

IStructE Academics Conference 2018 – the future of our engineering students



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The annual IStructE Academics Conference, held in London in September 2018, focused on promoting creativity and idea generation in today's engineering students, and helping them to understand the importance of team work, effective collaboration and celebrating diversity in projects. It highlighted the fact that there is, and will continue to be, many changes to how we engineer in the 21st century. We need to educate students for this new, highly variable environment. The challenge is how we adapt and change civil engineering courses to allow time for students to think about ways of solving present and future engineering problems.

Chris Wise (Expedition Engineering) delivered the keynote speech. He emphasised that engineering is NOT a process, and proposed that some important

engineering skills needed for the 21st century were going to be instinct, hunch and emotion, as processes are going to be driven more and more by machines. He also highlighted the fact that we should enable students to effectively collaborate with different types of people, as this is very important in the workplace. We need to welcome different engineering approaches in our design team – artists, artisans and philosophers.

Dr Mike Cook, from Imperial College and Burohappold Engineering, spoke about “Enriching Engineering Education”. He asked the question: What kind of engineers do we want in the market place? He concluded that they must have knowledge, applied skills and drive, and that we need to tap into what excites students about engineering. He also emphasised that engineering outcomes are *for people*, and that we should sensitise students to see the social needs around them, thereby attracting a more diverse group of people to engineering. He highlighted the fact that a creative solution to a problem requires

students to work to all scales, considering ethical, social, economic and political issues. This requires teamwork, and for a student to consider a day in the life of someone – the human agenda.

Josef Hargrave from Arup's Foresight team spoke about “Designing for a new normal”. He asked the question: What is the future going to look like? He concluded that we are going to need to design resilient, adaptable infrastructure for the future. We are no longer designing for a single state, we are designing for conditions that are highly subject to change, and our students must be prepared for this.

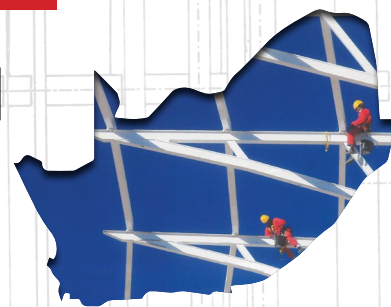
Oliver Broadbent (Think up) challenged delegates with “How do we have ideas?” and discussed why we need to teach people to have ideas, how to teach people to have ideas, and that we need to develop an idea-generation curriculum.

It was an enlightening and challenging day for academics, and it is clear that we need to seriously reconsider how to educate tomorrow's engineers! ■

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