



The Royal Academy  
of Engineering

## Diversity in Engineering

### Update April 2012

The last few months have been incredibly busy for the Academy's Diversity Programme. Since the appointment of the Head of Diversity (job share) work has begun in earnest to lay the foundations for a proactive, evidence based programme to increase diversity across the profession.

These updates will be produced twice a year to keep all stakeholders and interested parties up-to-date with activities and progress. To find out more email [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk) or telephone Bola Fatimilehin or Jenny Young on 0207 766 0600

### Pilot Projects

One of the goals of the Diversity in Engineering Programme was to identify pilot projects to explore issues and act as a catalyst to increasing diversity – the ultimate aim of the programme. Three pilot projects have been identified with the aim of doing just that.

#### Access to Civil Engineering Careers via the Apprenticeship Route

This pilot is being run by the Institution of Civil Engineers (ICE) and Mott MacDonald representing the London Apprenticeship consortium, a collaborative project in its first year involving 6 engineering consultancies (Mott MacDonald, Halcrow, Arup, WSP group, Hyder Consulting and Capita Symonds), ICE, South Thames College, the National Apprenticeship Service (NAS) and Transport for London (TfL). The aim of the pilot being to draw on the experience of consortium members to investigate whether apprenticeship recruitment is an effective way of enabling non-standard entrants to the profession to access civil engineering careers. This is likely to focus on a combination of factors around socio-economic status, gender and ethnicity

#### Lapsing Membership and Poor Retention

This pilot is a collaboration between the Institution of Mechanical Engineers (IMechE), the Institution of Engineering and Technology (IET) and the Royal Aeronautical Society (RAeS). It aims to build a better understanding of the reasons behind lapsing participation and poor retention in engineering institutions – and the wider profession. The project will use the membership of a professional body as an indicator of participation in the profession, on the grounds that individuals who join a professional body will usually be working within the profession. In particular it will look at the profile of lapsing members, including diversity characteristics, to establish whether there are differences in the underlying reasons for different groups. It will also explore what professional bodies can and should do to influence the choices that current and potential members make with regard to participation.

### Proactive Membership

This pilot is being run by the institution of Chemical Engineers (IChemE) using a best practice example put forward by the Royal Academy of Engineering. The IChemE plans to create a Proactive Membership Committee with the aim of increasing the diversity of chartered chemical engineers. The main role of the Committee will be to ensure IChemE membership better reflects the society within which the IChemE exists, in particular to:

1. Increase the number of chartered female engineers
2. Increase the number of chartered engineers from ethnically diverse backgrounds
3. Encourage engineers, particularly those currently underrepresented sectors (e.g. emerging technologies), to become chartered
4. Reduce the average age of chartered engineers
5. Increase the overall numbers of chartered engineers

It is expected that pilots will deliver results within 18 months, with associated case study examples for dissemination across the profession to further stimulate best practice and progress in increasing diversity.

### **Qualitative Research - Black and Minority Ethnic (BME) and Low Socio Economic Background (LSEB)**

This research is being carried out in the knowledge that more evidence is required to effectively address the underrepresentation of BME people and people from disadvantaged socio economic backgrounds (SEB) – particularly as regards membership of professional bodies (PBs) and employment. Tracking the representation of people from these backgrounds within PBs is problematic given that few, if any monitor ethnicity or SEB amongst their membership. It is expected that this research will identify evidence to indicate what PBs and employers can do to recruit and retain more people from BME and disadvantaged SEBs.

The Academy has recruited a team of researchers from Hertfordshire University led by Dr Cynthia Forson. One line of enquiry will be the use of focus groups to engage underrepresented groups of interest to develop an increased understanding of barriers to participation – especially as regards employment and membership of PBs. Another line of enquiry will be through one-to-one interviews with key stakeholders to understand the information they would find useful in increasing representation of BME people and people from disadvantaged SEB in their organisations and membership.

We are actively seeking engagement from people in PBs and industry to take part in one-to-one interviews and contribute to the research by helping address the question.

**What information would you find useful in increasing members/employees from minority ethnic/low socio-economic backgrounds in your membership/organisation?**

If you are interested in taking part, please contact Bola Fatimilehin on 0207 766 0656 or email [bola.fatimilehin@raeng.org.uk](mailto:bola.fatimilehin@raeng.org.uk)

### **Engineering Diversity Data**

We are undertaking research into two aspects of diversity within engineering: firstly we are looking at diversity data available for the labour force (using the Labour Force Survey); secondly we are looking in detail at the 'engineering formation pipeline' through analysis of diversity and regional variations of the National Pupil Database. This

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particularly focuses on subject combinations that could lead to engineering qualification at higher levels and extends analysis already being undertaken by the Education for Engineering (E4E) forum. We anticipate publishing a report in the autumn.

## SET Fair Standard

The Academy has gained a SET Fair Standard award for its efforts in promoting gender equality best practice both in-house and to the wider engineering community.

The Academy has demonstrated its capacity to promote gender equality by illustrating best practice such as the London Engineering Project and the work of the Proactive Membership Committee and Diversity Working Group to scoop the SET Fair Standard accolade.

It embarked on the assessment against the UK Resource Centre for Women in Science Engineering and Technology (UKRC) SET Fair gender equality standard towards the end of 2011 and has been declared 'Achieving.'

The UKRC said: "The Academy's leaders have an obvious drive to improve the diversity of the engineering profession. In particular, the Academy has taken a proactive approach to nominating potential Fellows, which has resulted in a higher proportion of women being elected into the fellowship, and has a strong record of promoting gender across the engineering community."

Set Fair achievement in the press:

<http://www.engineeringcapacity.com/news101/business-news/academy-recognised-for-gender-equality>

## STEM Disability Committee

The STEM Disability Committee (STEM DC) has been established for a little over 12 months now following a conference run by the Institute of Physics.

[http://www.iop.org/events/policy/diversity/info/page\\_45720.html](http://www.iop.org/events/policy/diversity/info/page_45720.html)

STEM DC is a cross-STEM collaborative group of professional bodies, including the Academy, which considers practical ways to improve policies, practices and provision for disabled people. It exists within the wider picture of diversity in STEM but has specific focus on all aspects of disability. Its area of interest spans the whole STEM pipeline, including those aspiring to a STEM career as well as those already employed in a STEM role.

If you have ideas about specific evidence based need that the STEM DC could address, please contact us at [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk)

## Diversity Resources

In response to feedback from the February Best Practice Sharing event, work has begun on the development of the Academy diversity webpage

<http://www.raeng.org.uk/about/diversity/default.htm> which links to an associated 'useful resources' page [http://www.raeng.org.uk/about/diversity/useful\\_resources.htm](http://www.raeng.org.uk/about/diversity/useful_resources.htm)

Please note the useful resources page is not yet comprehensive, the intention is to add more references and resources over the coming weeks and months. If you have any

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information or examples of best practice you'd like to share, please send to [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk)

## Coming Up!

*Diversity in Engineering Stakeholder Meeting 23<sup>rd</sup> February 2012 (by invitation)*

*Academy Women Fellows Lunch – September 2012 (by invitation)*

*Dissemination event for British Sign Language project (commissioned by the STEM Disability Committee) – 19<sup>th</sup> June 2012*