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Common misconceptions about chemical engineers

There are plenty of stereotypes about the chemical engineering profession that simply aren't true. Here are some of the more common misconceptions about chemical engineers and chemical engineering:

1. Chemical engineering involves a lot of chemistry

Chemical engineering relies on the fundamental science of chemistry and the application of it – just like mechanical engineering relies on mechanical physics. But as discussed in the article 'Ten differences between chemistry and chemical engineering', chemical engineering involves a lot more mathematics and physics, and encompasses biology and material science.

2. Only chemical engineers know what chemical engineering is

The Oxford Dictionary definition of chemical engineering describes it as 'the branch of engineering concerned with the design and operation of industrial chemical plants'. This definition isn't broad enough but it's a good starting point to begin the conversation. More so than other engineering disciplines, it is true that chemical engineering needs more explanation. But this is down to the fact that chemical engineering is so broad and has many varied applications. People know what chemical engineering is - they just don't recognise it!

3. Chemical engineers are male

The majority of chemical engineers are male, but actually, about one in four chemical engineers entering the profession in the UK are female (27% of last year's UK chemical engineering undergraduate intake was female). Compared to other traditional engineering disciplines, chemical engineering is doing well.

4. Chemical engineers are not very sporty

This comes down to the very stereotypical images of chemical engineers, and engineers in general. But actually, chemical engineers can be and are sporty. Every year in the UK, students represent their chemical engineering departments by competing against each other at the Frank Morton Sports Day. In 2016 around 3,000 students from 32 universities participated in 20 different sports.

5. Chemical engineers are not media savvy

Chemical engineering news stories appear in the media regularly. Whether it's the controversy surrounding the exploration of shale gas or 'fracking'; following major incidents that occur in the chemical and process industries; or even as part of campaigns to raise awareness of STEM subjects.

In 2010, the now former IChemE President Geoff Maitland did around 50 interviews in 85 days on TV and radio; including the BBC, Sky News, and Bloomberg, following the Deepwater Horizon oil spill. His opinion gave a chemical engineering perspective on the incident and gave context to the attempts to plug the leaking oil well.

6. Chemical engineers work in Energy

It is true that a lot of chemical engineers work in the area of energy - oil and gas, nuclear power, renewables etc. The energy challenge is one of the biggest challenges facing mankind so it is only natural that this be reflected in

areas of employment. But there are other key issues impacting our world today, in industries such as health & wellbeing, food & drink and water. Many of these issues are covered in IChemE's technical strategy Chemical Engineering Matters.

7. Chemical engineers like to stay in their 'silos'

Collaboration is the most important factor in allowing chemical engineers to do their jobs, and they constantly work with other engineering and scientific disciplines. If a chemical engineer designs a process they may need to work with chemists to ensure that the reactions are correct; civil engineers to design buildings and concrete structures, and mechanical engineers to design pipework and the supporting steelwork. Chemical engineers rarely work alone.

8. Chemical engineering – does it really matter?

This perhaps isn't a misconception – but an understatement. Chemical engineers know that chemical engineering matters and that they make a real difference to quality of life for all, they just need to get better at telling everyone else! It needs to be made clear to the public that chemical engineering matters, and that chemical engineering has a hand in everything around us; whether that be keeping the lights on, manufacturing the medicines we need, cleaning the water we drink, or processing the food we eat.

For more information about chemical engineering visit: www.whynotchemeng.com