SCIENCE AND TECHNOLOGY FACILITIES COUNCIL *November 2008*

SCIENCE IN SOCIETY STRATEGY 2008: A PLAN FOR PUBLIC ENGAGEMENT

SUMMARY

The *inspiration* and *importance* of STFC's science and technology work provides a basis for public engagement with research. Our strategy aims to provide opportunities for every citizen to become engaged with the research and its outcomes; links to this for schools and young people; support for every researcher in their public engagement work; and it will position STFC Laboratories as important outreach and skills centres. It links into public accountability, STEM[1] and skills agendas. Current priorities include linking STFC science and technology with teachers and secondary schools, greater visibility for the facilities and their wide range of important programmes, and use of the new media in reaching our audiences.

INTRODUCTION

STFC's Mission and Charter

1. STFC aims to produce world-class science, have international influence , and have scientific, economic and cultural impact on the UK. There is grant-funded research in astronomy, space, nuclear physics and particle physics; provision of UK and overseas facilities for a wide range of physical, life and heritage science research; R&D programmes over a wide range of technologies; research units at the laboratories; e-science; and a strong programme of knowledge exchange. The STFC science and technology *strategy* will be based on *Universal Challenges* (space, astronomy, particle physics, search for life); *Global Challenges* (Climate Change, Environment, Energy); and *Human Challenges* (Health, Security, the Economy, Education).

2. The Royal Charter mandates STFC "to generate public awareness, communicate research outcomes, encourage public engagement & dialogue, disseminate knowledge, and provide advice". Public engagement will be a purpose of the Council and a central part of its work: it is complementary to the corporate communications mission of promoting the organisation and maintaining its reputation and licence to operate. There will be a harmonized programme across the activities supported by the main UK sites (Swindon Office, Rutherford Appleton Lab, Daresbury Lab, and the Astronomy Technology Centre).

Drivers

3. The drivers for our public engagement work are seen as:-

[1] Science, Technology, Engineering and Mathematics

Public accountability- STFC spends around £630M pa of taxpayers' money, and, as well as reporting to Parliament, has the duty to show the work to interested citizens including taxpayers. This is involves policies of transparency and accountability.

Support for Government's Science and Innovation Strategy[2], especially making an important contribution to the national STEM agenda (for the supply chain) and the national skills agenda – both having the aim of science and skills development for a high-technology future for the UK, with rewarding careers for individuals; and for scientific skills and literacy for citizens.

The national need to foster openness and dialogue, especially when there are issues of concern or interest to the public, politicians, etc

Laboratories' need for regional community engagement: every lab should engage with its local community, including local councils, schools and community groups

The need to win continued public and political support for this work, which includes basic science driven by *inspirational* 'big questions', and the *importance* of facilities' contribution to the studies of life sciences, materials and processes including fusion research and technologies for a hydrogen economy. This need includes engaging public audiences, dialogue and debate, and consultation as appropriate, especially when there are issues of public concern.

Positioning

4. STFC's Science in Society (SiS) programme will be linked and co-ordinated with:-

Partnerships STFC is a member of:

- Research Councils UK (RCUK) – the seven Councils working together, with a published SiS strategy that covers similar objectives to our own, albeit with different priorities. We will support and engage with the Beacons for Public Engagement, funded by Research Councils and the Funding Councils.
- British National Space Centre – ten public bodies with an interest in the UK civil space programme. We will play a major role in space outreach and education.

Facilities and agencies we will work with

- The Diamond Light Source at the Harwell campus, in its outreach programmes
- The European Synchrotron Radiation Facility and the Institut Laue Langevin, as overseas facilities

[2] *Science and Innovation Strategy 2004-14* (HM Treasury, DTI & DfES 2004); and subsequent White Papers such as *Next Steps* (HM Treasury, DTI, DfES & DH March 2006), *Implementing The Race to the Top* and *Innovation Nation* (DIUS, March 2008)

- CERN, the European laboratory for high-energy particle physics
- The European Southern Observatory and other overseas astronomical facilities
- The European Space Agency

and regional and national partners within the UK, including learned societies, educational organisations, etc.

5. This SiS Strategy will be harmonised with STFC's Corporate Communications Strategy and its Community Engagement Strategy, both of which involve the communications and outreach work of staff members.

THE PROGRAMME

STRATEGIC OBJECTIVES

6. The key value of the SiS programme is *public engagement with our research*. Our four key objectives, around which the programme will be organised, will be

- **stimulating and responding to public interest in research developments and outcomes,** so that more citizens are informed about current research and more can participate in discussing issues

- **linking STFC science and technology with schools and young people**, particularly to support the national STEM and skills agendas, so that more young people are inspired to study STEM subjects (especially beyond 16), and those who do not, have an appreciation of UK science and a positive view of it.

- **encouraging and supporting researchers who engage with STFC in their public engagement work**, so they can communicate their work more widely and discuss issues with non-specialists. Most audiences value direct contact with researchers and with front-line research facilities.

- **capitalising on the STFC Laboratories/Campuses as excellent technical sites with delivery programmes and partnerships for regional STEM and skills activities,** so that these sites make optimal contribution - on a regional (and sometimes national) basis - to STEM and skills agendas (including teacher training and development), and are venues of choice for wider partnerships, events, filming, etc.

AUDIENCES

7. Key audiences identified from the strategic objectives are

- ***Science-inclined public*** – interested in science and technology and likely to access media articles, broadcasts, Websites, etc

- ***Young people and their families***. We will focus mainly on secondary school ages, since our contribution to the national effort is from front-line research. Within this 11-19 age range, we will give emphasis to programmes involving 11-16, since this covers a key point of choice of post-16 study. In terms of 'recruitment and retention' to the supply chain, we will also link research to post-16 groups when the topics are not in schools' curricula pre-16 (e.g., particle physics).
- ***Teachers*** will be an important target, owing to the sustainable gain factor of influencing pupils over many years. We will work with national educational organisations, will strengthen partnerships and develop new partnerships, especially for expert advice and for delivery to our audiences, with emphasis on teacher training and CPD.
- ***New audiences not traditionally engaged with STFC science***. We will seek to engage them mainly through partnerships, e.g. other with Research Councils, arts organisations, galleries, festivals, minority groups, etc and follow-through to maintain their interest.
- ***Opinion-formers*** such as parliamentarians, Government officials, and industry representatives. While they will be targeted through our corporate communications strategy, the SiS programme will support this, for example in working with researchers.

IMPLEMENTATION

General policies

8. We will embed public engagement in all our supported research programmes, each of which will be required to have an outreach plan. We will particularly support outreach from timely, high-impact (scientifically and publically) programmes, building on the currently-successful model of our major campaign of public engagement with the Large Hadron Collider project at CERN. Examples of topics of great public interest include space and the 'big questions' about our origins; fusion energy; storage of hydrogen for a hydrogen economy; and applications of heritage science.

9. Partnership with local, regional and national organisations (particularly, specialist and delivery partners, and including industry) will be a key attribute of the programme. This includes reaching new audiences not traditionally engaged with STFC.

10. We will develop our use of new and social electronic media, such as Web 2.0, Webstreaming, Podcasts, social and resource Websites such as Bebo, YouTube, etc and plan for best use these to reach our identified audiences, especially the young.

11. Although STFC science and technology programmes do not often involve *issues of public concern*, when these do arise we will engage the public and discuss issues. We will work with specialist and experienced organisations in this.

12. We will run *funding schemes* for public engagement projects, and determine the best set of schemes to achieve the four objectives and reach the agreed target audiences. Funding schemes often support a range of types of project and therefore cut across several of the four objectives and span different target audiences.

13. *Evaluation* will be a core policy of the SiS programme. Evaluation will be a requirement of SiS fund-holders. We will develop, with advice from the Panel, an evaluation strategy covering schemes and activity areas as well as individual projects. There will be emphasis on determining and demonstrating the impact on our audiences, especially for the national STEM and skills agendas.

IMPLEMENTING THE FOUR STRATEGIC OBJECTIVES (in line with the target audiences and our core value of public engagement with research):

Research developments and outcomes

14. We will have a vigorous and proactive media effort, disseminating news of science and technology developments and outcomes and demonstrating the benefits of the Council's work. This will use media releases, events, briefings, etc and will be delivered by STFC specialist media officers. We will increase the visibility of the work of the labs/facilities.

15. We will strengthen our partnership with UK science centres and museums (which receive *ca* 19M visits pa) both directly with major centres as key delivery outlets and also through the sector organisation *ecsite-UK*. This is to encourage centres to feature STFC science and technology in their exhibitions and schools' programmes.

16. We will have a programme of electronic and paper publishing, to provide information on research areas, research projects, and the outcomes of our investments. Laboratories will have programmes of public lectures and visits, and public-friendly websites will be used to provide information on research programmes.

Young people

17. We will strengthen partnerships with education specialist organisations and with educational networks and delivery organisations. The main STFC input to these partnerships will be as a gateway to research programmes and people, but STFC will be an intelligent informed partner. We will seek to influence

educational policy organisations and our educational partners regarding the role of contemporary science in teacher training, CPD, and curriculum enrichment.

18. We will have a particular emphasis on the teaching and learning of physics and quantitative sciences, including support the Government's ambitious Science & Innovation targets for 2014 relating to A-level physics and physics teachers.

19. We will play a leading role in public engagement with space, which is a powerful attractor for the young, working with BNSC partners (including the Department of Children, Schools & Families, DCSF), the media, educational delivery organisations, etc.

20. Laboratories will have programmes of visits to and from teachers and schools. We will strengthen our *teachers in residence* programmes to help develop links between the STFC science & technology at laboratories and schools curriculum.

Encouraging and supporting researchers

21. We will encourage and support the public engagement work of STFC staff, researchers who engage with STFC including facility users, and grant-funded researchers. This will include training, access to press and schools' officers, access to funding schemes, facilitation, free publications and images of facilities, access to national schemes such as BA Media Fellowships, MP-Scientist pairing scheme, etc.

22. Applicants for research grants and project funding will be required to submit a plan for public engagement, which will be reviewed. Research and technology units at STFC laboratories will similarly have an outreach plan. STFC will participate in writing an RCUK-agreed joint 'statement of expectation of grant-holders' for public engagement.

23. Many facility users are grant-funded by other Research Councils, Wellcome Trust, etc. We will seek to work with these organisations to co-ordinate our public engagement and to make the facilities *'part of the story'* in users' communications work. We will investigate joint support for outreach work with the other Research Councils, e.g. joint SiS Fellowships. We will develop our support for facility users not traditionally well-engaged with STFC SiS, such as life science and heritage science users, to develop new audiences.

24. We will seek *public champions* for STFC science and technology, through fellowships, to engage different audiences with research areas and with the use of our multidisciplinary facilities for the study of a wide range of materials and processes.

STFC excellent technical sites

25. Our vision is that the STFC UK laboratories/campuses are sites of excellence that are well-placed to deliver programmes contributing, often on a regional basis, to UK STEM and skills agendas. The labs should be venues of choice for programmatic partnerships, events, lectures, conferences, visits to inspiring facilities such as ISIS, work experience, etc for a range of organisations. We will promote the UK and overseas sites for filming, interviews, etc. The SiS teams will deliver outreach to public and schools, and will support training and skills development activities by other departments. Each Directorate and campus Research Centre will have a communications and outreach plan that is harmonised with STFC corporate communications and SiS strategies.

26. STFC will develop a strategic plan for partnerships involving the laboratories/campuses in both the STEM education and skills area. Examples of partners include Science Learning Centres (SLCs) and Regional Development Agencies. For example, both Rutherford Appleton and Daresbury Laboratories are members of their respective regional SLC partnerships (for teachers' CPD), and the Astronomy Technology Centre/ATC is already positioned as a Scottish centre of excellence for outreach and CPD in astronomy, space and earth sciences.

27. STFC laboratories as excellent, outward-looking centres will investigate opportunities for externally-funded outreach work (for example, a contract for a wide range of teacher CPD courses), as long as they are appropriate for an STFC site and bring wider added value to the Council's overall programme.

EVALUATION AND REVIEW

28. With regards to the results of evaluation and other considerations (such as changing national priorities), we will review this Strategy periodically with advice from the SiS Advisory Panel.