



Phizzi professionals

Dairy Shearer: Postgraduate Researcher in Physics

School

I had a creative flair and considered becoming an artist but when I was around 14, I became hooked on physics, and I haven't looked back. In a chemistry lesson, the concept of 'electron spin' came up. I asked my chemistry teacher to explain it in more detail, but she said I should ask a physics teacher. So, I did!



What next?

During my A-levels I was struggling to cope day-to-day. I developed anxiety and depressive disorders and missed several months of school, and then I found the exam situation really hard – everything was too loud, and I couldn't focus. Despite this, I got a place at the University of Surrey to study a BSc physics course and graduated with an MPhys.



Why physics?

I have always been a very curious person, as most scientists are. My parents are both veterinarians so asking questions about science was always encouraged in our household, as was learning and critical thinking. Physics is the subject where I felt that I could truly delve into the foundational workings of the world around me.



And now?

At university I discovered a love of research and experimental physics as well as science communication. I was also diagnosed with Autism Spectrum Disorder (ASD) which helped me to understand why I found some situations so difficult. I now have a non-medical helper, funded by Disabled Students' Allowance and the university has introduced some adjustments, including a sensory room so I can better manage my disability.



Physics in practice

My research centres on developing a new way to construct nanostructures of semiconductor materials for controlling the spin state of their electrons. This has applications such as quantum computing and quantum metrology. I do a mixture of fundamental physics experiments to understand the behaviour of electrons in my devices as well as fabricating these devices.



Advice for young scientists

Being a scientist is all about finding innovative solutions to problems, so I think that creativity and problem-solving skills are key. Science is also incredibly collaborative so being able to work in a team is important. A love of learning and curiosity about the world around you goes a long way in science!

