Why are female engineers needed?

I am a graduate of the Department of Engineering Science. I specialised in electrical engineering and information engineering on the undergraduate degree. I stayed on to do a PhD in computer vision in the Robotics Research Group. At the time I was fascinated by the relationship between human perception and computer perception, a theme that remains a strong interest and theme of my research today.

What inspired you to become an engineer?

Since I was a child, I have always loved mathematics and science. One day, I was flicking through an encyclopaedia at my Auntie’s house and I saw a photo of a prism splitting light and it caught my eye. I read about Isaac Newton and that he was a physicist. At that moment, I knew that I wanted to be a physicist and work in optics.

How did you get started in engineering?

I did an undergraduate degree in Physics and then a PhD in optical physics applied to the study of the human eye.

What is your research area?

My area of expertise is adaptive optics. This is a technique used in astronomy to remove the blur in images of stars caused by the atmosphere. It works like a fun-house mirror. The light coming from space bounces off a distorted mirror on its way to the telescope. The mirror re-directs the light rays to form a clear image. I use this technique for improving images for satellites, microscopes and eye-imaging systems.

What is an average day on the job like?

An average day is split between writing software and research articles, building instruments or doing experiments, and reading research articles. My favourite part of the day is thinking of things to do that have not been done before. As a researcher, that is a big part of the job.

What attributes/skills help in your role?

Key attributes and skills that help me in my role are passion and curiosity. This makes me motivated. Another is attention to detail. When doing theoretical or experimental work, you have to pay attention to the fine details to get things right. In addition, I would say perseverance. When things don’t go right first time, it is important not to give up. Finally, it would be creativity. This is important for problem solving.

What is your advice for young women starting out in engineering?

The tip I would give is to follow your passion. You will spend many hours and years of your life working, so make sure it is doing something that you love. Do not listen to anyone who tells you that you that you should choose something else. Always believe in yourself and never give up on your dreams.


“IT IS A VERY EXCITING FIELD TO BE IN AND APPLICABLE TO A WIDE RANGE OF APPLICATIONS.”

What is the best thing about your job?

The best thing about my job is that it does not feel like a job. I feel like I am being paid for doing my hobby. I work in a great team and we all inspire each other creatively.

Have you faced any gender-related challenges?

Fortunately, I have not experienced any specifically gender-related challenges. My main challenge was always a lack of confidence. I have always been curious about the mind and psychology. Perhaps for this reason. Therefore, in my spare time I trained as a psychotherapist. It was during this training that I overcame the lack of confidence by gaining a greater understanding of its origins.

What has been your proudest moment?

My proudest moment was obtaining my PhD. I am currently working on a book on my area of expertise, which is quite a challenge. When I finish it, that will be my proudest moment.

Why should young women choose engineering as a career?

It is a very exciting field to be in and applicable to a wide range of applications. For example, a recent project I have started working on is developing improved instrumentation for brain surgery.

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