

## *Careers from Science* – a unique, single starting point for young people wishing to know what studies in science can lead to...

The *Careers from Science* (CfS) web-based initiative aims to encourage more young people to want to study science in school and to raise their awareness of the wide range of career paths and opportunities that are available from studying science.

### **1 Introduction**

The *Careers from Science* website will primarily target students aged 11-19 but will also provide content specifically for parents and careers advisers. The project will work partly as a web portal, bringing together good quality information already available whilst also using new content to draw together the full range of science, technology, engineering and maths (STEM) options. The website will be designed to be picked up through a range of different search engines and search criteria, with a content and ethos which is strongly audience driven rather than organisation/discipline driven. It will maximise the use and impact of existing good quality content and minimise the risk of duplication and mixed messages. By approaching the breadth of science – rather than through specific disciplines, careers paths or industries, the web portal will provide a single point of contact to address the difficulty students have in accessing the wide range of science based careers.

The key messages from the project will be about:

- the skills that studying science develops
- how options are kept open by studying STEM
- addressing the misconceptions around studying STEM
- ensuring that students have the right information at hand when choosing subject combinations.

The project objectives are:

- to enable students, and their parents, from all backgrounds to be positive and comfortable about opting for science
- to improve the engagement and commitment of those pre-16 students who currently have to study science
- to increase the numbers studying STEM post sixteen
- to increase the numbers studying for STEM degrees.

In the long term the objective will be to increase the pool of scientifically qualified and motivated people who can proceed to a range of careers in science, technology, engineering and mathematics.

The website will provide information on all opportunities available for those with a science background from those that are traditionally considered 'science' careers to others where scientists make a valuable and often unrecognised contribution. The project aims to increase the size of the pool for all science-based professions. Most importantly, the project will ensure that students are better informed about the entry requirements of different disciplines at crucial stages of their formal learning.

The overall costs of the project will be £1.2 million (over 5 years) with 40% of this incurred during the first 18 months for the major design and build elements, the coordination and linking of existing content and the develop of new content. The first two years will also include the major promotional work and the development of the teaching materials.

*Careers from Science* has strong support across the member organisations of the Science Council (listed in Appendix 1) and is receiving support from careers advisers, industry, related science bodies and professional groups. It is also at the heart of many current science education policies with aims and objectives that are analogous to the wider aims and objectives of the science community; an increase in science engagement; an increased pool of talented science literate individuals; better coordination of quality initiatives; better support for science educators and advisors; better informed government policy etc.

## **2 Background**

In his *SET for Success* report, Professor Sir Gareth Roberts recommended that ‘further action was needed from Government, but also from businesses and others in scientific and technical fields, to ensure that pupils (especially girls) receive accurate and positive advice about the rewards (and the breadth of careers arising) from studying science and technology’. The Government committed to taking this forward in the 10 Year Science and Innovation Framework and the *Careers from Science* project fits well with many of the targets and ambitions laid out in the Next Steps document<sup>1</sup>.

Significant partnerships have been built across the STEM community in order to collectively achieve the project aims. In particular the project brings together member organisations of the Science Council, Research Councils, Science Learning Centres and the Engineering and Technology Board. This inclusive project invites collaboration from all organisations with an interest in STEM education as well as organisations that can provide guidance and support with regard to access and diversity, for example the project is committed to providing summary information for parents in languages other than English.

## **3 Project Plan**

Phase 1 was funded with £40K from the principal partners within the Science Council’s Education Network Group and undertook research work to establish what existing material was available and to identify how best to meet the needs of young people and those who influence them. The research established that a resource such as *Careers from Science* does not currently exist for science either in the UK or abroad and that there was considerable enthusiasm from schools, parents and career advisers for its development. Working directly with the target audiences the research was able to identify the advice and information needs of each of the target audiences.<sup>2</sup>

Phase 2 of the project will focus on building the website framework and functionality in line with the Phase 1 research outcomes, identifying and agreeing the use of high quality material already in existence, commissioning new material, investigating effective marketing approaches etc. The information will be tailored specifically for use by students with

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<sup>1</sup> Science and Innovation Framework 3004-2014: Next Steps

<sup>2</sup> Phase 1 research report is available from [www.sciencecouncil.org](http://www.sciencecouncil.org)

additional tailored sections targeting teachers, parents and careers advisers. Audience consultation will take place throughout the project to ensure the content fits their needs.

The Phase 1 research identified 6 target audiences with different project aims:

- i. **11 – 14 audience:** all students in this age group study science; at 14 they are starting to choose how much science they study and possibly the type, e.g. applied science. The messages for this age group are about the significance of science in their lives, making students understand why they study science and showing them where science can lead. The aim is to enthuse, excite and inform this audience about science.
- ii. **14-16 audience;** students in this age group are making choices about the subjects they will continue to study or vocational pathways they will take at the end of compulsory education. The messages are about the skills that studying science develops, keeping options open by studying science and making sure that students choose the right subject combinations. The aim is to make them feel comfortable about opting for science.
- iii. **16-19 audience;** students in this age group are making pathway choices. The messages are about the routes to different careers. The content provided will be more sophisticated than that for other age groups. The aim is to provide information to make better, more informed choices.
- iv. **Parent audience;** the messages for this audience are about what is involved in studying science and dispelling the myths surrounding STEM careers. The aim for this audience is to help them guide their children by providing accessible information and advice.
- v. **Teacher audience;** the message for this audience is about their role in promoting further study of science by improving young people's understanding of the advantages of studying science. The website will support them by providing information about careers, support for promoting science at open evenings and resources for incorporating careers work into their lessons. The aim for this audience is to support them in their roles of providing information on science pathways and incorporating learning about STEM careers into their lessons. It is anticipated that this audience will also require offline support such as printed material and CPD opportunities.
- vi. **Careers Adviser audience;** the future role of careers advisers and careers teachers is unclear; however, the current situation where they have little knowledge or commitment to science is unlikely to change. The primary aim for this audience is to dispel the misconceptions which surround studying or working in STEM and to provide them with information to help them give better advice.

Taking these recommendations forward, involves developing a model for the website and gathering relevant material. It is clear that if this resource is to make a difference then it will need a coordinated effort from the whole STEM community. As well as financial support there is also an important role for organisations to provide accurate and up to date information about their disciplines. The Science Council's members and external organisations will be invited to contribute quality information and their careers work will be enhanced as a result of participation in the Project.

## **4 Resources**

The DfES has recognised that the Careers from Science project aims are in line with its own targets and ambitions; the department is providing £500k towards the development costs. In addition to a financial commitment from the Science Council central resources, there is a staffing commitment from the CEO. Members of the Science Council have made additional financial (and in kind) commitments to the project. Funding has been secured from external funders such as the Wellcome Trust and applications are being made to other national agencies for support to sustain the initiative over a five-year period and beyond.

In 2006 the Science Council Board agreed that sufficient funding had been committed to enable the project to commence and a project manager was appointed for 2 years from June 2006 to take the project forward. Early work is focusing on:

- developing the template for profiles/case studies
- teacher resources (for which specific funding has been received)
- Core information for 14-19 age groups
- providing links to existing sources of quality information and resources

## **5 Governance**

The initial scoping and planning phases of the project were overseen by Steering and Operations Groups. Since the needs of the project have now moved on these have been dissolved and a small high-level governance group will be Chaired by Prof Mike Tomlinson and include a selection of Science Council Board members and other stakeholders. The project itself will be guided by an Advisory Group made up of representatives from various partner organisations chosen to cover a broad range of interests and expertise (see Appendix 2). Consultation with wider members of the project consortium will continue to take place and smaller, informal, specialist groups will be used to advise on particular project areas including the project marketing and the use of new generation technology to engage audiences.

## **6 Output**

Quarterly progress reports will be prepared for external funders and the Science Council Board. It is planned that the website will be built up gradually from a holding site which will be available in spring 2007 and the Project will be formally launched in summer 2008. At its heart will be a dynamic website offering the wide target audiences access to a range of relevant and stimulating information from one portal. Additional materials, both printed and digital will be further developed as an integral part of the project.

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# Appendix 1

## Member Organisations of the Science Council:

1. Association for Clinical Biochemistry
2. Association for Science Education
3. British Computer Society
4. British Psychological Society
5. Chartered Institute of Water and Environmental Management
6. Energy Institute
7. Geological Society of London
8. Institute of Biology
9. Institute of Biomedical Science
10. Institution of Chemical Engineers
11. Institute of Clinical Research
12. Institute of Corrosion
13. Institution of Environmental Sciences
14. Institute of Food Science and Technology
15. Institute of Marine Engineering, Science and Technology
16. Institute of Materials, Minerals and Mining
17. Institute of Mathematics and its Applications
18. Institute of Physics
19. Institute of Physics and Engineering in Medicine
20. Institute of Professional Soil Scientists
21. London Mathematical Society
22. Mineralogical Society
23. Oil and Colour Chemists' Association
24. Royal Aeronautical Society
25. Royal Astronomical Society
26. Royal Geographical Society
27. Royal Meteorological Society
28. Royal Society of Chemistry
29. Royal Statistical Society
30. Society for General Microbiology
31. Society for Dyers & Colourists

## ***Affiliate Member Organisations:***

The Royal Society  
The BioSciences Federation  
The British Association for the Advancement of Science

# Appendix 2

## Governance

### Advisory Group

#### Group Purpose

The Advisory Group will provide expert advice and guidance to support the CfS project manager in the direction and delivery of the CfS project. The group will ensure the project maintains relevance for all areas of science, technology, engineering and maths, and will use their knowledge and contacts to make sure the project draws on the experience of the STEM community.

#### Frequency of Meetings

The Advisory Group will meet once every two months, or less frequently as required. Consultation may also take place by email between meetings and, less formally, on an individual basis.

#### Group Membership

The group membership is to represent a variety of view points and experience and is intended to, as far as possible, cover the broad range of subjects incorporated in the CfS project. The initial membership below has been chosen to give a range of organisation views and also for their personal range of experience. Additional individuals may be co-opted on to the group when required for a specific phase or project area.

Nicola Hannam	Project Manager, Science Council - Chair
Marianne Cutler	Association for Science Education
Jane Westwell	BioScience Federation (Soc. For General Microbiology)
David Evans	British Computer Society
Adrian Talbot	Engineering and Technology Board
Neil Roscoe	Institute of Biology
Sarah Knapper	Institute of Food Science and Technology
Daniel Sandford Smith	Institute of Physics
Peter Cooper	London Mathematical Society (Board Representative)
Colin Osborne	Royal Society of Chemistry
Robin Mellors-Bourne	Careers Research and Advisory Centre - Observer