



Phizzi professionals

Luke Davis: Post-doctoral research associate

School

At school I wasn't the star pupil. I enjoyed art, science, and maths but preferred learning on my own from books and thinking about how things work. I actually went to two secondary schools and that was useful in learning from different teachers.



What next?

I studied a Master's in Physics at Swansea University, then a PhD at University College London, researching theoretical biophysics. For my first thesis I won the PM Davidson prize for best theoretical physics project. I thoroughly enjoyed learning the wonderful physics of particles, life, and beyond.



Why physics?

The universe around us is stupendously and barkingly strange. Ranging from the building blocks of matter to the nature of heat, water flows, how ice forms, the elasticity of rubber, the persistence of living organisms, the fate of the cosmos, ad infinitum. I am hooked on physics; it is simply mind bending.



And now?

I am a professional theoretical physicist at the University of Luxembourg. I get paid to think about how to control living systems, it's great! Of course, I don't just think about it. I use mathematics and computer programming to test and build theories. With colleagues, I have developed a novel framework that allows energy-saving control of living matter.



Physics in practice

Physics in practice depends if you are doing experiments or theory. In experiments you build equipment to observe real nature. In theory, you build mathematical frameworks that produce numbers that can be compared with experimental observations. If these numbers do not align with experiments, the theory needs to be updated!



Advice for young scientists

Science needs imagination. We need people who look at the stars, a curious bug or plant, or stop and stare at a strange phenomenon and ask how does that work? We also need different people, from different backgrounds who bring their uniqueness to science.

