

# Diversity in Engineering

Update April 2013

Welcome to the third update from the Diversity in Engineering programme.

These updates are 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 020 7766 0600.

## Introduction to the Academy diversity programme

Our diversity brief from the Department for Business, Innovation and Skills (BIS) challenges us to lead the 'mainstreaming' of diversity in all its aspects across the engineering profession. April 2013 marks the start of the third year of a four-year programme.

To date, the programme has focused on establishing productive relationship with key stakeholders – particularly professional engineering institutions (PEIs) and engineering employers. The other focus of the programme has been proactively collaborating with a range of organisations to deliver activities, primarily in the form of research and pilots, to effectively supplement existing diversity literature and evidence.

During the next couple of years, a key area of focus will be to influence PEIs and employers in using evidence generated by research and pilots to take action to increase diversity.

## Industrial strand

Building on links established with industry, this developing strand of the programme aims to bring employers together to increase diversity. We have raised the remit of the programme with a number of employers, and are actively supporting them to work collaboratively. For instance, we have worked with Atkins to scope a survey which they are delivering in partnership with a number of engineering employers. The survey targets women engineers to gather positive stories and experiences with a view to using them to encourage more women to move into and/or develop their engineering careers.

We plan to develop this strand of work with employers and are really pleased that Allan Cook CBE FREng (Chairman, Atkins & SEMTA) has agreed to lead on it.

## Pilot projects

We are funding three pilot projects as part of the programme. All have been underway for almost a year, with completion due by September 2013. The three partnership pilot projects are aimed at exploring opportunities for increasing diversity across the profession as described below.

### 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 venture which in its first year involved six engineering consultancies - Mott MacDonald, Halcrow, Arup, WSP group, Hyder Consulting and Capita Symonds.

The pilot is progressing extremely well, and in 2012 expanded to include 30 companies (from six in 2011) and seven colleges (from three in 2011) in the recruitment and training of Advanced Technician Apprentices in Civil and Building Services Engineering. In 2012, 93 and 52 apprentices embarked on qualifications in Civil and Building Services Engineering respectively – compared with 40 in Civil Engineering in September 2011.

Given that many of the Consortium companies plan to double their intake – with some showing an even greater increase in desired apprenticeship places – further expansion is planned. There is now a much broader regional spread with pressure to find colleges with satisfactory provision. An invitation to tender was issued in January in London and the West Midlands for provision from September 2013.

Pilot partners are also working with the Construction Youth Trust (CYT) to pilot the *Budding Brunels* Programme as an effective apprentice recruitment tool <http://www.constructionyouth.org.uk/what-we-do/our-work/budding-brunels/>.

### Lapsing membership and poor retention

This pilot is a collaborative project between the Institution of Mechanical Engineers (IMechE), the Institution of Engineering and Technology (IET) and the Royal Aeronautical Society. It aims to build a better understanding of the reasons behind lapsing participation and poor retention in engineering institutions – and the wider profession. The research phase has been delivered by TBR to help develop a better understanding of:

- the reasons why individuals lapse membership of PEIs with a focus on women, and where possible black and minority ethnic (BME) members
- the conscious or unconscious actions of employers that support the retention of engineers

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- the actions PEIs can and should take to improve the retention of members from different backgrounds.

A final report including key findings and recommendations to tackle poor retention is in the process of being finalised. Suggested actions from the research will be trialled by the Lapsing Membership Pilot PEI partners with results from both research and pilot disseminated by the end of autumn 2013.

### 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 that IChemE membership better reflects the society within which the IChemE exists in terms of diversity.

The project has established its baseline data analysis and is now developing a role profile for regional ambassadors whose role it will be to identify potential members for progression to chartership and above. In conjunction with the above, the IChemE are reviewing the information on their website and the value proposition of a chartered engineer.

### **Engineering diversity concordat**

A concordat for Diversity in Engineering has now been agreed. It outlines principles and objectives that all PEIs can sign-up to and commit to in order to take action to increase diversity. The document has been developed by a working group of PEI representatives, with employer representation and through feedback from Engineering the Future, the Professional Engineering Forum and the Professional Engineering Council. The one-page Concordat lays out key principles and objectives aimed at increasing diversity across PEIs - and any other organisation wishing to make progress on diversity. An accompanying resource guide has also been developed to support achievement of Concordat objectives. The Concordat is now ready for signing and the IChemE, the Academy, IET, Royal Aeronautical Society, Institute of Physics, Chartered Institute of Building Services Engineers (CIBSE) and ICE have all agreed to sign. In addition, a number of PEIs are in the process of considering signing. The concordat and resource guide can be found at [http://www.raeng.org.uk/about/diversity/resources/eng\\_div\\_concordat.htm](http://www.raeng.org.uk/about/diversity/resources/eng_div_concordat.htm).

**All Presidents will have an opportunity to sign the Concordat as part of a PEF event on 7<sup>th</sup> May. If you would like to sign on the day please let us know in advance.**

We recognise that getting PEIs to sign is just the beginning and we want to make sure that being a signatory means making change happen. To keep the focus on enabling sustainable change, we are delighted that Professor Dame Wendy Hall FREng (Professor of Computer Science, University of Southampton

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& Dean, Faculty of Physical and Applied Sciences) has agreed to lead on keeping up momentum on this key strand of work.

## Research

### Socioeconomic background and race

To generate evidence and develop a better understanding of steps employers and PEIs can take to increase participation of people from socially disadvantaged and minority ethnic backgrounds, the Academy commissioned the University of Hertfordshire Business School to investigate. Almost one year on, the investigation is nearing conclusion and the focus is on finalising the report and the dissemination of findings and recommendations.

This research, scoped through one-to-one interviews with PEIs and engineering employers will be disseminated at an event taking place between 10am and 2pm on Thursday 2<sup>nd</sup> May. The format of the event includes a panel discussion to be chaired by Imran Khan (CEO of British Science Association). Panel members secured so far include Nelson Ogunshakin (ACE & Engineering UK), David Johnston (Social Mobility Foundation) and Libby Brodhurst (CEO, Institution of Engineering Designers).

More information for the event can be found on the Academy diversity pages at [http://www.raeng.org.uk/about/diversity/news\\_events/default.htm](http://www.raeng.org.uk/about/diversity/news_events/default.htm)

**If you would like to attend the event, please email [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk).**

### Other Research

1. Exploring the inspirations, aspirations and destinations of undergraduate engineers by gender, ethnicity and socioeconomic background - due to be disseminated in spring/summer 2013.
2. Investigation into the different success rates of diverse groups securing internships/work placements - due to be disseminated in autumn 2013.

## ***Designed to Inspire***

As a result of greater data insight, the need to focus on all diversity strands and mainstream useful interventions, this project was set up towards the end of 2012 and is due to be delivered **between 29<sup>th</sup> April and 1<sup>st</sup> May**. This series of events ties in with the event on Thursday 2<sup>nd</sup> May where research into the participation of people from black minority ethnic (BME) and socially disadvantaged backgrounds will be disseminated. The main aim of *Designed to inspire* is to encourage engineering students – particularly those from BME backgrounds to transition from engineering study into employment. This will be achieved through an audience with some of the UK's most successfully engineers [www.raeng.org.uk/inspire](http://www.raeng.org.uk/inspire) The key reason for doing this is that whilst 20% UK-domiciled engineering students are from BME backgrounds, only 6% engineering professionals are from the same backgrounds. The

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expectation is that by making BME engineering role models more visible and by sharing stories of how they have become and continue to be successful, more BME students will be encouraged to transition into employment. We intend to follow-up those who attend the events (both BME and non-BME) to find out the impact of the event in the longer term.

We expect to have ministerial engagement for the event in the form of Jo Swinson MP (Minister for Employment Relations and Consumer Affairs in the Department for Business, Innovation and Skills and Women and Equalities Minister in the Department of Culture, Media and Sport) and Rt Hon David Willetts MP (Minister for Universities and Science).

Materials used to showcase the role models will be available to potential budding engineers everywhere via dedicated pages on the Tomorrow's Engineers website.

## Quantitative data investigation

Work in understanding engineering specific data in relation to diversity groups at different points in the supply chain continues. A data event was held on 31<sup>st</sup> October 2012 to share current work and get suggestions on next steps. As a result, we are currently conducting a detailed analysis of schools data which is due to be published in April/May 2013.

In addition, we have recently commissioned the development of a proof of concept modelling tool. The tool will attempt to forecast future PEI membership levels by modelling the impact of action, or inaction, to recruit and retain members with different diversity characteristics. **If you are interested in taking part in this investigation, let us know as soon as possible.**

## Academy activity

The Academy has agreed and established a business-linked Diversity Strategy and Implementation plan. This is being used to integrate a focus on diversity across all Academy activities. A number of directorates now have plans in place and these will be reviewed during spring/summer 2013.

In January, women Fellows of the Academy met to get insight into, and give feedback on, the Academy's Governance Review. These events are on-going and give women Fellows an opportunity to network, engage and influence the activities of the Academy.

## Diversity resources

The Academy diversity pages are updated on an ongoing basis to include more relevant reference material. We have now split the information into separate strands to make it easier to navigate

[www.raeng.org.uk/about/diversity/resources/default.htm](http://www.raeng.org.uk/about/diversity/resources/default.htm)

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If you have any reports or case studies you would like to share, please send them to [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk)

If you would like to follow up on any aspect of our diversity work, please do not hesitate to contact either Bola Fatimilehin (0207 766 0656) or Jenny Young (0207 766 0621) or email us at [diversity@raeng.org.uk](mailto:diversity@raeng.org.uk)

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