



WHY IT MATTERS... MATHEMATICS



Loughborough
University

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My research involves working with complex data, generally in the form of images or complex data from Analytical Chemistry.



If we can understand this data, it can help us solve a really wide range of challenges in health, manufacturing and the environment. Often the data is quite expensive to collect, so developing methods for extracting understanding from small and complex data is very useful and important for these areas.

Eugénie's Education

I did all of my formal education in the US, where I am from, so the structure was quite different from here in the UK. In high school, I took a wide range of subjects all the way through my final year. I suppose if you want any sense of comparison with the UK, I can mention that I did three topic tests for university admission: Mathematics, English and French. But this didn't have any bearing on what subject I could study at University.

Why did you choose Maths?

At first, I didn't even realise that Mathematician was a possible career! I was always pretty good at mathematics, but it really never occurred to me to study it or do it for a job. It was when I was at university and started to learn about what mathematics research is like that I realised I really enjoyed it and wanted to keep doing it. When I was finishing university and wasn't sure if I should apply to do a PhD, I told my tutor that I was worried that mathematicians had to be geniuses, and I knew I wasn't a genius. He said, "Well, most people aren't particularly good at anything, but you have to do something, so it might as well be something you enjoy." I think this is good advice.

Can I say what mathematics is like in a few words?

That is a very unfair question! Just a few words? let me see. It is about recognising underlying patterns and structures in a variety of contexts. It is more about creativity and communication than most people think.

Eugénie's advice: the most interesting jobs in 10 years don't even exist yet. So worry less about what your career path will be, and instead focus on learning all kinds of things, finding things you are excited by and willing to work hard at, and keeping your eyes open for opportunities.



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Eugénie's experience as a student

I thought I wanted to go into medicine, and started at University in classes for pre-med. Medicine isn't an undergraduate degree in the US, it is just a set of options you have to take. So in my first year I took the options for pre-med. Already in my first year I found I liked my maths classes, so I started to think about being a mathematics major, but with pre-med. But in my second year, there was a timetable conflict between one of the pre-med options and one of the mathematics options I wanted to take, and I chose the maths, so I suppose at that point, I had really made my decision!

I finished my undergraduate degree with a major in mathematics. Again, even at university, I still took a lot of other classes, including Chemistry, Figure Drawing, History of Jazz, and Sociology. That is the nature of the US "Liberal Arts" tradition! After that, I went to do a PhD in mathematics at a different university.

Eugénie's Career

I am a Senior Lecturer in Mathematics at Loughborough University, but I also do quite a bit of data science and statistics. I followed a fairly standard academic route, and have always been at a university. After my PhD, I started as a member of staff at an undergraduate liberal arts college in the US. After seven years there, I moved to Loughborough University so I could spend more time on research and have the opportunity to work with postgraduate students as well as undergraduates. The role is quite mixed. I think a lot of people think that university lecturers only do lecturing, but it is actually a lot of different things. Of course, we do teach! But we also do research—my research involves working with complicated data generated by colleagues in science subjects and trying to get more information out of it that helps them with their research.

Finally, I am also very involved with activities around Equality, Diversity and Inclusivity, and have various roles both at the University and at the national level in that area.

Loughborough University offers degrees in

Mathematics / Mathematics and Physics / Financial Mathematics / Computer Science and Mathematics / Mathematics with Economics / Mathematics with Statistics / Mathematics and Sport Science / Mathematics, Accounting and Financial Management

Please note: Degrees and their titles change over time. Some of these graduates may have studied degrees that have evolved and changed in response to changes in demand from employers.