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**UCL: Symposium on Equality & Equity in Engineering Education: April 2016. Workshop Outline**

**Equality & Equity: Effecting a Paradigm Shift in Engineering Education through Pedagogical Research**

**Background**

The need for research in engineering education research to guide and inform the curriculum is reflected in the literature, much of which focuses on how to prepare graduates for the world of work. Yet, despite an increasing interest in the use of research informed teaching, many engineering colleagues continue to look at each cohort collectively, with little attention given to diversity or individuality. One of the reasons for this may be difficulties in sampling (Wanket at al. 2002), with no choice but to use a particular university population as a sampling framework, it can be difficult for colleagues to focus on the experiences of one particular demographic group. Moreover, there is little doubt that the complexity of social-science sampling, combined with the fact that students tend to make less predictable research subjects than do the scientific variables engineers usually work with, it is not surprising that many engineering colleagues find the language and culture of social science research methodology difficult (Borrego et al. 2007).

**Methodology**

Starting with the research question ‘How can engineering education research promote equality in the classroom?’ the workshop builds on previous studies undertaken by the authors and more widely (Clark & Andrews, 2014; Borrego et al, 2013). A reflective and reflexive approach to research will be adopted in which colleagues will be encouraged to work together to develop an Action Research strategy (Norton, 2007) in which the sticky issue of equality will be tackled head on.

The session will comprise three distinctive segments, each one aimed at promoting interaction and debate:

1. Engineering Broken Communities: A brief active learning experience.
2. Measuring Impact: Diversity as a variable.
3. Inclusivity in Research Approach: Sampling: Who’s in? And who’s out?

**Conclusion**

The workshop will conclude by answering the research question. It will provide participants with the means by which they may investigate the impact of equality and diversity in the classroom.

**References**

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Dr Jane Andrews is a Sociologist who is a Senior Lecturer in Engineering Education. Her research interests focus on all areas of Engineering & Applied Science Education. Jane teaches engineers about management, CSR and research methods. She is particularly interested in diversity and equality from gender and disability related perspectives.

Professor Robin Clark is a Professor of Engineering Education. He is a Chartered Engineer and a National Teaching Fellow. Robin is currently taking the lead for a new STEM Education Centre at Aston University (ASEC) which will open in June. He has a diverse range of research interests and is currently leading a number of STEM Education projects.

Dr Suki Phull is a Lecturer in Chemistry. He is currently Associate Dean for Student Experience. Suki’s main interests lie in all areas of the student experience, although he has a particular interest in diversity and equality.

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