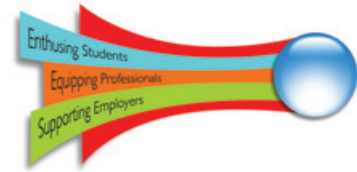


# STEM Subject Choice and Careers Campaign Newsletter



## Summer 2010

Welcome to the fourth newsletter of the STEM Subject Choice and Careers Campaign. This newsletter is for all teachers in STEM-related subjects, careers co-ordinators, careers and personal advisers, and other interested parties. The three year Careers Action Programme is part of the National STEM Programme [http://www.stemdirectories.org.uk/about\\_us/the\\_national\\_stem\\_programme.cfm](http://www.stemdirectories.org.uk/about_us/the_national_stem_programme.cfm). It includes the careers awareness strand; the timeline project and Future Morph. (see articles below for an update on each strand). Kate Bellingham, as the National STEM Careers Co-ordinator, has a key role spearheading the programme.

### STEM Careers Awareness Timeline Project

The STEM careers timeline project has been operating as part of 'Action Programme 8' within the National STEM Programme since January 2008.

#### **The project partners are:**

- The Centre for Education and Industry, University of Warwick
- The International Centre for Guidance Studies, University of Derby
- The Isinglass Consultancy

Action Programme 8 seeks to "improve the quality of advice and guidance for students (and their teachers and parents) about STEM careers, and to inform subject choice".

Working with a pilot group of 28 schools across the country this project has been exploring how schools can put in place coherent programmes of learning about the career potential offered by the study of STEM subjects.

#### **The key findings of this work so far include the following:**

- The separation of STEM subjects in the curriculum is a powerful constraint
- Nobody 'owns' STEM. There is a significant need for leadership commitment (school Senior Leadership Teams supporting subject leaders)
- Enhancement and enrichment activities provide important opportunities for STEM

- Careers IAG is largely disconnected from the STEM curriculum
- STEM teachers are not well equipped to support learning about careers. There is a lack of CPD in this area
- Parents are not engaged in this area of learning.

These findings have informed the strategy being adopted for the remaining period of the current pilot. In particular the findings have confirmed the need for some specific support and development resources to assist school planning for STEM careers at a strategic level.

On May 17th and 18th, the 'timeline team' held a workshop at the University of Warwick's Scarman House Conference Centre. Participants included pilot and other schools, and representatives from STEMNET, SSAT, Science Learning Centres and careers professionals. A keynote presentation was provided by Kate Bellingham, the National STEM Careers Co-ordinator. The rest of the programme was devoted to development work on the structure and content of resources that would help schools plan coherent programmes of activities to support STEM careers learning (STEM Careers Timelines). Significant progress was made during the workshop, confirming some ideas for further development. The key issues or top tips identified by participants are shown in the following table. These areas will be the focus for a collection of materials and case study examples in the finished resource.

# STEM Subject Choice and Careers Campaign Newsletter

## Top tips for developing STEM careers timelines in schools

Secure whole school commitment

'Mobilise the troops' including staff, leadership team, governors, support staff and young people

Appoint a STEM co-ordinator

Define a strategy

Audit current provision

Analyse staff competences

Develop a plan for CPD

Engage with external STEM networks (including STEMNET and EBP)

Clarify roles and responsibilities

Identify curriculum opportunities and plan activities

Engage students

Develop evaluation strategies to measure impact

Assign STEM role to a school governor

Investigate and develop resources

Secure community partner engagement

Secure parental engagement

Establish senior leadership vision

Provide time for planning (e.g. for heads of department)

Establish effective liaison between STEM heads and PSHE/ careers

Develop an evidence base – what works?

Make STEM careers more visible throughout the school

Include STEM in school development plans

Review timetable – does it provide opportunities for STEM?

Establish stronger communication between STEM departments

Implement an entitlement for all approach

Bring in Connexions

Further information about this work is available from Peter Stagg CEI Regional Director ([peterstaggcei@hotmail.com](mailto:peterstaggcei@hotmail.com))

# STEM Subject Choice and Careers Campaign Newsletter

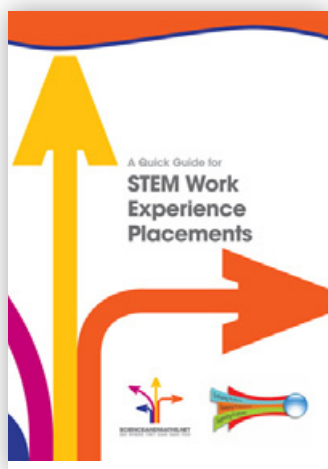
## Future Morph

The Science Council has produced a new poster to promote the Future Morph careers website and raise awareness of the job opportunities available from science and maths related subjects. The A1 poster features a range of people working in STEM and the reverse is designed as a blank template for your students to create their own version of the poster with images they find themselves. To request copies of the poster contact:

[futuremorph@sciencecouncil.org](mailto:futuremorph@sciencecouncil.org) or visit [www.futuremorph.org](http://www.futuremorph.org).

## Careers Awareness Strand

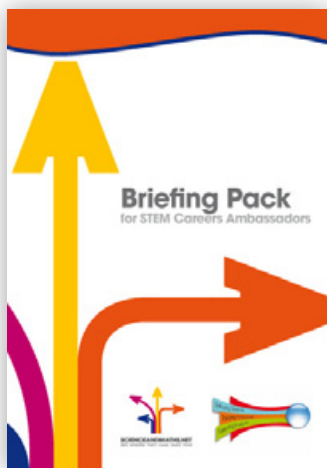
Two further resources are now available from the Centre for Science Education at Sheffield Hallam University and VT Group. **The Quick Guide for STEM Work Experience Placements** is designed



to help teachers, learners and employers to create good quality placements. It addresses how to create links between STEM subjects and work experience placements and to address stereotypes, and signposts readers to a range of resources to support STEM work experience placements.

### STEM Choices Role Model Support Pack

provides materials to help role models support careers awareness. STEM ambassadors are now available from over 1500 different employers with jobs ranging from climate change scientists to zoologists and architects and they provide a powerful resource.



A new **STEM and Economic Wellbeing** online resource will be available shortly. The resource is in three main parts:-

- **Economic well being** provides an overview of economic wellbeing and its connection with STEM subject and careers.
- **Developing STEM and EWB** provides practical guidance and tools to support curriculum leadership and development of integrated STEM and EWB, with a focus on KS3.
- **The annexes** signpost ideas, materials and schemes to support teaching and learning in STEM and EWB.

There have been a number of regional events for careers coordinators, teachers and advisers to support STEM careers awareness and to promote effectiveness use of the wide range of supporting resources. In May, Annette Smart hosted a West Midlands conference at QinetiQ's Tom Elliott Centre in Worcester. The conference was planned by Linda Reason of Prospects and Andrew Pugh of Worcestershire County Council and involved presentations and workshops on using science and technology in innovative development, integrating careers awareness into Science lessons and making good use of enrichment activities.

As well as large scale events, the project is able to offer bespoke Continuing Professional Development (CPD) sessions for a school or a partnership of schools able to bring together groups of ten teachers with shared priorities relating to improving STEM careers awareness. Teachers attending these sessions could receive funding from the Science Learning Centre impact awards.

A wide range of curriculum resources are also being produced through the project. The Science resources are available through Science Upd8 and the Maths resources can be downloaded from [www.mathscareers.org](http://www.mathscareers.org). A range of new resources to integrate careers awareness into design and technology will be launched at the D&T in Education Show at NEC on 18-20 November.

Regular supplements are being prepared for the STEM Choices pack. The most recent myth busting Sector Supplement focused on the Pharmacy industry.

If you are interested in running a bespoke CPD session or would like to register for updates on STEM careers awareness resources, please email [info@careersinstem.co.uk](mailto:info@careersinstem.co.uk).

## Other National News

The National HE STEM Programme is a three-year initiative funded by the Higher Education Funding Councils for England and Wales which aims to increase and widen participation in Science, Technology, Engineering and Mathematics (STEM) and enhance the skills and knowledge base of the workforce in these areas.

# STEM Subject Choice and Careers Campaign Newsletter

It is focused primarily on the disciplines of Chemistry, Engineering, Mathematics and Physics but there will be wider benefits to the STEM sector as a whole. For more details visit [www.hestem.ac.uk](http://www.hestem.ac.uk).

**I'm a Scientist** – is the recent Winner of the Sciencewise-ERC People's Choice Award for excellence in Public Engagement with Science. [www.imascientist.org.uk](http://www.imascientist.org.uk). I'm a Scientist is a science dialogue event where school students talk to real scientists online for two weeks. It's in the form of an X Factor style competition between scientists, who compete for a prize of £500. For two weeks students read about the scientists' work, ask them questions, and engage in live text chats with them. The students vote for the scientist they want to get the money. The scientists with the fewest votes are evicted until only one is left to be crowned the winner. The event is supported by carefully developed and tested resources which develop students' skills and deepen their understanding.

The event is funded by a Society Award from the [Wellcome Trust](http://www.wellcome-trust.org). It's a fantastic science enrichment event for teaching How Science Works in schools, but more than that, it truly engages young people with real live science. Every single scientist and teacher who has taken part in the event says they would recommend it to a colleague.

## News from Other Stakeholders

Building on the success of The Big Bang 2010 in Manchester, EngineeringUK and partners are already in the process of pulling together an even bigger and more impressive Big Bang 2011. To be held in London's Excel Centre from the 10th to the 12th March, The Big Bang 2011 will once again be open to teachers, parents and guardians as well as children, students and young people aged 7-19. We're already planning an even bigger celebration than this year with more inspiration, interaction and exciting events and shows. So if you or your organisation would like to be involved, now is the time to get in touch and discuss your thoughts and ideas for how we can make 2011 an even bigger bang!

As a business or organisation, you can get involved by exhibiting or sponsoring at

The Big Bang 2011. Contact John Halton on 020 3206 0436 or [sponsors@thebigbangfair.co.uk](mailto:sponsors@thebigbangfair.co.uk) to find out more. As an individual you can also support The Fair. Email [info@thebigbangfair.co.uk](mailto:info@thebigbangfair.co.uk) for more information.

## Upcoming Gender Research

Last month Engineering UK highlighted the disparity in the percentage of female engineering professionals in the UK compared to other European countries, underlining recent research by UKRC that showed only 9 per cent of UK engineering professionals are women compared to 18 per cent in Spain, 26 per cent in Sweden and 20 per cent in Italy.

**Paul Jackson Chief Executive of EngineeringUK, said:**

*"The fact that the proportion of female engineering professionals in the UK is the lowest in Europe is shocking. It's essential we get behind these figures and understand why; what is it that our European neighbours are doing differently; what can we learn from them? Over the next twelve months, EngineeringUK will be commissioning research to understand what lies beneath this disparity and what the UK must do differently in future to address it. We need a step rather than incremental change in the number of women entering the engineering profession in the UK if we are to meet the future global technological challenges that lie ahead."*

## Forthcoming Events

### 8th July – launch of the National STEM Centre

The National STEM Centre provides support for STEM teachers and lecturers through its leading role within the government's STEM Programme, and via a large library of teaching and learning resources. These collections include multimedia, print, practical teaching materials, and research publications. The physical library is open to teachers and STEM partner organisations, with on-site accommodation available for visitors. In addition, from 2010 onwards selected resource collections are being made available online through the Centre's eLibrary. The eLibrary at the National STEM Centre will include the STEM Careers collection...and also a physical STEM Careers collection will be hosted at National Centre soon.

## Next Issue

• **Autumn 2010**