dwindle, new markets are opening around social license to operate, environmental management and protection, insurance and finance industry related funding.

As geoscientists, we are well placed to react to a changing market as our science is critical to meeting societal needs - the major drivers in the funding landscape.

Meeting Scope

The key questions this meeting will address include:

- Grand Challenges: what big fundamental science questions are to be addressed in the Earth sciences?
- Capacity: where are geoscientists currently in the UK science agenda, what are funding levels, our national capability, infrastructure assets, student engagement etc.?
- Funders: how well does geoscience fit with the strategies of NERC, EPSRC, STFC, Innovate UK and other bodies and how might we start to drive such RC strategies?
- UK geoscience on the world stage: how will funding change and how might opportunities arise from the enforced change in relationship between the UK, Europe and the rest of the world?
- Longer term picture: what is the long term outlook for our science, particularly given the understanding which is now emerging of the influence of humans on the planet and anthropogenically induced changes in the atmosphere, biosphere and even geosphere?

Agenda

- Setting the scene: Introductory presentations from funding bodies, users of research (e.g. extractive industries, insurance and finance, environmental protection) and other key players in the research landscape.
- Presentations on key geoscience sectors and disciplines.
- Group discussions on the above themes.
- Collation of thoughts and creation of vision for UK geoscience research for the next 25 years.
- Convening of a writing group to draft a roadmap to realise the 25 year vision.

Who should attend

Earth scientists with a vision for the future who want to help shape the future direction of UK geoscience.

Outputs

Following the meeting work will continue on the final document, ***"A 25 year vision and strategy for UK Earth science"*,** to be published later in 2017.

Our aim is to inform UK policy makers of the value of Earth science research and information in addressing key societal and environmental issues. It is also envisaged that this vision will shape the direction of UK Earth science, including not only academic research, but industrial and business activity, and influence and inform future Research Councils' strategies.