

National Women in Engineering Day, 23rd June 2015

SAGE Interview with Gemma Hatton, Data Engineer for Paras Racing and Technical Writer, Racecar Engineering

How did you get into engineering?

I had always liked cars from my early teenage years, but more from an art and design point of view. During my GCSE's I started to enjoy my Maths and Physics subjects and this happened alongside my younger brother introducing me to Formula One (by simply not turning the TV to the programme I wanted to watch) and then I was suddenly hooked on motorsport and the engineering behind it. From there, I took my A levels in Maths, Physics, Technology and Geography and decided upon a degree in Mechanical Engineering while following Formula One religiously. I then started part-time work with Racecar Engineering magazine, to develop my understanding of all the technical aspects of motorsport, while gaining contacts and an insight into the lifestyle of the industry. During my degree I had a placement year working at the Nissan Technical Centre, and from there spent a few weekends with a race team in the Blancpain Endurance Series. They were the most incredible weekends, and although my role was small, it allowed me to see how a team works. It was then that I realised my dream job is to be a race engineer – and I have done everything I can since to try and get there.

Now, I am finishing off my MSc in Motorsport Engineering and completing my thesis with a Formula One team. I am currently a data engineer (the first step to becoming a race engineer) for a BTCC team, and have continued my technical writing and now write articles for several magazines as well as working with simulators.

Why did engineering appeal to you as a career?

I love understanding why and how things work and the technology behind machines. When you think about it, everything is 'engineered' to some degree, whether it's the shape of your TV, or the mechanical workings of your car – engineering can take you to any industry and any part of the world.

Motorsport engineering in particular attracted me because it is such a passionate and competitive industry which is so extreme. I'm a very competitive person so this suits me well and it is fascinating to learn just how advanced some racecars are, and the high level of performance they can achieve in the most extreme conditions (for example look at the challenges in motorsports such as rallying).

Did you find it difficult to start your career in engineering?

From a technical understanding point of view then yes, engineering is very difficult and to succeed you really need a solid grounding of maths and physics. But I believe that this just takes hard work and many hours to learn!

The main thing that helped me with my career so far is contacts. Particularly in motorsport, contacts within industry are so vital, so once I had got my foot in the door with Racecar Engineering Magazine, meeting motorsport engineers became a lot easier. As I continued to say 'yes' to every opportunity, I met more and more people, companies, and race teams, and that is how I have been given so many incredible opportunities. It really is 'who you know' so that you can get talking to the right people, but then you need your technical knowledge to back you up during technical discussions.

Why do you think so few women see engineering as a prospective career?

I would say that it is what you are exposed to. However, I am a bit of an anomaly because none of my family were interested in cars until my brother and I came along. I think that although the number of women in engineering is gradually increasing, it is still intimidating to be one of 20 girls in a room full of 200 boys at University. I also think that it is not promoted enough to girls and although this is getting better, if you went to ask a group of 16 year old girls what engineering was and how many different types of engineering they could name – how much would they know?

What advice would you give to young people looking into an engineering career?

Get a solid understanding of maths and physics and get as much practical experience as possible. It doesn't matter if you're taking apart a lawn mower or a car – start to understand how machines like these are put together.

As few as 5.5% of engineering professionals are female according to a WISE survey- how do you think we can encourage more women to consider Engineering as a career?

Get girls at a young age to understand that engineering is not just about having your head in a book. Engineers are behind some of the most incredible achievements of mankind; building NASA rockets, the fastest racecars on Earth, aircrafts, prosthetic limbs, oil rigs – the list is endless!

What do you think are the biggest challenges for women embarking on a career in engineering?

Probably the fact that there are so many men. Initially this can be very intimidating but I genuinely believe that women can bring a different skill set to the table which is needed. The race team I work with have actually said that the team is a much better dynamic since I have been around. We should not be intimidated by the number of men within the industry, we should learn from them just like they should learn from us.

What advice do you have for women who currently work in engineering?

Keep setting an excellent example and keep spreading the word that engineering is a fantastic career that can take you wherever you want to go!