

## My perspective: Visiting professor Conference 2017

### *The opening*



Visiting Professors Conference Delegates

The role of education and skill has, for many years, been viewed as significant in sustaining life. The challenges that accompany education, has always focussed on how one ensures that this important commodity in society is preserved and the quality can be continuously improved to respond to the ongoing day-to-day needs of society. With the theme of the conference being *"What is excellent teaching in engineering?"*, it resonates well to the constant question amongst engineering teachers globally, *Is the content and its delivery, relevant and sufficient to equip future engineers to solve the problems of the future? Can we confidently respond affirmatively to the questions asked?"* This report constitutes my views of the conference and a summary of the activities that took place at the Visiting Professors Conference, hosted by The Royal Academy of Engineering at Aston University, Birmingham, UK.

### ***Presentation by international awardees***

The first day started off by a presentation from Mr Shane McHugh, Head of International Activities, and the conference Chair, Dr Jane Butler FREng, Vice Dean (Research), UCL, introducing everyone to the aims of the conference, the activities expected and the mandate of the collaborations. The first day was centred around presentations from the Academy's international partners under the Newton Fund programme Industry Academia Partnership Programme (IAPP) and, the recent Global Challenges Research Fund (GCRF) and Anglo American Foundation funded programme Higher Education Partnerships in sub-Saharan Africa (HEP SSA). The talks from the professors were based on the ongoing collaborative projects and different teaching method that they are either currently using or aspire to use in their respective, global, institutions. One of the alluring pedagogies and strategies, presented by Professor Mona Lisa Dahms from Aalborg University, was on Problem-Based Learning. Although it was frowned upon by institutions and industries at its incision in Denmark, Mona alluded that now companies prefer

graduates from Aalborg University. She continued explaining that it is imperative for students to know why they need to learn, as one of her student acknowledged that it is better to learn when you know why you are learning.

Other teaching models such as the use of scientific projects, and new approach needed to engineering education through Artificial Intelligence, to promote student talent cultivation by Prof Bao Hong, Vice President, Beijing Union University, was well received by the audience. But of course, with the concern of implementation, training for teachers and the time it takes to change the culture of the institution, it was made clear rather early that the internet is not there to compete with the teacher in the classroom, but rather to complement teaching and learning. Programmes such as MOOCs could possibly offer that possibility. What came out clearly was that MOOCs work in conjunction with face-to-face teaching and learning as presented by Prof Susheel Mittal, Thapar University, India. This could work very well in my country, South Africa. We have been experiencing university unrests from 2015, due to #feesmustfall campaign. The campaign is of noble intent but it disrupts the academic year immensely.

Lack of women in engineering fields and trying to entice them to study engineering from a young age was an engaging discussion. It was rather shocking, to learn that the percentage of women in engineering is low even in the UK. The challenges faced in engineering are so far, per the conference, proving to be similar throughout the world. The consensus was that people in general do not choose to study engineering



Interactive sessions during the main conference

because they simply do not know what it is. It is not made appealing and it must be promoted better, this could be through the media and on different social media platforms. It was alluded that the engineering fraternity is too modest in promoting its achievements in the world. Dr Lizzie Miles and Dr Anh Tran, Coventry University, talked about one of the roles that engineers can play in humanitarian domain. Generally, it gives one purpose and builds tenacity and sense of worthiness. It was introduced as a tool to enable the use of engineering and computing in culturally sensitive societies and can be one of the sustainable ways to address social issues in communities that are unable to cope themselves. This could, perhaps, be one of the ways to promote engineering, since human beings are generally driven by purpose.

### ***Presentation by UK academics***



**Presentations were held on promoting excellence in engineering education**

The second day comprised of the presentations from the Royal Academy of Engineering's UK visiting Professors Scheme. This included the presentation by the Chancellor of the host University, Aston, welcoming everyone and a talk by Dr Catherine Hack, Higher Education Academy, on Excellence shook things up in the room. It had both academics and professors questioning the meaning of 'Excellence' including the way both institutions and the industry view excellence and the way it is being measured. The academics went on to

share different teaching techniques and their associated mechanisms. Most of the shared techniques were centred on active learning, social constructivism and work-based learning. Dr Georgia Kremmyda, Warwick University, discussed the role of engineering in solving global humanitarian challenges. Dr Kremmyda made the convocation aware that humanitarian engineering deals with challenges from everywhere, not only from developing countries, referring to the recent floods in the United States of America.

### ***Networking opportunities***

The networking component of the conference was relaxed and gave me an opportunity to build bridges with possible future collaborators. The lunches were long and leisurely, coffee breaks were relaxed and gave one a breather or a chance to network and speak with the presenters. I must commend the conduct of the professors themselves and the resident academics. Their noses were down and cheeks as high as the ceiling, had their hair down, they were friendly engaging and accommodating. There was a moment where I stopped and just wished they were as relaxed and cheerful in their respective workplaces, because that would make them more approachable, and we might just have more people aspiring to be engineers.

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