Magnus Woodgate
Software Engineering for hearing aids

Why did you choose to work in acoustics?

A background of music production and technical interest crossed over nicely when I discovered the field of acoustics. Acoustical engineering is good because you can go down a more or less technical route when you find out what aspects interest you the most.

What did you study to get into acoustics?

During my A levels I was studying maths, physics and music technology, but was also producing (and recording) a lot of electronic/live music.

Magnus works for Sonova in Zurich

What makes acoustics interesting to you?

For myself in-particular, the combination of so many disciplines required to understand individual acoustic concepts. This makes acoustical skills so vastly applicable in other domains.

What is your job?

I am currently a software engineer in audiology, working with fitting algorithms for hearing aids. This involves writing real-time fitting algorithms which wirelessly change the audio processing done by the hearing aids. It also includes real time machine learning, where I specialise on mobile devices.

What do you do on a typical workday?

I work on several projects for new technologies writing software for mobile devices from scratch, as well as maintaining and improving larger projects. I also am always looking at new research algorithms and implementing them in practice to see whether they are viable for consumer hearing aids.

What do you love about your job?

Being able to have a real impact to people. Working in the medical industry comes with extra challenges when it comes to safety and much stricter requirements, but the outcomes in the long run are remarkable.

What is most challenging about your job?

Probably the crossover between so many fields. This requires a strong knowledge of many domains in parallel to be able to work efficiently and discover new research areas.

What are the most important skills to have in your job?

I think a strong combination of how to process digital audio, understanding how people perceive sound, as well as advanced computer science knowledge - practical software engineering experience is almost always necessary. The quality of software is extremely important, being in the medical industry. Being able to speak and work in German is a strong advantage in some areas of acoustics research in Europe.

How does your work make a difference to peoples' lives?

Working with hearing aids has a direct impact to people's lives and can help in a variety of ways from helping to develop children's speech, to more sophisticated noise removal to aid in most people's day-to-day work and social life.

What else might a student need to know about a career in acoustics?

It's not all music (if you were still thinking that). Acoustics is a largely up and coming area and many new research topics are at the cutting edges of other fields, so now is a good time to join!