Role models
and
Involving employers in IAG

Dr Rachel Crossley, Business Engagement Manager, STEMNET

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Value of STEM Skills to Employers

"Almost all (91%) of businesses employ people with STEM skills, valuing their problem solving abilities across a range of jobs. Businesses from all sectors want STEM skills – well over a third of businesses prefer STEM when recruiting graduates. Those sectors which are predicted to grow and create employment opportunities in the future are particularly reliant on these skills.“

Source - CBI

Science, Technology, Engineering & Mathematics (STEM) skills are vital for the future economic health

- "Over the last fifteen years the contribution of high-technology manufacturing and knowledge-intensive services to UK gross value added has increased steadily to over 40%."
  'New Industry, New Jobs' HMG, April 2009

- "In this kind of economy, countries who out-educate us today will out-compete us tomorrow."
  President Obama

- "66% of employers report difficulties recruiting STEM skilled staff, with particular concern at graduate and post-graduate level."
  CBI education and skills survey 2009

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Electronics Industry

“The average age of electronics engineers is growing and not enough people are entering the industry. So not only does the industry get 'older', there are also fewer people to go around.

The 2007 Labour Force Survey found that 37% of the UK electronics sector's workforce is aged between 45 and 64, compared with 22.3% for the total UK workforce. Meanwhile, only 7% of the UK electronics sector's workforce is aged between 16 and 24, compared with 14.1% for the total UK workforce.

It's not much better when you look at the supply of graduates. Although the number of engineering and technology graduates has increased from 18,500 in 2001/2 to 20,400 in 2007/8, this represents a decline when expressed as a percentage of all graduates.”

Source: *New Electronics* online article: Feb 2010

Supply and demand in the Process Industries by 2022

Employee Group	Forecast Demand	Forecast Supply	
Higher Level Workers (Manager and professionals)	55,000	68,000	'Over supply' +13,000, but the challenge is attracting young graduates to these roles
Core Workers (Technicians and operators)	72,000	31,600	Short fall -40,400

Source – Cogent, 2008

What can we do?

The importance of role models

Wellcome Monitor, March 2010

- A majority of young people aged 14 to 18 (81%) said they thought science was a good area of employment for young people to go into.
- The main reasons why science was considered a good choice of career were because it was interesting and because there were lots of different types of job available.
- A majority of young people aged 14 to 18 (82%) agreed scientists have a wide range of jobs to choose from, whilst 73% agreed scientists can find jobs anywhere in the world.
- Only a minority of young people aged 14 to 18 thought scientists were poorly paid compared with other jobs (11%) or came from a limited range of social backgrounds (7%).
- 44% of young people aged 14 to 18 said they were very or fairly interested in having a career in science. When asked about the sort of science career they might be interested in careers in medicine and forensic science were commonly mentioned.

How STEMNET uses role models

- Organisation dedicated to promoting STEM subjects and careers to all young people across the UK (4-19yrs)
- STEM Ambassadors Programme and Brokerage roles are funded by BIS
- STEM Clubs Network funded by DCSF
- Key part of HMG's STEM support infrastructure
- Key focus on helping education, STEM employers and STEM people work together to challenge stereotypes, increase understanding, raise aspirations and help all young people achieve their potential

How STEMNET uses role models

STEM Ambassadors

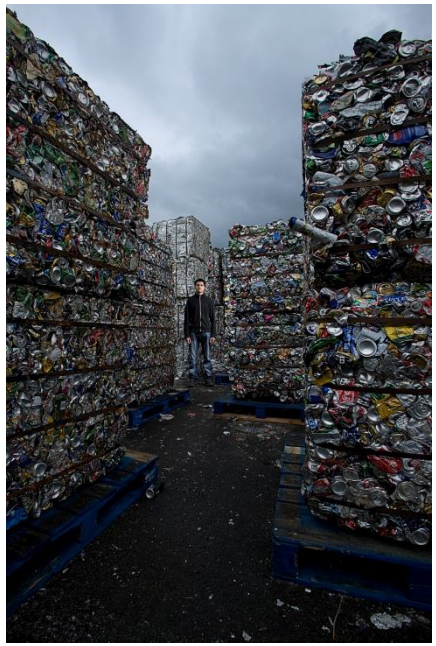
- Help challenge young people's perceptions
- UK-wide programme, funded by DBIS, endorsed by National Council for Educational Excellence
- More than 20,000 volunteers from all walks of STEM (over 24,000 involved since 2002)
- Over 1,900 employers involved, ranging from largest to smallest
- More than 50% of Ambassadors are under 35; 40% are female; over 10% report their ethnic origin as BME
- Free of charge to young people, schools and colleges, and other appropriate learning environments

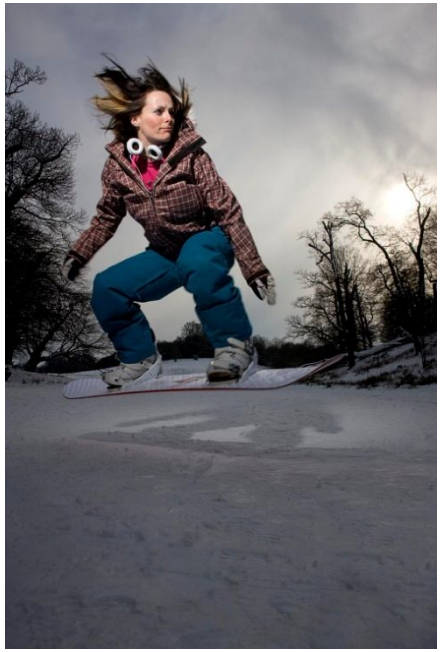
How STEMNET uses role models

Challenging stereotypes – ordinary people do STEM!

Space Scientist

Microbiologist





Mechanical Engineer

Images taken from STEMNET's 'Leading Lights' Exhibition
www.stemnet.org.uk

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How STEMNET uses role models

Examples of how STEM Ambassadors are used

- In school / college
- Science Fairs e.g. Big Bang Fair, Manchester Science Festival
- Seaside Science
- Manufacturing your Future posters
- Leading Lights Campaign
- Diploma delivery
- Teacher's TV

How STEMNET uses role models

Who better to tell students about local employment opportunities than the individuals currently working in these sectors?

- STEM Ambassadors are ‘real people doing real jobs’, adding significant value for students, teachers and their schools by relating programmes of study to the world of work

- They commit time and energy to going in to schools and colleges to help teachers enthuse their students through a variety of activities and events

- STEM Ambassadors can work with you to help students understand more about routes into industry sectors, the diversity of positions available and the career prospects that particular qualifications afford

How STEMNET uses role models

The impacts are significant

'For us, using the Ambassadors scheme has meant that the students can see the things we are learning can and do have genuine applications in the 'real' world. It was good to see the students relating to the Ambassadors and asking them questions about their careers and experiences.'

Sarah *Fennell, Teacher, Woodcote High School*

'Many of the teachers in our Science department do not have industrial or research experience themselves, so meeting STEM Ambassadors working in engineering and science fields has helped them to broaden their knowledge. They will now be better equipped to talk to our students about science-based careers.'

Gerry Courtney, Assistant Headteacher, Plashet School

The Employer's point of view

"Good for the company; good for the volunteers; and most importantly good for the young people supported by these volunteers"

Ian Duffy, Manager of UK 5-19 Education Programmes, BP

"There is no doubt that being a STEM Ambassador has a positive effect on the individual and improves employee engagement"

Annette Smart, STEM Outreach Manager, QinetiQ

"The National Physical Laboratory has a strong Corporate Social Responsibility programme, and STEM Ambassador activities are an important part of this. They have helped us develop links and earn an excellent reputation with local communities. The programme leads to enhanced job satisfaction for those staff involved in it, and it gives them a great opportunity to share our passion for science with the next generation"

Andrew Hanson, Outreach Manager, National Physical Laboratory

The Employer's point of view

"Rolls-Royce recognises the vital importance of engaging with young people from the primary age group onwards to enthuse them about the STEM subjects and about careers in Science, Technology, Engineering and Maths. Rolls-Royce values greatly the role that STEMNET plays in supporting this agenda. As a company with around 200 active STEM Ambassadors, we work closely with STEMNET to enthuse and engage young people in the STEM subjects."

Nicola Swaney, Education Manager, Rolls-Royce plc

"The STEM Ambassadors programme is one of AstraZeneca's flagship employee volunteering programmes in the UK. It meets our business and corporate responsibility objectives of inspiring young people about science and engaging our employees in valuable community activities. We have had great support from STEMNET who with their partners, the local contract holders, enable us to manage AstraZeneca's programme in a resource efficient but impactful way.

Lynn Prime, Corporate Responsibility Manager, AstraZeneca

How to request a STEM Ambassador

- Visit the STEMNET website (www.stemnet.org.uk) to find contact details for your local contract holder

- Discuss your ideas with the contract holder, then submit a request for Ambassadors to support the activity/curriculum area in question

- To ensure positive outcomes for all:
  - make early communication with the Ambassador to discuss plans
  - be clear about your requirements

- Submit your feedback!

Contact Details

Employers:

Dr Rachel Crossley

Business Engagement Manager

E-mail: rachel.crossley@stemnet.org.uk

Tel: 07748 142257

Schools / Teachers:

Go to http://www.stemnet.org.uk/contact_us.cfm for local contacts

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