



## DEBATE PACK

Number CDP 2016/0014, 15 January 2016

# Increasing diversity in STEM careers

## Summary

Ben Howlett MP secured a Westminster Hall debate on increasing diversity in STEM (science, technology, engineering and mathematics) careers. The debate will take place on 19 January 2015, between 16:30 – 17:30pm.

There will be a digital debate on Twitter, ahead of the Westminster Hall debate. The digital debate will take place on Monday 18 January 2015, between 13:00 – 14:00pm, using **#WomenInSTEM**

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The House of Commons Library prepares a briefing in hard copy and/or online for most non-legislative debates in the Chamber and Westminster Hall other than half-hour debates. Debate Packs are produced quickly after the announcement of parliamentary business. They are intended to provide a summary or overview of the issue being debated and identify relevant briefings and useful documents, including press and parliamentary material. More detailed briefing can be prepared for Members on request to the Library.

# 1. Background

## 1.1 Current government policy

Much of the Department for Business, Innovations and Skills' (BIS) work to promote STEM careers is targeted at promoting those careers generally, rather than specifically at increasing diversity. BIS allocates £13 million annually to drive public engagement with science.<sup>1</sup> The Gov.uk website sets out, [here](#), the detail of BIS's policy to inspire students to study STEM.<sup>2</sup>

However, there are several measures targeted at increasing diversity, mainly aimed at increasing female interest in STEM careers and subjects, discussed below.

### Government education initiatives in England

#### Promoting women in STEM – schools in England

In response to a January 2016 debate on feminism in the school curriculum, Schools Minister Nick Gibb set out the measures the Government was taking to encourage girls to study STEM subjects.<sup>3</sup> He drew attention to:

- Government funding for the [Stimulating Physics Network](#) and [Further Mathematics Support](#) programme, with a particular focus on engaging more girls.
- The [STEM ambassadors programme](#); 40 per cent of the 31,000 STEM ambassadors were women, he noted.
- Government funding for Engineering UK to deliver the [Big Bang Near Me](#) activities – a local version of the Big Bang fair. In 2015, this reached 100,000 pupils, half of whom were girls
- Providing support for maths and science teachers through the [National Science Learning Network](#) and [national network of maths hubs](#).
- [Bursaries and scholarships](#) to attract top STEM graduates into teaching
- Investing £67 million in training teachers in maths and physics
- Providing support for the [triple science GCSE programme](#).
- Backing the [Your Life campaign](#) to increase significantly the numbers taking A-level physics and maths, particularly girls. This is a digital campaign to demonstrate the range of opportunities that maths and science can lead to.

#### Schools and further education – other policies and funding

A variety of measures and programmes are in place to encourage the take-up of STEM subjects in schools. Many of these have a particular focus on girls, including:

- Careers guidance: Statutory Department for Education (DfE) [guidance](#) on careers advice in schools makes clear the need to

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<sup>1</sup> [HC Deb 11 March 2014 cc171-172W](#)

<sup>2</sup> [Engaging the public in science and engineering](#), Gov.uk

<sup>3</sup> [HC Deb 11 January 2016 c680](#)

need to emphasise to girls in particular the opportunities created for those who choose science subjects at school and college.<sup>4</sup>

- STEMNET: The Government provides funding of £6.3 million per year to [STEMNET](#) to run a number of programmes, for children of all ages, including the STEM Ambassadors programme mentioned above.

### Further and Higher Education

The Government provides funding via the Royal Society for Athena SWAN. The [Athena SWAN Charter](#) was established in 2005 “to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths and medicine (STEMM) employment in higher education and research”.

Higher education institutions were encouraged to sign up to the charter, which recognised good employment practices for female staff working in academia. In 2015, the Charter was expanded and “now recognises work undertaken to address gender equality more broadly, and not just barriers to progression that affect women.”<sup>5</sup>

There are a range of other initiatives and funding streams aimed at supporting and recruiting STEM higher education students in England, including:

- Higher Education Funding Council for England (HEFCE) monitoring of and funding for [strategically important and vulnerable subjects \(SIVS\)](#), plus support for projects such as [SIGMA](#), a maths and statistics network.
- Individual institutional scholarships for high-achieving students wishing to study STEM.
- University outreach programmes encouraging both boys and girls to study STEM.
- Flexible STEM degrees for students without science qualifications.
- Generally, financial support is not available to students wanting to study a second degree, but the rules about student support for those wishing to pursue a second degree in a STEM subject have been relaxed.
- From 2016-17, roll-out of income contingent student loans to some masters students (including, but not limited to, STEM students). The Government also indicated in a November 2015 policy document that it was committed to the introduction of fee loans for doctoral students.<sup>6</sup>

## 1.2 Employment in STEM occupations by gender

There is no official list of STEM jobs and so different analyses may end up with different figures for the numbers of women (or other under-represented groups) employed in STEM jobs. Here we take the same

<sup>4</sup> Department for Education, [Careers guidance and inspiration in schools. Statutory guidance for governing bodies, school leaders and school staff](#), March 2015, pp6-7

<sup>5</sup> [Athena SWAN website](#), last accessed 15 January 2016.

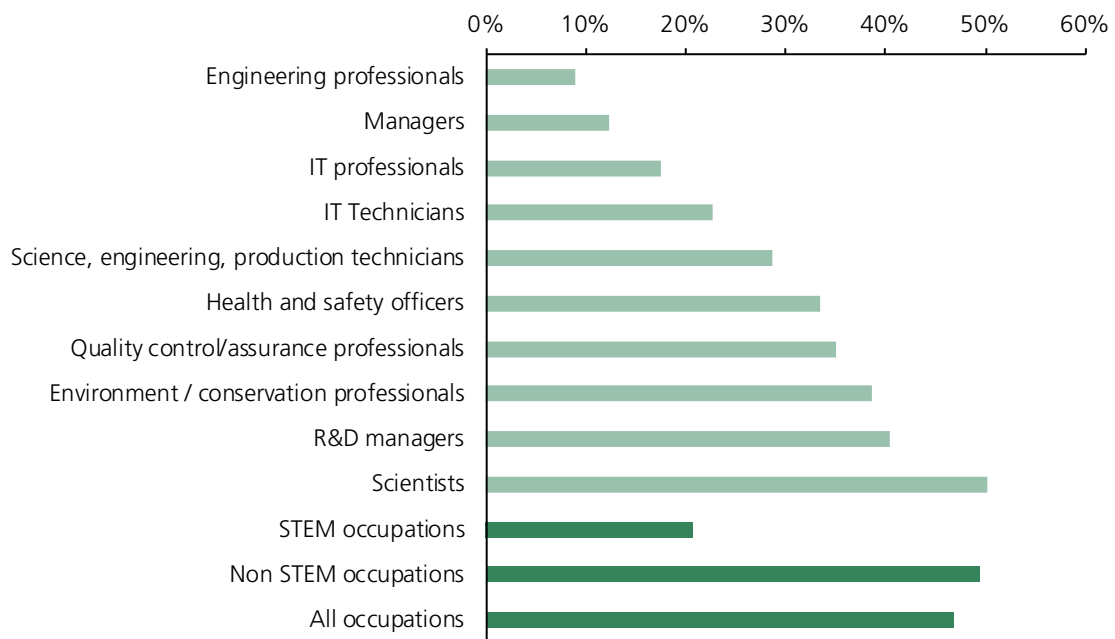
<sup>6</sup> Department for Business, Innovation and Skills, [Higher education. Postgraduate study. Government response to the Consultation on Support for Postgraduate Study](#), November 2015, Pp. 4

approach as used in the UK Commission for Employment and Skill's 2015 report, *Reviewing the requirement for high level STEM skills*.<sup>7</sup> this identified 38 STEM occupations, based on the extent to which workers with higher level STEM qualifications are represented in each occupation but also taking account of the use of STEM skills in the workplace. These occupations were then grouped them into 11 "job families".

The table and chart below show the number and proportion of women working in each STEM job family. Based on this approach, there were just under 600,000 women employed in STEM occupations in the UK at Q2 2015, around 21% of all people working in these occupations.

Other sources give different figures for STEM employment. WISE, a campaign group working to increase the number of women in science, technology and engineering careers, uses a broader definition: it estimates that just under 800,000 women were working in STEM occupations in 2015, comprising 14% of the UK STEM workforce.<sup>8</sup>

**Women working in STEM occupations: % of workers who are female**  
UK, Q2 2015; based on STEM 'job families'



Source: ONS *Labour Market Statistics, December 2015*, Table EMP04; job families are as defined by UK Commission for Employment and Skills

<sup>7</sup> UKCES, *Reviewing the requirement for high level STEM skills*, Evidence Report 94, July 2015

<sup>8</sup> WISE, *Women in the UK STEM workforce*, 7 September 2015

## Employment by gender in STEM occupations, UK, Q2 2015

Not seasonally adjusted

STEM job family	Total	Men	Women	% women
Scientists	196	98	99	50%
R&D managers	41	24	17	40%
Environment / conservation professionals	51	31	20	39%
Quality control/assurance professionals	131	85	46	35%
Health and safety officers	47	31	16	33%
Science, engineering, production technicians	268	191	77	29%
IT Technicians	164	127	37	23%
IT professionals	1,019	841	179	18%
Managers	342	300	42	12%
Engineering professionals	468	426	42	9%
<b>All STEM occupations</b>	<b>2,767</b>	<b>2,195</b>	<b>573</b>	<b>21%</b>
<b>Non STEM occupations</b>	<b>28,183</b>	<b>14,256</b>	<b>13,927</b>	<b>49%</b>
<b>All people in employment</b>	<b>30,950</b>	<b>16,451</b>	<b>14,500</b>	<b>47%</b>

Notes: Job families are as defined in UKCES report, *Reviewing the requirement for high level STEM skills*, July 2015. Details of how STEM occupations are identified and which occupations are contained in each job family are given on pages 38-46 of the report.

Employment data are taken from the ONS Labour Force Survey. For some job families, the data are based on only a small number of survey respondents - where there are only a relatively small number of people working in a job family, the data are less reliable and should be used with caution.

For one job family, IT engineers, the statistics on female employment are suppressed as the sample size is too small. Consequently this job family is not shown in the table or chart.

Source: ONS *Labour Market Statistics, December 2015*, Table EMP04

### 1.3 Campaign for Science and Engineering

In 2014 the Campaign for Science and Engineering (CaSE) published a report entitled '[Improving Diversity in STEM](#)'. The report discusses the case for improving diversity in the STEM workforce:

There is a strong case for working towards a more diverse STEM workforce. On the basis of equality alone, any barriers to individuals, or groups, entering and succeeding in the STEM workforce should be removed. Improving diversity in STEM also has the potential to benefit businesses, maximise individual opportunity, and meet a national economic need.

Evidence points to the benefits of increasing the level and depth of STEM skills in the workforce. There are numerous reports pointing to a significant shortfall in STEM skilled workers and increasing demand for STEM skills in future, from technician level upwards. One way to close the gap between supply and demand is to improve the participation, retention and success in STEM study, training and employment from amongst populations currently underrepresented. In the UK, and across the world, STEM skilled workers are in demand from companies in a range of sectors meaning there are relatively high returns and good job security for STEM skilled individuals. On average those working in STEM occupations earn 20% more than those working in other fields. In addition to the premium attached to a degree, STEM graduates typically earn higher wages than nonSTEM graduates. Unfortunately the evidence suggests that these opportunities are not equally accessible to all.

There is also evidence highlighting a strong business case for companies having a diverse workforce and culture that supports diversity and inclusion. Studies suggest that organisations that deliver on diversity perform better financially, recruit from a wider talent pool, reduce staff turnover and increase creativity and problem solving capability.<sup>9</sup>

## 1.4 Science and Technology Committee

In the last Parliament, the House of Commons Science and Technology Committee published a report and government response on women in scientific careers:

- House of Commons Science and Technology Committee, [Women in scientific careers](#), HC 701, 6 February 2014
- House of Commons Science and Technology Committee, [Women in scientific careers: Government Response to the Committee's Sixth Report of Session 2013–14](#), HC 1268, 7 May 2014

The Government response was strongly supportive of the report and its recommendations apart from those places where it indicates that universities need to take responsibility for their own employees. One mark of the Government's support was a campaign which it launched on 7 May 2014. The campaign – called '[Your Life](#)' – was [launched by the Chancellor of the Exchequer](#), George Osborne, and the leading organisations and entrepreneurs taking part in it. It was referred to in a [speech by the then Education Minister](#), Elizabeth Truss, in a speech on the same day.

The Institution of Chemical Engineers, among others, supported the campaign:

The Institution of Chemical Engineers (IChemE) is supporting a new Government backed UK campaign – called *Your Life* – to increase the number of students studying science, technology, engineering and maths (STEM) subjects by 50 per cent over the next three years, especially women.

The UK currently ranks 50th in the world for maths and science education and fewer than one in ten engineering professionals are women.

The *Your Life* campaign – which is being led by business and entrepreneurs – has a stated ambition of increasing the number of students studying STEM subjects by 50 per cent over the next three years, and is encouraging business, educators, civil society and government to support a shared vision to:

- Encourage the vast majority of young people to study mathematics to age 18 by 2020;
- Boost the number of students, especially girls, taking physics and maths A level;
- Double the proportion of engineering and technology degrees that are taken by women to 30 per cent at undergraduate level by 2030;

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<sup>9</sup> CaSE, *Improving Diversity in STEM*, 2014, p8

- Support more women to pursue careers at all levels in the fields of engineering and technology.

Subsequently, towards the end of the last Parliament, the Science and Technology Committee published a legacy report in which it took stock of government actions across a range of policy areas on which the Committee had reported. The legacy report, published on 18 March 2015 concluded:

There is still a long way to go until women and minority groups are adequately represented in higher education institutions and on the management boards of Catapult centres.<sup>10</sup> We were encouraged by the Minister's strong statements on this matter and the Government should set out, in its response to this Report, what action it is taking to address this issue, what progress is being made and how it will monitor progress going forward. We note that none of the six preferred candidates chosen during this Parliament for us to consider at pre-appointment have been women. In the interests of transparency, we recommend that each Government Department publish suitably aggregated equality data on candidates shortlisted for appointment to posts subject to pre-appointment hearings by Parliament.<sup>11</sup>

The Government [responded](#) to the Committee's legacy report in July 2015:

The Government recognises that diversity is an important issue and works closely with its partner organisations to ensure that new appointments reflect this.

Although there is an encouraging gender mix across the Catapult Boards and executive team level there is still work to do. It will take time for this to come through in the appointment of Chairs and CEOs. Twenty three percent of the members of the Catapult Boards are women as are twenty one percent of the executive teams.

All of the Chairs are very aware of the benefits and need for diversity in their new organisations and are actively encouraging this. In their early days the Catapults are drawing on the expertise of the industry around them and their mix, to some degree, matches the surrounding industry.

Innovate UK will continue to work with the Catapults to ensure that they start to lead in this area and continue to increase the diversity mix across the network. In May 2015, Ruth McKernan was appointed as the new CEO of Innovate UK and has been asked by the Minister to sit on his Diversity Steering Group to drive progress in this area.<sup>12</sup>

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<sup>10</sup> Organisations that support STEM research and development

<sup>11</sup> House of Commons Science and Technology Committee, [Legacy—Parliament 2010–15](#), HC 758, 18 March 2015, p24

<sup>12</sup> HMG, *Legacy – Parliament 2010-15 – Government response to the House of Commons Science and Technology Committee Ninth Report of Session 2014-15*, Cm 9105, July 2015, p15

## 2. Parliamentary Questions

The Member initiating the Westminster Hall debate, Ben Howlett MP, asked the Government, during November 2015, about its approach to postgraduate education in STEM subjects:

**Ben Howlett:** To ask the Secretary of State for Business, Innovation and Skills, what steps his Department is taking to help increase the number of women completing PhDs in STEM subjects.

**Joseph Johnson:** The number of female doctorate qualifiers in STEM subjects increased from 5,485 in 2009/10 to 6,300 in 2013/14, an increase of 15%. The total number of doctorate qualifiers in STEM subjects also increased over this period, from 12,830 in 2009/10 to 14,020 in 2013/14, and the proportion of female doctorate qualifiers in STEM subjects who are female increased from 43% to 45%.[i]

The Government is committed to developing a strong, diverse research community. The Research Councils and National Academies share this commitment. We are taking steps to encourage greater representation of women in STEM subjects at university and in the academic community through the establishment of a Diversity Steering Group and support for such initiatives as the Athena SWAN charter which promotes gender equality in academia.

[i] Higher Education Statistics Agency: Number of Doctorate Qualifiers in STEM subjects by Gender. (Academic Years 2009/10 to 2013/14). Excel spreadsheet is attached to this PQ.

[Doctorate Qualifiers in STEM Subjects by Gender](#) (Excel SpreadSheet, 34.5 KB)<sup>13</sup>

Mr Howlett also asked about the uptake by females of STEM in schools:

**Ben Howlett:** To ask the Secretary of State for Education, what assessment she has made of the effect of the introduction of statutory PHSE on the uptake of STEM subjects by girls.

**Edward Timpson:** Through the introduction to the national curriculum, the Government has made clear that all schools should make provision for Personal, Social and Health Education (PSHE). PSHE is, however, a non-statutory subject.

The Government is determined to increase the number of young people studying Science, Technology, Engineering and Maths (STEM) subjects, particularly girls. There have been 12,000 more A Level entries in STEM subjects for girls over the last five years.

PSHE plays an important part in preparing young people for the world of work including dispelling gender stereotyping. Resources to support PSHE include those produced by Siemens in collaboration with the PSHE Association. These resourced explore equality and the world of work which aim to inspire the next generation of female scientists, technicians and engineers.

We are also supporting schools in other ways to tackle this issue through professional development and enrichment activities, including the Stimulating Physics Network, and the inspiring

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<sup>13</sup> [STEM Subjects: Postgraduate Education: Written question – 17031, 19 November 2015](#)



“Your Life” campaign, which will transform perceptions of science and mathematics.<sup>14</sup>

Chris Green MP asked in October 2015 about the general promotion in schools of STEM:

**Chris Green:** To ask the Secretary of State for Education, what steps the Government is taking to promote STEM subjects and STEM career opportunities in schools.

**Nick Gibb:** The government has taken action by introducing a more engaging and knowledge rich curriculum, and by improving the quality of STEM teaching through a number of measures such as offering incentives to attract top graduates into teaching. We are also funding high quality professional development opportunities for STEM teachers including industrial placements.

The statutory guidance underpinning a school’s duty to secure independent careers guidance is clear about the importance of STEM subjects. It states that schools should ensure that, as early as possible, pupils understand that a wide range of career choices require good knowledge of maths and the sciences.

The Careers & Enterprise Company will strengthen links between employers, schools and colleges and careers and enterprise organisations. The “Your Life” campaign, launched by the government last year, aims to change the perceptions of science and mathematics among all young people.<sup>15</sup>

A number of Parliamentary Questions have been asked about BIS’s general approach to engaging the public in science and engineering. On 6 May 2014 Lord Bourne of Aberystwyth asked the following:

To ask Her Majesty’s Government what they are doing to promote the uptake of science, technology, engineering and mathematics courses in higher education.

**The Minister of State, Department for Business, Innovation and Skills & Foreign and Commonwealth Office (Lord Livingston of Parkhead) (Con):** The STEM workforce is vital to growth and the economy and the Government is committed to the promotion of science, technology, engineering and mathematics (STEM) courses in higher education.

We have recently announced a £200 million investment in STEM Higher Education teaching facilities. Higher Education Institutions (HEI) will be required to match that funding, so that will see at least £400 million of investment in FY 15-16 that will support a growth in the number of students that can be taught on the latest equipment to make them ready for the world of work.

Higher Education Institutions have been allocated an additional £185m through HEFCE over four years to recognise the extra costs of teaching subjects such as science and engineering.

The key to increasing the number of students studying STEM subjects in higher education is to ensure that the STEM pipeline is stimulated with new students coming through from school level.

The department for business (BIS) funds STEMNET to run the STEM Ambassadors programme. This is a nationwide network of over 27,000 DBS-checked volunteers from science, engineering and technical companies or academia, who work with schools

<sup>14</sup> [STEM Subjects: Females: Written question – 17786, 26 November 2015](#)

<sup>15</sup> [STEM Subjects: Vocational Guidance: Written question – 13221, 23 October 2015](#)

across the UK. The STEM Ambassadors both raise awareness amongst children of the range of careers that science and technical qualifications offer and provide stimulating scientific activities to increase their interest in STEM subjects. 84% of teachers think that STEMNET Ambassador activity improved the students' awareness of STEM careers

National Science and Engineering Week is funded by BIS and is a ten day programme of science, engineering and technology events and activities across the UK aimed at people of all ages. Last year it attracted about 1.6 million participants who took part in over 4,000 events across the country.

BIS also funds the National Science and Engineering Competition, whose finals take place at the annual Big Bang Fair, selecting the UK Young Scientist of the Year and UK Young Engineer of the Year from about 300 projects.<sup>16</sup>

On the specific issue of encouraging women into engineering, Sir Peter Luff asked the following in April 2014:

**Sir Peter Luff:** To ask the Secretary of State for Business, Innovation and Skills what steps he is taking to ensure that more women are able to take up senior positions in engineering businesses.

**Jenny Willott:** The Government is working with employers, professional bodies and HE and FE institutions to encourage more women to enter engineering and to remove barriers to their progression.

The Department for Business, Innovation and Skills (BIS) funds the Royal Society and Royal Academy of Engineering jointly to run a programme of work aimed at understanding and addressing issues of diversity in the STEM work force.

The Royal Academy of Engineering has developed a diversity concordat which 70% of engineering institutions, representing over 90% of registered engineers, have now signed. They also run the Diversity Leadership Group, made up of senior industrial representatives from an array of engineering disciplines who steer and review collective actions to increase the size and diversity of the engineering talent pool.

BIS contributes to the cost of hosting the finals of the National Science and Engineering Competition at the annual Big Bang Fair which took place last month. 55% of Competition prizewinners were girls and the Fair promoted Science, Technology, Engineering and Maths (STEM) careers to a record number of schoolchildren.

BIS also funds STEMNET to run the STEM Ambassadors programme: a nationwide network of over 27,000 volunteers who visit schools to bring STEM career opportunities to life. 40% of STEM Ambassadors are women.<sup>17</sup>

David Willetts set out in March 2013 further detail of BIS's approach to encouraging women into science and engineering:

**Jim Sheridan:** To ask the Secretary of State for Business, Innovation and Skills what steps he is taking to encourage women into science and engineering professions.

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<sup>16</sup> [HL Deb 6 May 2014 cWA382](#)

<sup>17</sup> [HC Deb 10 April 2014 c344W](#)

**Mr Willetts:** I have asked the Royal Academy of Engineering and the Royal Society to lead a diversity programme for the STEM community. This UK-wide programme aims to identify and tackle the barriers faced by women and all minority groups as well as those who are economically disadvantaged.

As part of the BIS funded diversity programme the Royal Academy of Engineering has commissioned the Women's Engineering Society to deliver a piece of research on "The Voice of Women Engineering Students". The research will give unique contemporary insights into the thoughts and aspirations of 1,200 women engineering students and include specific reflections on ethnicity and socio-economic background. This research will be presented as part of the programme of activities which the Royal Academy of Engineering is running for International Women's Day on 8 March 2013.

Many of this Department's other STEM partners are contributing directly to the equality and diversity agenda. A broad mix of STEM activities and wider societal programmes are funded from the science and research budget and these have a major impact on diversity in the UK STEM work force.

Our work on the STEM pipeline has strands which seek to encourage more girls to study science at school and university, through the UK-wide STEM Ambassadors programme. STEMNET actively seeks to ensure that the profile of the Ambassadors they recruit adequately represent the local community in which the Ambassadors volunteer. At present, around 40% of the 25,000 STEM Ambassadors are women.

Within the Royal Society fellowship schemes, the Dorothy Hodgkin Fellowships are specifically aimed at UK researchers who require a flexible working pattern and women are particularly encouraged to apply.<sup>18</sup>

In May 2013 Mr Willetts answered a PQ about the above-noted Athena SWAN Charter:

**Valerie Vaz:** To ask the Secretary of State for Business, Innovation and Skills

(1) what assessment his Department has made of the success of steps taken by universities to recruit and retain female staff in clinical and medical STEM subjects;

(2) what steps his Department has taken to encourage UK universities to recruit and retain female staff in clinical and medical STEM subjects.

**Mr Willetts:** The responsibility for staff equality matters rests with higher education institutions (HEIs), as the employers. In the annual Grant Letter to the Higher Education Funding Council for England, the Government encourage the sector to continue to address long standing equality issues, including more diverse representation at senior levels in HEIs.

Higher education institutions receiving grant funding from the Higher Education Funding Council for England also have to meet the requirements of the public sector equality duty in the Equality Act 2010 and advance equality of opportunity.

The Athena SWAN Charter recognises and celebrates good employment practice for women working in science, engineering

<sup>18</sup> [HC Deb 1 March 2013 c745W](#)

and technology (SET) in higher education and research. Membership is open to any university or research institution committed to the advancement of the careers of women in SET. The Department for Business, Innovation and Skills (BIS) provides some funding for Athena SWAN via the Royal Society as part of our science, technology, engineering and maths (STEM) Diversity Programme.

The Athena SWAN Charter exists to instigate real and continuing change for women and also their male colleagues. HEIs and individual departments have to demonstrate a commitment to improving working practices and also measure the impact these changes are having, and tackle areas where progress has not been as fast. The Charter is run by the Equality Challenge Unit, an independent higher education sector body, which provides higher education institutions with support on all equality matters and works directly with institutions to help them tackle under-representation among staff groups.

BIS welcomes the announcement in April 2013, that Athena SWAN presented a record 68 awards to individual departments and higher education institutions (HEIs). 24% of submissions were from medical and dental schools and departments, and 29% of awards were to these disciplines. Last year this figure was just 9%. This increase will have been due, in part, to the action taken by the chief medical officer, Professor Dame Sally Davies. In July 2011 Dame Sally wrote to the Medical Schools Council, outlining her intention that all medical schools who wish to apply for National Institute for Health Research (NIHR) Biomedical Research Centres and Units funding need to have achieved an Athena SWAN Charter Silver Award.<sup>19</sup>

### 3. Press material

- [How do we tackle the STEM skills gap?](#), *The Telegraph*, 16 December 2015
- [Naomi Climer: First female president of Institution of Engineering and Technology vows to attract more women into engineering](#), *The Independent*, 13 September 2015
- [The Observer view on sexism in science](#), *The Observer*, 13 June 2015
- [How well are women represented in UK science?](#), *The Guardian*, 13 June 2015
- [Nicky Morgan: girls who study maths and science go on to earn a third more in wages](#), *The Telegraph*, 22 March 2015
- [MPs want more to be done to help women in science](#), *Times Higher Education*, 6 February 2014

## 4. Further reading

- [Women and science – ‘has potential but could do better’](#), Women’s Business Council blog, 25 June 2015
- House of Commons Science and Technology Committee, [Women in scientific careers](#), HC 701, 6 February 2014
- House of Commons Science and Technology Committee, [Women in scientific careers: Government Response to the Committee’s Sixth Report of Session 2013–14](#), HC 1268, 7 May 2014
- CaSE, [Improving Diversity in STEM](#), 2014
- [Informal STEM Education](#), POSTnote Number 382, June 2011
- Lord Sainsbury of Turville, [The Race to the Top - A Review of Government’s Science and Innovation Policies](#), October 2007 (see particularly chapter 7)
- Sir Gareth Roberts, [SET for success - The supply of people with science, technology, engineering and mathematics skills](#), April 2002

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