

Women into Steam – Thursday 5 November - Questions and Answers

Transcript of those provided throughout the day with additional ones added after the event.

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Linda Schools Engagement: Good morning everyone. We hope you are looking forward to today's Women into STEAM event. We have some great sessions for you and lots of STEAM colleagues waiting to answer your questions.

Women Into STEAM- Jennifer Glover: I am really looking forward to all the videos and questions from you all. I think today will be awesome.

Miriam Ladin: Good morning everyone, my name is Miriam, and I am a 3rd-year student at the University of Northampton studying BSc Human Bioscience. I would like to welcome you all today. I hope you will enjoy our Women into STEAM virtual event. If you have any questions throughout the day, please do not hesitate to ask Leanne or me. We are going to do everything we can to answer your questions.

Leanne: Good morning, my name is Leanne I am a 3rd year Geography student at The University of Northampton, i am here to try help answering your questions, i hope you enjoy todays brilliant sessions

NCCLucy: Hi Everyone, looking forward to my session at 9:40! If you have any questions for me there is a Q&A session after the video.

Working in a Digital World - Lucy Cox, Northamptonshire County Council Web and Digital Team

What's your favourite aspect of your job?

My favourite aspect is meeting new people but also having the opportunity to do something different every day. Having this opportunity is great as it means I am constantly testing and improving all my abilities and knowledge.

What advice would you give your ten-year-old self?

Be brave. I was quite shy at the age of 10 and thinking back I remember not wanting to take part in much. Feeling brave and confident when doing things allows you to get much more involved in what you're currently looking at which not only means you'll be more focussed means those who are supervising you will start to notice how enthusiastic and involved you are.

Why did you choose that specific job?

I chose the job of working in the web and digital team because I had a real interest in working on computers and the web from a young age and wanted to explore it more. After my work experience in the team this really helped me decide that this was the route of technology I wanted to go down.

Do you need special training to do your job?

You do need to have some basic computer skills like being able to use programmes like MS Office and having some technical intuitiveness around using new programmes and software you've not used before. If there is any special training required on a certain programme, we'll often be provided with a course to follow.

What subjects did you study at Secondary school?

For my GCSE's I chose to do Product Design, Drama, German, Art and History. I also did RE, Maths, English Language and ICT as these were mandatory subjects.

Do you need Maths to do coding? Do you need lots of experience to do coding?

My role briefly covers html coding on websites so I'm not too sure on this one but I believe you would have to have competence in Maths and a qualification in it if you're looking to do a more dedicated coding role like a developer for example.

Is your job well-paid?

I know I am able to enjoy the life I have and I suppose it is partly down to what you get paid. However, I don't really think about wages. I really enjoy my job and believe that's the most important to enjoy what you do as you benefit the most from feeling good and loving what you do.

Were your SATs hard?

I remember my primary school SATs were tricky. As well as my GCSE and A-level exams. With any kind of examination, I've done in life so far, I've often struggled with the environment you're put in to do them. I think though as long as you put in the effort during lesson time to learn and then to revise, you'll feel more at ease and confident when you take them.

How long does it take to train for your job?

My job means I am constantly learning and training. I am forever learning about new things as the technology advances and we start to use it for different parts of our work. So to answer this one, it takes as long as you want it to, to ensure you're always improving in the role.

Would you think about trying something new in computing?

I am always keen to try new things and work with different people within this industry. Since joining the web team full time, I have had other experiences of work life in different organisations. In April 2019 I joined a website design consultancy for two weeks where I was able to shadow lots of different people in different roles which gave me a taster of everything. I really think work experience helps you get a flavour for something you're interested in but not sure yet on whether you want to take the plunge and work in that sector.

Did anyone inspire you?

I have been inspired by lots of different people within the organisation I work in but also by close family and friends who have encouraged me to not be hesitant about something and to just go for it.

What would your alternative job be?

I think my alternative job would be in something related to events management. There is something I enjoy about being able to manage people's expectations and there being a positive outcome to an event I've worked at.

What has been your favourite job so far?

My favourite job I've worked on so far has definitely been when I visited Longtown Outdoor Learning Centre with other members of the web team to research the company we were building the website for. We visited at the same time a school was there on a residential trip, so we got to see some of the activities they offered in action and also, I was able to use my photography skills to take photos of the centre for the website.

Women in Construction – Pam Green, Kier , Community and Social Value Coordinator

What is the best thing about your job?

Variety, you never know from one project to the next where you will be and what you will be working on, keeps your interest, I've worked on a hospital, a tower block, housing development and now at the prison development in Wellingborough so you get to know how people work and see all types of builds and you see how they develop, it keeps your interest.

What is it like being the only woman in a working environment?

I'd like to say no different to working with men anyway, they are just colleagues, you work alongside, you are not treated differently. It is a common stigma that women are treated different, so we need to up the numbers of women into construction, to break down barriers, so don't be put off if you feel like the only female on site, it shouldn't bother you.

Is it physically draining? How long is your working day?

My role community and social values is mainly on site but working in an office, apart from current restrictions due to COVID, it can be draining, I deal with conflict and confrontation with the residents who are concerned about a prison being built close by but it is fine, just to ease their worries, but depending on role you might be outside working from 7.30am-5pm and if you like the outside it is definitely different from sitting at a desk all and I've done it and I loved it.

How long does it take to train for your role?

Why did you choose your job role over something else?

Interest and variety, I like to be challenged and have variety in my role, some people like routine but I go into work and start one task and then I find I end up having totally different day which can be challenging and rewarding

What motivated you to go into your role?

I have always been in roles where I have worked with people, on community and social value side of construction, and enjoy the challenge each different project brings and no two days are the same and no two projects are the same so this type of job always keeps you on your toes and interested.

How many hours do you work in a typical week?

On average 35 – 40 hours a week which in my case can mean some earlier starts and later finishes.

How long does it take to train for your role?

Depends on the role you want to apply for in construction and what training courses would be needed (Qualifications) to do the job, we have a good apprenticeship and graduate programme with Kier. My background was different I worked in finance as an Insolvency Manager for 20 years then transferred into construction, I have accounting qualifications but also have my Health & Safety and CSCS cards to enable me to go onsite. I also obtained Prince 2 Qualifications in Project Management. This industry enables people to grow and move about into different departments and fields.

What is it like working in a male dominated workplace?

To be honest it is no different to working in any environment I have worked in both male and female dominated work places and we are all treated as a work colleague the only difference sometimes is the approach especially in construction you have to be decisive as things are always time critical and deadlines to achieve.

What is the most dangerous situation you have been in?

When I was working on a construction site in Birmingham Tower blocks regeneration programme and we had to engage with the residents to get access to their properties and always have a rule never to go into people's homes alone, always had personal alarms. One person we went to discuss access to their premises had a machete, which we noticed but didn't react to and walked away. I think this particular resident had been plagued by bad people at his property previously and it was there as a deterrent. We reported the incident and moved on. The upside of this is as we were onsite for 2 years, we got to know the residents very well and gained their trust including this resident.

Do you ever have to work until really late?

Site can work late if they have deadlines to meet but normally there are core site hours due to factors like considerate contractors not upsetting neighbours and local residents and also for your own health and wellbeing. I have worked late on a few occasions in my roles as we arrange (prior to COVID) community meetings and events with the public so you have to be mindful that people work perhaps during the day and only have the opportunity to come to these events of an evening.

A Spotlight on the Creative Industries, Judi Alston, One to One Development Trust

What inspired you to become an animator?

I wouldn't class myself as an animator more a film maker and digital artist and so I think it was by lots of coincidences really that I've ended up in the career that I'm in and its a fabulous career to be in and I do love it a lot.

Have you ever made a mistake?

That is an absolutely brilliant question. I'm sure that I've made loads of mistakes but one of the really positive thing about making mistakes is you learn from them. One that I can remember is that I was doing some filming for an organisation and I got the camera setting wrong and when I got back to the studio and showed it is was all bleached out, the picture was bleached out and I felt like I wanted the ground to open up and eat me I was so devastated but I tell you I have never made that mistake ever again so I think mistakes are a positive thing if you can learn from them.

Do you work long hours?

I do work long hours I think but when you really love what you are doing you don't notice how long you are working for so when I'm making a film I can get really immersed in editing the story and suddenly lot of hours can go by, sometimes when I'm working from home and I'm editing, my husband often jokes that he can bring me a cup of tea and put it down beside me and I don't notice I am so focused on what I am doing but I think that is a sign that I love what I am doing.

What do you do if something goes wrong?

It depends on what goes wrong. There are many things that can go wrong, from it raining when the weather forecast said it would be sunny and you have ONLY that day to get great shots for a film, through to a member of the team being ill (this can be hard in a small organisation), or a client not paying you on time, or many other scenarios. The most important thing is to not panic, take a deep breath and think through the problem and then think what steps you can take to improve the situation. Sometimes you can't change the situation, so you need to adapt. For example, if it's raining and you're out filming, make sure you have a raincoat for your camera, or use an umbrella, or do more filming inside or undercover. Often, we learn by things going wrong, if something does go wrong stay calm, try and solve the problem, or change to Plan B, then when the problem has passed make sure you take a bit of time out to think about what happened and your course of action. If this problem happens again, what would you do next time?

What's the best thing about your job?

The best thing about my job is that it is very rewarding and diverse. No two days are the same, no project is the same. I love learning about new things and meeting new people. I also love being creative and making things that people enjoy watching your using. It is very rewarding knowing that I build our organisation up myself when I was younger.

Do you spend a lot of time on the computer?

There is quite a lot of time when you are doing digital work when you are on a computer but I wouldn't say it was most of the time I would say it is about 50% of the time because well when you are not in lockdown a lot of time is spent out and about, filming people, having meetings, planning, going out to do site visits to research things. It is very diverse and personally I love being outside so I really like the outside part of my job and I like the filming places I've never been before and having that experience of being outside is very good.

What piece of work are you most proud of?

Oh, that's an interesting question, there's a lot of really good questions coming in from schools. I think I'm really proud of the project that I showed in the video which is called Zero Gravity, Luna Library. We used gaming technology to make an experience of the space rocket that you will have seen in the video and I really loved that project because it was so engaging and it brought in all the things that I like doing like filming, games design, art, archive photographs, everything I am interested came together in that project in so it was really exciting.

What made you and your friend start a business together?

We decided to start a business because when we were at university we didn't actually really know what we wanted to do as a job, that is the true answer to the question, so we thought we would try it for a year and see how it goes. Yes that's 32 years since I started the organisation, so it is a long time ago and for a long time I thought I'd get a proper job and then I just suddenly realised that this is my proper job and I really enjoy it.

What skills are required to do your job?

To do my job I need good communication skills, I also need to have empathy with people (even if I don't agree with them). I need to be able to turn my hand to different challenges, be practical, stay positive and focused. It is important in my role to have a good knowledge of different technologies and be prepared and open to always learning new things.

Did you know what you wanted to do when you were at primary school

No. I had no idea really. I think I have always liked working with people so even when I was at primary school I like volunteering for things that involved working with or helping people and always found that rewarding so I think I knew I would do something with working or helping people. So, at that time in primary school and even at secondary school I had no idea that even a job like mine could even exist so that has been a really big learning curve for me.

What would your best bit of advice be to students in primary schools or doing GCSE or A Levels?

Key advice would be really enjoy doing the things you like doing, so if you like climbing put lots of effort into climbing, if you enjoy looking after animals really go for that. There are so many really good examples now of what you can do, avenues open to you, to young people, have that passion and dedication to do what you really enjoy doing and that will stand you in good stead for the future

Do you have any tips for anyone who wants to go specifically into your industry?

I think getting as much voluntary experience as you can, there are all sorts of things you can do you, you can help local charities social media because a lot of you guys will know how to do social media and a lot of you will be really good at taking photographs, have really good insight into skills that those organisation might not have. So, if you can do any sort of voluntary work in the community, definitely do it, take as much opportunity to get used to communicating with people and using technologies and digital technologies to do that.

Are you still able to work through Lockdown?

Yes, my organisation has been super busy during lockdown. Because we deliver digital projects often engaging people, our skills have been very much in demand by other organisations. Working in digital meant we could quickly and very effectively adapt to remote working and use our skills to help other organisations.

How long do you work for?

This varies. I supposed compared to a lot of jobs I may work much longer hours, including evenings and weekends sometimes, but because I enjoy it so much it sometimes isn't hard to work long hours. Also, though I do choose my own hours/time. It means that I can probably be more adaptable with my time than people who may have a boss or go to work somewhere where they work set hours/days. Personally, I like the flexibility this gives me.

How long did it take to start your business?

From first having the idea of starting our organisation up, it took about 6 months to get everything in place including writing a Business Plan, setting up a bank account, finding an office/studio, getting stationary done and finding people who would become our clients.

What should you do if you have no idea what you want to do. Everyone is saying how great apprenticeships are but, surely, they're only for people who know what they want to do.

Jennifer Glover answered: I think the key thing is whether you know what you want to do or not, we can use an apprenticeship or university to study an area you are interested in. The skills you learn mean you still have loads of options open.

Northants Fire and Rescue, Liz and Lauren

Was it always your dream to be a firefighter?

Yes, it is always something I had been interested in since I was young, but even more so when I joined at 23 I was quite young and then full time when I was 30, but it always something I was interested in.

Have you ever been burnt, hurt or injured during your work?

In our jobs and every single job we go to we have to do a risk assessment, it is called a dynamic risk assessment because every single job changes and every single job is different and particularly if you are in charge you have to get off the fire engine and you have to do a risk assessment before you commit crews at all, now there is an element of risk involved and fire officers have been injured what we have to do is weigh up the benefit versus the risk so if we are going to send somebody into a burning building we have to justify why we are doing that and so anything we do has to have a justification because then if someone accidentally gets hurt it will be because they were trying to do something beneficial.

How long are the shifts and do you work every day?

In Northants the majority of stations operate a "4 on 4 off" system. Therefore we work 2 day shifts (8am-6pm) and 2 night shifts (6pm-8am) We also have 2 day crewing stations that work your more conventional Mon-Fri Office hours as well as 'on-call' stations which people get called from home when an incident occurs.

Why did you decide to be a firefighter?

I wanted a job that is different every day. I am faced with new challenges each time I turn up for work. One day you could be fighting a fire, the next dealing with a trapped animal. I love the spontaneity of the role and working as a team to solve problems at incidents and when we practice.

What is the most challenging part of your job?

There are lots of challenging parts to the job obviously every time our bells go down, every time we get a job, or an incident we don't know what we are being sent to, control get some information but they don't always get enough information, so sometime you can turn up for an incident and it is completely different to what we thought it would be going to and sometimes when we are out and about in the community we will come across things like car crashes and people injured so that can be quite challenging because you need to think on your feet. Day to day, there are challenges in changing people's mindsets, the facts that they think females can't be firefighters because that they have to be strong, that they generally have to be one of the lads which is a perception that is totally not what it is, you can be yourself, you can bring your qualities to the job as well, so it is not the stereotypical that everyone thinks.

What experience would you recommend to become a firefighter?

You don't have to have experience as such more a willingness to learn. If you are keen, listen to others and are proactive then you can deal with each job that is thrown at you. You will always have a team around you to support you and help guide you, you just have to be willing to work hard.

How do you deal with loss of life?

There is no "easy" way for dealing with a loss of life it all depends on you as a person. Whenever we go to incidents where there is a loss of life then we have a debrief afterwards. This allows us to talk about how we are feeling. We can then access several other support networks as well. We have a wellbeing team that can check in on you, occupational health as well as a variety of charities that can help you to process and deal with things. There is no timeframe to deal with situations. My advice would be to talk about it. Talk about it with people you feel comfortable with either in work or out of work. Chances are the more people you talk to the

more people have dealt with a very similar situations themselves and all of a sudden you don't feel alone in your thoughts and realise there are a lot of people that have dealt with situations both at work and in their personal lives that will always have an ear for you to talk to and help.

[How many years before you can be promoted to be a leader?](#)

You start as a firefighter with a development folder. You take an initial 10-week training course and then get placed on a crew at a station. Your development folder takes a minimum of 2 years to complete and get some real-life experience. You can then follow a promotion process to become a Crew Commander and then a Watch Commander. There are no timeframes for the promotions following Firefighter although having an amount of experience will aid you moving forward. When you join the service there are plenty of opportunities to partake in additional activities and groups though. You can join and support the Fire Brigade Union, firefighter fitness challenges, football, rugby, golf, boxing (post COVID of course) as well as joining the training department, the wellbeing team and minority groups such as LGBTQ+ and the women's network.

[What's the most number of times you have been called to a fire in one day?](#)

So it depends really what the incident is, so you can have 5/6/7 jobs a day, sometimes incidents will last 5 minutes sometimes they will last five hours so you can have days when you are out all day so it is not necessarily the amount of jobs you go to, because it might be that somebody's alarm that has gone off burnt the toast which we call an accidental alarm and we can leave there after 5 minutes and it will be fine and sometimes we can go to haystack on fire and we can be there for days and days on end.

[What do you choose to do in your spare time?](#)

I enjoy a wide range of things in my spare time. From seeing family and friends, walking, golf, swimming, baking, DIY I generally get stuck into most things. Everyone has different hobbies and interests. These help to make a really varied team of individuals which can be really useful in situations. You should never be afraid to be yourself, do the things you enjoy and not what you think you should do to please others.

[How do you deal with mental health ie PTSD etc?](#)

Like I have said above there is so much welfare and support we have access to. Personally, I have built up a great relationship with my team and will often talk to them if I feel something is troubling me. The good thing about working together is you can start to notice if someone isn't quite themselves and help each other.

[How many other women work with you?](#)

The percentage of females in Northants Fire Service is on the rise. It is still a relatively small percent but is larger than most brigades throughout the UK. I have worked with a crew where there have been no women and a crew where 50% of us have been female. It is about learning how to work together as a collective. People still think that having a "token" female is just a "tick in the box" but there are so many advantages to having a wide range of people in a crew. Yes it is important that women are treated equally but also that men and women do differ in things like body composition so you may have a larger male who is naturally stronger but a smaller female that can fit easier into smaller spaces so all are hugely beneficial in certain situations.

[What made you choose this job?](#)

I love the range and how different the job is every day. The shifts suit me and my home life well working around my family and childcare.

[Have you had any other jobs before being a firefighter?](#)

When I left school I went to work in an office on reception whilst I figured out what I wanted. I did well in my GCSE's and A-Levels so that I had options available. I managed a nursery school for a few years before realising it was the helping people I thoroughly enjoyed. I joined my On-Call fire station near to where I lived and left the nursery to join the ambulance service. I worked for both the ambulance and fire and then when the opportunity to join the fire service full time became available, I applied.

[What is the main thing you need to know to be a firefighter?](#)

People assume that you have to be super strong and really fit to be a firefighter. Whilst yes, you do need to maintain a certain level of fitness it can be easily achieved with a bit of training. A good firefighter has a wide

range of skills. Good communicators, problem solvers, logical thinkers as well as having good skills to work together such as empathy, compassion and an open mind, so don't just assume that you are not "tough enough" or "brave enough" as these are just a small part of what makes a firefighter.

[How long does the training take?](#)

Initial training is a 10-week course and then you will have a conversion course so all together can range from 12 – 16 weeks.

[Is your job dangerous?](#)

There are elements of the job that are risky, but we are thoroughly trained on what we know as Dynamic Risk Assessing. This is all about putting into place safety measures before and during any incident that we attend. For example, we wouldn't ever send a firefighter into a burning building without everything in place. Full fire kit so they don't get burned, breathing apparatus to enable them to breathe in smoky areas, a full set of instructions repeated back so there is no confusion about what is to be done, the correct equipment to keep you safe such as water to fight the fire. These are just some of the things that each and every firefighter is trained so that whatever the incident is we are well trained to look at the hazards and deal with the hazards, so they don't cause us any harm.

[Have you ever been tempted to give up on your dream job?](#)

Some days can be harder than others and that isn't just linked to going to incidents. Sometimes you can have an exam which you don't do as well as you would have liked or sometimes you have to make a decision that can't please everyone, but you get through those days. You pick yourself up, don't beat yourself up and as I have always been told by my boss, if you never make a mistake you'll never improve, you're only human.

[How do you tell families that you have not managed to save someone from a house fire?](#)

Generally, that is not our role as we are dealing with the fire so we work closely with the police and ambulance and they are with the families. We do our best in every situation to save and rescue everyone involved.

[Were you nervous the first time you went out?](#)

Nervous and very excited. You have a certain level of anticipation with every incident you attend as they are all different and dealt with differently but it's about applying that anticipation to being proactive and safe at an incident as opposed to haphazard and hastily. That's why you will often see the officer in charge walking around calmly and controlled so that they can manage the incident and not become flustered.

[Have you ever had to make a difficult decision as a firefighter?](#)

Yes, sometimes it is extremely difficult when you cannot save someone. For example if you have attended a car crash and someone has died, even after giving them CPR for the longest amount of time it is sometimes hard to accept that that person is unable to be rescued and you have to stop. Sometimes when these decisions have to be made it is important that the welfare mentioned above is followed up so that you have someone to talk to.

[What did you do between school and your job?](#)

Answered in above questions.

[Do you use that equipment \(NEMO\) on a daily basis?](#)

We use all of the equipment that is stored on the fire engines and our specialist appliances regularly. If there is a piece of equipment that doesn't often get used, then we make sure that we have regular training sessions known as drills to keep our skills up to date. These are known in the fire service as Maintenance of Competences.

Gradcracker, Jess Luck, Marketing Director

What is the most surprising thing about working at Gradcracker?

So I've actually worked at Gradcracker for 10 years and my background is really more marketing and I didn't actually study STEM or pursue a career in STEM but being at Gradcracker if I had been given the advice that I've heard and listened to today, I so wish that I had studied STEM a little bit more than I had before but the most surprising thing for me is coming across businesses, still realising the breadth of opportunities out there for students thinking about studying a STEAM or STEM subject. So if you can take the time, I know that Gradcracker is really aimed at University students and you mentioned Jennifer that you used Gradcracker to look for placements, but you know even primary students listening to me today, take a look at the website as you will be blown away by the employers and the different areas you can work in from defence where you work in the sky to marines working under the sea and everything in between there is a career out there for a STEM student, so knuckle down listen hard in your science classes, listen hard in your maths classes and because it will resonate and you will really realise where a degree or a STEM career can take you.

How effective have you been in getting more women into STEM areas, how have you helped?

Events like this definitely help also like you Jennifer, STEM ambassadors, we have over 300 companies that advertise on Gradcracker and a lot of those companies have STEM Ambassadors who go back into schools to do event like this and we give them lots of content. We created the video that you have just watched to encourage young people and females to realise a career in STEM.

What made you want to work for Gradcracker?

Really it was, I've always when I was at school I don't think I realised the opportunities out there so when I started to work here it became more of a passion and I am so invested in young people and their careers and what is out there for them, unfortunately when I was at school we didn't really have careers service so I feel that I can give back and inspire young women to realise that you don't have to do the stereotypical jobs there are so many opportunities out there for you and I am really passionate about it now that I can hopefully give back to young women and anyone that there are opportunities out there in STEM.

We saw lots of companies in the video, have you had the chance to work with any of them?

Oh yes lots of them, I actually work with some of them like BMW where I've been to their Oxford plant and gone round their Mini plant, I actually worked with the RAF and have done lots of station visits and I have an amazing picture that I have up at home, of me sat in a Typhoon fighter jet, so I'm so envious that I get to meet and kind of see all the fantastic stuff but what I'm really jealous is that I wish I could work there and do that, build a fighter jet or build a car or whatever so you know it's great to see it but I wish I was on the other end, but don't tell my boss that!

How old were you when you first started working for Gradcracker?

I started with Gradcracker at the age 19 and have been working for the company for 10 years. Last year I was made a company Director.

What are the challenges at Gradcracker at the moment?

You know the biggest challenge is the problem that we have now in making sure that we are inspiring everyone to realise the opportunities there are in STEM, making sure that young women are aware of the opportunities out there, that's the biggest problem we have in STEM at the moment.

What skills do you need to become a scientist?

I think the skills you need to become a scientist is Patience, Determination and Passion. If you have these basic skills and you mix them with the scientific and numerical skills, you will make a great scientist!

Anglian Water, Polly Garrod, Water Recycling Treatment Manager

What advantages do you get from this job?

Anglian Water is a great place to work with lots of benefits such as private health care for all employees. We can also opt into other benefits such as cycle to work schemes, gym memberships and buying/selling holiday. I

also have flexibility over working hours and opportunities to do courses to develop my own technical knowledge and leadership skills.

What are the best and worst parts of your job?

Hello everybody I'm Polly and part of my job is looking after about a quarter of the Anglian water region to make sure the sewage works that you've just seen do what they need to do which is to make sure the water and sewage is clean enough to go back into the river. The best part of my job is the fact that I love to be able to see the difference we've made to the sewage that has come in has poo in it, rags nappies to false teeth in it and it doesn't look very nice but when it goes back in the river it is really clean and safe for the fish in the river and any children to paddle in that is the best part when you know you have made a difference.

Not a part of the job that I don't like, the hardest bit is on the days when it is cold and wet or snowy and I worry about our teams that outside are they safe, warm enough warm drink that's the hardest part not being able to be there with them all of the time

What do you use the recycled poo for?

So the recycled poo, the sludge that you saw at the end of the video we sell to local farmers so it is called 'NutriBio' and it has loads of really good chemicals in it that farmers normally use artificial fertilisers to help the crops grow to make sure the soils have enough chemicals in it so nitrogen and phosphorous that you need to grow cabbages and corn and those sorts of things. It is a natural version of that and it gets spread on the land.

What happens to the phones that are sieved out?

Anything that is removed in the screening process (the big sieves) at the start of the water recycling centre, goes into big bins and is taken to a landfill site. A phone that has been down in the sewer wouldn't work anymore and wouldn't be pleasant!

Would you recommend your job? Why?

I would definitely recommend my job, it is really variable, and I get involved with lots of activities, customer queries and developing our employees which makes it enjoyable. All of this is whilst making a difference to our environment, keeping our rivers clean – something I am passionate about.

Have you ever fallen ill from diseases in the sewage? So how do you keep yourself safe?

We provide all our employees with PPE, Personal protective equipment, you have probably heard lots about this in the news as all our doctors in hospitals are wearing it to protect them from the corona virus and we provide the same for our people so they have gloves, goggles face masks and it is very rare people become anything up because you are not touching the sewage directly and they are wearing all the clothes to keep them safe.

Did you always want to work there?

So when I young around 1981 I didn't really know what I wanted to do but I really liked science and geography so once I had finished my GCSE at 16 I did my A Levels in both subjects and then Geography was still my favourite so did that at University. And then after I had finished university I saw a job advertised at Anglian Water, and I applied for that, it was a job in working in the environmental industry which is what I wanted to do and I've been here ever since and I'm happy and that is really important to me, doing something makes me happy, yes it wasn't a plan but it happened and I'm glad it has.

Why did you choose a University route?

I don't know really, I think it was wanted to do at the time, I like the idea of going and carrying on learning. I didn't particularly enjoy practical style learning at school so I don't think an apprenticeship would have been right to where it is more hands on, I did prefer classroom learning but everyone is different.

Is your job well paid?

So I earn enough to have the lifestyle I want to, Anglian Water is a really good employer and as well as a good salary we have all sort of other benefits which are great to look after your welfare and lifestyle in general.

Would you ever change your job?

So while I have been at Anglian water I have done lots of different jobs all within sewage treatment so I have thought about it and have done different things to have fresh challenges but at the moment I wouldn't consider leaving Anglian Water and the water industry but I would do different things here.

So what upcoming challenges do you think you have in your job?

So at this very moment in time we are looking at how we can manage the new lockdown that starts today so that is the current challenge. I manage well there are about 90 people who work under me, I don't manage all of them but I manage their managers, so we are looking at how we manage the current lockdown. Also winter can be quite difficult, all those microorganisms that live on those rocks that you have just seen on the video they don't like the cold weather and when it get cold, like us they don't want to work as hard they would rather be somewhere warm and when it gets cold it is harder to treat sewage and at the moment I am working with my team to plan how we make sure can keep treating the sewage to a really good standard over the colder months.

What qualifications do you need for your job role? Do you need a degree or are there other ways to learn?

For my job role I obviously did a degree but I have a colleague who does exactly the same job as me, but he left school at 16 and did an apprenticeship at Anglian Water and he has just learnt all those skills on the job so it doesn't really matter. At my level it is about the experience within the workplace and you can enter and get a job with Anglian Water from 16 and do an apprenticeship or you can join from a degree or from experience from other workplaces.

Is it a smelly job?

Sewage at the end of the day is what we all flush down the toilet – so it can smell. But to be honest, by the time it reaches us, it's quite diluted and any smell is generally only noticeable on a small area of site – near the sludge tanks and where the sewage arrives at the inlet works.

Is your job long hours?

I am contracted for 37 hours a week, which is about standard for any full-time job. Most weeks I work slightly more than this but as I enjoy it, it never feels like long hours at all.

How long have you been working there?

I've worked for Anglian Water for 9 years but have had several jobs in that time, but almost all at water recycling centres.

Network Rail, Tara Scott, Head of Track

(Please note Tara could not join us for the session so these have been added afterwards)

What happens if something goes wrong on the track?

Our first priority is to keep our passengers safe so we will do either of the following things – block the line so no trains can pass over the fault or we can slow down the trains to reduce the forces put into the track. We send out technicians and engineers when we have safety measures in place to inspect the fault and then we will work to fix the fault. This can be something small to a something big like a renewal.

Do you need to wear a special uniform?

Yes, if we are going out on the track, we wear safety clothing eg. hard hat, bright orange clothes (this makes us visible to all the trains) and safety boots.

What part of rail engineering do you enjoy the most?

Understanding how all the components work together so from the train wheels to the drainage channels on the track

What is the best thing about your job?

Knowing the decisions I make today will help our passengers and shape the future of the railway

What made you want to become an engineer?

I was always curious how things worked. My Dad is an Engineer and my Grandad was a plumber, so I had an opportunity from a young age to get involved and break things, put things back together again

What is the most exciting and scary parts of your job?

Most exciting – looking at all the research and development that is going on and the amount of new technology that is coming into the Railway. Most scary – when we hurt someone on the railway

Who inspired you to be an engineer?

My grandad and the people I work with today inspire me to be a better engineer

What is it like working in a male dominated industry?

I haven't had any issues to be honest, but the industry is changing so quickly that there are more and more people from all different backgrounds joining the railway.

Is your job well paid?

Yes, and there are great benefits like pensions, health care

Why did you choose to be an engineer?

To make a difference and to show that you can achieve anything you put your mind to

How many hours do you work in a day?

This varies and is quite a bit more I am now a Senior Leader. But it's always important to balance work and home life

How many injuries have happened during your time as head of track?

We lost three people in August in Scotland when a train derailed and came off the tracks, whilst it wasn't a Track fault, we all feel the sadness in the Railway community

Final words – no matter what interests you, no matter what or who inspires you, everyone is welcome on the Railway. So, make sure to follow us on social media and hopefully you will one day come and join our Railway family

Jennifer our host jumped into provide the following answers to some of the questions

Why did you choose to be an Engineer?

Well actually the route into engineering is very similar for a lot of people, I really enjoyed maths and sciences at school but I wanted to do something really practical and engineering enables us to take science and make it practical and that is why I wanted to pursue engineering. The reason I chose to aeronautical is that planes, helicopters and rockets are really cool, and I wanted to understand them and get to know them better so decided to study at university and I now doing a PhD in aeroacoustics and so I actually look and research new ways of making jet engines quieter.

What do you do if things go wrong?

Well as an engineer you have a lot of problem-solving skills, you are constantly coming up with new ideas and people asking how best you can solve them so it is about learning from experience, asking other people because engineering is a collaborative effort and trying to come up with a solution when things don't go to plan. And as you can tell with me jumping in here, as an engineer that teamwork and communication skills enables me to reactive to situations to try my very best.

What is it like working in a male dominated industry?

Well I am in the 10% of women working in aeronautical engineering so quite outnumbered. But for me it doesn't make a lot of difference because in STEM or STEAM it is about you as a person, your skills, your experiences and so I feel I am good at my job and I have a lot to offer so I try to walk in with that confidence and most people except you as a talented engineer that you are or trying to be.

Working with Volcanoes, Professor Nick Petford and Leanne Pearce, 3rd year Geography student

Aspire higher Leanne

Hi everyone, any questions you may have on this Geography session let me know and I will try my best to answer here

Linda Schools Engagement

Leanne is a current 3rd year student so any questions you have about her course, student life or going to university, just ask

What suffocates people first? Ash or Lava?

This depends on the type of eruption but sometimes there is something called a pyroclastic flow, this is a cloud of hot gases and volcanic matter that rush down the side of the volcano

Depending on the area, some volcanic eruptions can be caused by earthquakes, it is sometimes easier to tell when an eruption may occur as there is increased earthquake activity

Can you outrun a lava flow?

You can outrun a lava flow depending on the lavas type, such as in Hawaii the shield volcanos tend to be less explosive so is generally slower

What is the most common reason for why volcanoes erupt?

Magma rises through the cracks in the earth's crust and can be caused by the pressure from tectonic plate movement.

Depending on the magma if bubbles cannot escape there is sometimes the risk of the pressure building up and this can become too much causing the eruption

Can we do anything to stop them?

We cannot do much to stop them but we can reduce the impacts such as monitoring them to be able to evacuate people or make sure less people are in the zone which an eruption may effect

Typically, how tall are volcanoes and which is the tallest?

Volcanoes can be a lot of different shapes and sizes, due to the changes in the height due to the eruptions potentially causing collapse. The tallest in the world is Mouna Loa, Hawaii, measured from sea floor, and on land its Ojos del Salado, Andes Mountains.

Fun fact: The largest volcano in the solar system is Olympus Mons on Mars

Can you put out lava with snow/water?

Good question! But sadly not. In fact, the majority of the world's volcanoes are underwater as they occur at the mid-ocean ridges, often below 3-4000m of water and they erupt quite successfully. Where volcanoes occur on land, lakes often form in the craters in the time between eruptions or snowfall may accumulate on the flanks of the volcano. These supply water which can make the eruption more dangerous by causing it to be more explosive than would otherwise be the case or can cause volcanic mudslides (lahars). In short, mixing water with volcanoes is bad news!

Can a volcano burn itself out?

Leanne answers: Eruptions are something that finish erupting naturally as it is processes under the volcano itself that cause them to happen (this happens under the part you can see)

What is the most exciting thing that has happened to you on a volcano visit and which volcano were you visiting?

Nick answers: Landing on top of Eyjafjallajökull volcano in Iceland during eruption and seeing sonic blast waves in the ash cloud.

How hot is lava?

Leanne answers: Lava usually tends to be 700 degrees to 1200 degrees

What was the most dangerous volcanic eruption?

Nick answers: In the last 250 years, Tambora in Indonesia erupted in 1815 and killed 80,000 people, either during the eruption or from the aftereffects.

Which volcano has had the largest eruption?

Leanne answers: Mount Tambora is known as the largest eruption recorded by humans. There may have been bigger ones not recorded by humans though.

How deep is a volcano?

Nick answers: It's better to say how high is a volcano. The depth is then the distance from its summit to the ground. However, magma can be stored beneath the volcano down to depths of 3-3 km.

How much pressure is needed to make a volcano erupt?

Leanne answers: The pressure depends on the volcano itself as there are lots of different factors in each volcano playing a part

How are volcanoes formed?

Leanne answers: The molten rock and gases and ash escape through a crack in the surface as the molten rock and ash solidify it forms the volcanic shape you see; this builds up over time (or collapses during eruption) Underwater volcanoes work in the exact same way as above ground they just cool the lava quicker due to the coldness of the water

Have you ever been in really dangerous situations?

Nick answers: Yes, being close to any active volcano is dangerous because the eruption can be very unpredictable.

How long have you been studying volcanoes?

Nick answers: Since 1987, so 33 years!

What job or role do you hope to have after you leave University? (for Leanne)

Leanne answers: After university I wish to achieve my dream of becoming a flood risk management officer.

What made you want to learn about volcanoes?

Leanne answers: To be a volcanologist geography plays an important role as we learn lots about volcanoes, there may also be other subjects you can study but this is the path I have chosen (Watch out for a Vlog from Leanne)

What is the most exciting part of your job?

Nick answers: Travelling to new places that very few people ever get a chance to see. I once worked in Antarctica and had to travel to work every day in a helicopter!

Cummins Engineering, Michael Clark, Manufacturing Engineering Leader

How big is your warehouse and how many different types of jobs are there?

Our warehouse (UKLC) is huge - 425,000 square ft.

How important is it that you encourage women to enter the workplace at Cummins?

We all want to work in a company that's core values drive respect... To gain respect you have to do the right thing. At Cummins, we want to demonstrate that we are doing the right thing by attracting and developing a diverse and balanced workforce. We want women in STEAM to join us as we appreciate equality and inclusion in the workplace generates more prosperity and longevity in business... it also makes day to day working a lot more FUN!

How much money would an engineer make in a year?

Michael decided not to answer this one 😊 but he did tell me that it was about job satisfaction rather than a big pay check. There are lots of websites to research potential salary information.

Was engineering your first choice for work?

Yes, originally, I wanted to follow my dad's career path into motorsport, the advice he gave me was to go for an engineering apprenticeship first as this covers all aspects of engineering, not just car specific. But after completing my apprenticeship at Cummins I found I really enjoyed working on CNC machinery and its associated equipment, going into motorsport wasn't a priority for me anymore, also motorsport is a lifestyle, a lot of travelling, long work hours/days, I realised quickly that wasn't for me!

Such an interesting industry to work in! What made you choose the apprenticeship route?

A lot of my family completed apprenticeships, so I knew from them the benefits of completing one. I wasn't interested in University, it meant another couple of years in sixth form which still sounded like school, and I was done with that! College sounded better and more grown up, the skills I would learn there I would keep for life, the certification I received is recognised everywhere, and also being paid to learn is a huge incentive to do well for your company and yourself, it allows you to learn the value of money from a young age. And that you get on the job training so you can apply your skills straight away.

Cummins Katie, Maintenance Improvements Engineer

I started when I was in secondary school doing GCSEs and I took engineering at a time when the careers fairs started, and Cummins had a stall there. I wasn't really sure what they did in as a company, I spoke to one of the guys and one of the girls that worked here, and they talked about apprenticeships. Now this is something that my dad really wanted me to go for, he had done one, my granddad had done one my uncles had done one and they are all in the engineering industry as well. I was really excited and took the application form home, we did some research on Cummins and this is what I want to do, and this is where I want to be. The company maintenance apprenticeship is four years long and I completed that, and I was the first female maintenance apprentice on the Daventry site. This was a huge achievement; I was really proud of it and I hope Daventry Cummins is really proud as well. Nearly 15 years on I am the Maintenance Improvements Engineer and I am so pleased I have got to that point. I am hoping you have some questions for me?

What are the job opportunities and types of jobs you have at Daventry?

Everything, every department there is a job opportunity. I mean, I came through maintenance but this could lead me, I could go into manufacturing and engineering if I wanted to or go down the product department side of things so working through engines to see how to make them better as product for our customers, but that not just saying from a maintenance point of view, if you came from a business apprenticeship you can go in many directions and different departments and technical apprenticeship you come in on a technical basis you could end up in manufacturing and engineering you can go even into the product side if it so working out how to make the engine better, looking at the parts, you can go into quality there are so many routes here I can't name the all.

What skills do you look for in future engineers?

We need someone who has got their head screwed on, we need somebody who will come in want to make changes, want to take part, you know take a bit of constructive criticism as well. We don't always get things right and part of my job in improvements, I might put something in place and it doesn't actually work how I needed it to and I take that on board, I don't take it as a failure, it's just that didn't work, we've got to move on to the next bit, you need to be level headed, with diverse aspirations, you need to be able to be challenged but at the same time we are a passionate company, we're a company willing to help out, they praise people and there's support at times of need

Meet our Technology Graduates and Apprentices, Barclays, Emma Padmore, Candidate Acquisition Manager, Talent Acquisition

What do you do for your job Emma?

Absolutely, I am the Candidate Acquisition Manager here at Barclays so my role is to develop the attraction presents when we go out to schools and campuses to build a brand presence to entice students to come and apply for us and I also manage the assessment activity as well. So, all kinds of recruitment-based things able to answer all kinds of questions like what it is like to work at Barclays, the kinds of programmes and roles that we have and are coming up, and hints or tips for applications.

What kind of other job opportunities are there with Barclays?

There is a real breadth actually and it is interesting that you say most people think that we are just bank tellers, and a lot of students come to us and say that they are not from a financial background and not very good at maths or I didn't have a real interest up and until this point would I still be able to join Barclays and absolutely there is a place for everyone. I actually went to University and studied history did humanities and had a real interest in that but I managed to find a place for me in banks I think there are so many roles outside the traditional banking roles particularly for apprenticeships that we are discussing to day. We are looking to open up opportunities in technology and operations which form a really huge part of the bank and they are obviously very separate from those sorts of traditional roles you might think Barclays does. There are a real plethora of opportunities there for apprenticeships and graduate if students online are looking to go to university and looking after that.

You talked about the apprenticeships in technology, what sort of key skills are you looking for if people want to apply for that?

There is a real range really, one of the main things is a real passion and drive for joining us at Barclays also for that business type area. We use something called a strength-based process, so it is based on your potential rather than your experience. We appreciate you have not got much experience at this point, you are quite young and actually maybe it is more important to see more of a passion and drive and something there to start with rather than focusing on specific work experience that you might already have. We look for a number of different things, so passion and motivation, determination, being an efficient planner so being able to organise your time effectively, work in teams, collaborate with individuals. Really diverse individuals from across the board and from different backgrounds and be able to build relationships and show your critical and analytical as well. So, a real range of different things. All the strengths we look for are on our Barclays website so if you are interested in putting in an application you can go onto our 'join us' website and see everything we look for. The main thing I would just like to emphasise is that we are not looking for the full package just someone who is ready to get up and can run with it and a real passion and interest in joining us.

You said you came from a history background so how did you come to work at Barclays?

For me I actually worked for a big four bank, in a professional services company prior to be working for Barclays and I heard from a friend who used to work here that the culture was quite similar to the culture of where I worked previously, it was really diverse in terms of networks that you had, and the people that you worked with and I kind of got a sense of a buzz from her and then I was looking out for opportunities as I was looking to move from where I was but wanted to stay in the area of recruitment and I saw an opportunity here open up so it was different route perhaps to those listening online that may go down the more traditional route of apprenticeship application or graduate application so I applied online and went for a series of interviews in person and managed to get the job so it was really a bit through word of mouth hearing about the brand and what it was all about, thinking that resonates with me and I can see myself joining a company like that.

What kind of challenges do you face in your job and how do you overcome them?

Yes well there is a real challenge going on at the moment which is COVID-19 which we are all aware of so navigating that can be difficult. I actually joined Barclays in March in the first week we went into lockdown, which was a bit of a strange experience because I've never met my team in person so I think from that point of view being able to experience that and understand being a new joining and what it is like in a virtual environment that has really helped me to put myself into the shoes of the graduates and apprentices that will

be starting with us and has helped me form a real plan for them to feel supported and welcomed. So COVID-19 is a bit of a challenge for us but something that we are really focused on. We have looked at developing mentors that can coach our students throughout the programme making sure the application process still brings Barclays alive and get all their questions answered as well so that is one of the main things. Another kind of challenge that we sometimes face in the recruitment industry is to make sure that we get a diversity of candidates coming through into our programmes for us we are really passionate about bringing students from all different backgrounds to come and join us because do feel that where we have teams that represent us from all different walks of life it is much better for us and getting our name out there and showing that it is what we are looking for, going to different schools and from different areas, differing universities bringing that alive and really attracting that workforce to come and join us.

[What kind of initiatives do you have for improving the diversity and reaching out to minority ethnic groups?](#)

We do a lot of targeted events; we will go out on campus or we will go out to schools and will target students from specific backgrounds that maybe haven't had that sort of opportunities before. Some of the schools that we work with for example are those where there are lots of students who qualify for free school meals, haven't had parents that have gone to university before or things like that. We will really go out to these places and mentor and coach these students and give them a bit of a head start in life. So that is one of the main ways we try to build up the attraction there and supporting them through the recruitment process. Once you are in the bank it is about ensuring that those people have got a mentor to support them through being part of our programme and just making sure that there is someone there from the same walk of life as them to help and support them through their time with us

[If you were giving some advice to our attendees today what would that be?](#)

I think the main thing for me is to just be yourself, I think be unapologetic of yourself, like when you go through the recruitment process there is no point trying to pretend that you are someone you're not because at the end of the day when you come to final assessment and we meet you either virtually or in person we will be able to see very clearly whether the answers you are discussing you are making up or whether it is really you. The questions are designed throughout our process to be really open ended so that you can really showcase your personality, there will be things like, what do you enjoy, how do your family describe you, what are your passions, so just be yourself through the process and try your best to show that to us that you are a really unique individual that can become part of our identity and culture. So that is probably my main piece of advice.

[If you could start all over again, would you do your career path differently?](#)

Oooh that is a really good question. To be honest, part of me now that I have started to learn a bit more about apprenticeships I wish I had been told a bit more about them at school when I was making the decision or whether to go to university or do an apprenticeship, because the school I went to didn't really promote apprenticeships opportunities and going straight into work, it was naturally assumed you would go into university and although I absolutely loved the time I spent at uni and really enjoyed studying history, I think maybe if I had been more aware of apprenticeship opportunities, I might have thought differently about my career and where I thought I was going. I wouldn't say I regret going to university or anything like that, I've enjoyed the path that I came through. I was very clear in that I knew in Uni that I wanted an HR people focused I knew that quite early but I think the main thing would have been to have more idea of the options earlier on and maybe scoped out the apprenticeships a bit more because that wasn't available to me at the time.

[What is the favourite part of your job?](#)

Well, I mean I used to absolutely love going out meeting people in person but obviously that is not really happening right now which is a real shame but I guess it still remains the same, in terms of meeting students online virtually now and coaching them through the process and helping and supporting them through their applications and seeing at the end of it that they have got a job with Barclays and how much it means to them. Some of the conversations that I have when I am offering students, hearing from them about their journeys how grateful they are. I think that is really rewarding about the work that we do so I guess just working with people, seeing people prosper especially like although I have only been at Barclays for a short period of time,

seeing them come onto different programmes that we offer and seeing them grow over that time with us and see that journey for them has been really nice

[Do you manage anyone, and do you have any tips for teamwork?](#)

I do manage someone; she works as a kind of coordinator with me to support my outreach activities on campus and assessment processes. I guess our relationship is really good in the sense that we have a very open sort of communicating with one another. For me I have been really keen to focus on wellbeing especially with everything that has been going on over the past few months with COVIS and working in a virtual environment in Barclays. Main things is to always be there to support your colleagues, providing that open communication for them to speak to you if they have any issues and keep putting their development first and foremost. So, it might be a training programme that she can get involved in or anything that can support her development, push her outside her comfort zone I would always encourage her, continue praise and support with that. The main tips I would say for anyone wanting to go on and take a management role just always support your colleagues and provide them with opportunity to help them prosper and that in terms helps them to support you too. So a win win situation

[Responding to the Lost Words through Science and Art, Fabula Arts, James Gillam, Director](#)

[Can you give some students in the audience some advice of how they could use what you have shared with their studies and their future careers in STEM?](#)

I think the video you just watched about the lost words leads to all sorts of different areas but perhaps leads mostly to the environment and maybe how science can help solve some of the great environmental questions of the day, but I also think that creativity can help solve those problems and often creativity gets pigeon holed a little bit and gets put in a box. If you do the performing arts, you are a creative person and if you don't do the performing arts you are not a creative person. That this is just not the way it works and hopefully the stuff we do helps all young people to see that they are all creativity can help to solve lots and lots of problems we hope.

[Do you feel that everybody has the potential to be creative?](#)

I think that is a really interesting point and the answer is yes, absolutely. What I've learned, I've been a teacher for many years and done lots of theatre and creative work with young people and every young person is creative, but it depends on your definition of being creative. Some young people have that definition that to be creative you have to be good at art, good at drama or be a good actor and that's not true. Being creative is looking at the world in an interesting way and I think that young people actually do that better than adults. I think they have these interesting, wacky ideas that we sometimes just discard because they are young people but in fact, they are interesting things that are actually going to solve the big questions of the day. So, in short, yes, every young person is creative and that is an important part of our company.

[Right now, everyone is locked in so what would you suggest us young people do to ignite our creativity?](#)

There are so many things you can do, find something creative that you enjoy, read, reading is brilliant, try poetry find some that you like reading. They may never have looked at a poem apart from in an English lesson and had some bloke standing at the front telling you what it is about, just find poems that are fun to read. Listen to music, make music, you can make music with anything, draw some pictures. Create sculptures out of stuff at home. But the great thing about creativity is that you can't be wrong, and you can't make mistakes, it is all good so just find things that are a bit different and you'll end up being creative with those things.

[If students wanted some inspiration on creativity or see more videos on the fabulous things you are doing, how can they do that?](#)

We have a website, we are on twitter, we are on Facebook and do check us out and try and meet us. We would love to work with loads of young people in the next year or so.

[What motivated you to use The Lost Words](#)

The Lost Words appealed to me as a creative response to an issue about which I am passionate, namely the natural world and how we sustain the planet. So, it seemed perfect inspiration for a creative arts project. Not

only can young people practise creative skills like writing, art, drama and music but they can also engage with nature and issues like climate change.

[How did you get into directing?](#)

I have always loved stories and the theatre. Writing and directing was a natural extension of these passions. You get to tell stories in creative ways, and this is great fun. As a schoolteacher, I was fortunate enough to direct countless productions with young people and this gave me invaluable experience.

It's all about the feet! [Paul Fletcher, UoN Senior Lecturer in Podiatry](#)

[So, Podiatry is focusing on the feet? What was your route into podiatry and why this industry?](#)

Yes, feet and legs. I think I wanted to do medicine when I was at school, there were a few things, I was very good at science, so I wanted to use science practically and do something that was helping people. There were opportunities for dentistry, and I think dentistry was more cosmetic really, about the looks that kind of thing but I wanted to do something physical that would make somebody better. And the careers advisor said had I thought about podiatry. I looked into it and it was just the thing for me. It is very practical, you got to triage the patients, treat them see the patient journey right through from beginning to end so you weren't just a part of it you were directing it and managing it really. That what really appealed to me.

[In the UK you go directly into podiatry whereas it is different in the USA. Do you know anything about that?](#)

Yes, in the UK it is a bit like dentistry, you become a specialist right away so the students are learning assessment techniques, being in clinic doing things like blood pressures, that kind of thing. In America it is a very different model, you become a doctor first and then you become a podiatrist but here you specialise straight away so when you finish after three years you know more about feet than general practitioners so you are a specialist from the beginning and if you want to carry on and do post graduate study you can go into the surgical side or maybe into the sport side, there are lots of differing things. Once you are into it you can make it your own really so that's the good thing.

You can absolutely go into working with footballers. Once they find out that you can help make people run faster fatigue football teams are really interested in that, so all premier league teams have a podiatrist on board for just those reasons really. So, if you like that kind of thing obviously they are premium jobs so would be good to get into them but somebody's got to do it!

[Tell us how you maybe got over the fear of working with feet or convince me that it isn't that bad?](#)

I don't think it is that bad. If you think about medicine, you are going to be using lots more part of the body that are much more than feet. Certainly, they were talking about turtles breathing through their bottoms earlier on and there are those kinds of areas that I think podiatrists deal with feet. It's pretty good and once you focused on what you are doing you forget about those squeamish things. It is a bit like overcoming a tickle really. I was kind of worried that might be scared if there was a foot hanging off but when you actually know what you are doing and you can make it better and you understand the anatomy you should be bothered about that anymore you settle down. Most of the feet are not too bad, I know there are smelly ones out there but you prepare the feet first, you give them a bit of a hose down with antiseptic, by the time, and you often have an assistant who is preparing feet for you as well so a lot of the time you are not really faced with smelly feet but occasionally. And obviously people are needing to be made better, so you are focused on actually making a difference,

[When did you first get interested in physics?](#)

Ektaa Vadgama answered: When I started learning about the gait cycle and seeing how physics impacts our movement

[Did you study podiatry or medicine in university?](#)

Ektaa Vadgama answered: So in the UK you can go straight into Podiatry at University

Take the Lego Maths Challenge, Evelyn, Education Officer, Operational Research Society

(see additional worksheets and answers on the event resource page)

Can you tell us a little bit about the type of students who go into OR and the skills you need in your company?

So Operational Research is the sort of job that lets you use problem solving skills, it lets you use maths and it lets you use analytics and it can take you anywhere from helping to design football stadiums to helping Tesco deliver ice-cream to helping the government with COVID. So there's so much you can go into so I think if you are thinking about A levels of GCSEs, maths a good option and further maths but any STEM subject is a great choice if you are interested in this kind of field

If you are not so great at maths or further maths is that a problem?

Having skills like questioning being able to go communication a good skill especially you could help someone that doesn't have a technical background and you need to be able to explain the background in a way they will understand.

Do you think that someone who has not gone into the industry could go into the industry or do you have to have a University degree and be STEM related?

At the moment you have to have a university degree, it doesn't have to be STEM related so business studies is another popular route into the field it just needs to demonstrate that you have analytical skills. It's a good one because it has a lot of options all the way through A Levels and what you chose so you don't need to lock yourself into the path really early,

How did you find out about the organisation, did you go work experience?

I found out about Operational Research completely by accident when I was looking for a job and my job at the moment is to tell other people about it and I love what I do because I liked chemistry and maths at school but didn't really know what to do with it and if somebody had told me Oh there this field called operational research it lets you solve problems, you help people, you can use analytical skills, that was the sort of job I was looking for but didn't know how to find it and I did a really good google search and managed to find it online. You don't always know what you are looking for so being online and keying in key skills can really help.

Where can we find out more information about Operational Research if you wanted to give them an action?

We have more videos on our YouTube channel that you can watch so if you search for Operational Research Society you will find more there and we also have a website with sections aimed at students and careers advice so have a look at that.

Miriam – Final Year Human Bioscience Degree explains why she chose her course:

If you are interested in science but you are not quite sure on what field you want to focus on I am studying Human Bioscience degree at University of Northampton. I choose this degree because it will open up a range of career opportunities such as medicine or dentistry, teaching, pharmaceutical industry, public health., information technology, research, publishing or media.

It is an excellent course with many opportunities. It will teach you being independent, which is a key in science.

This course has given me the knowledge and key skills to feel confident, going into the science industry. Using our new waterside campus laboratories has prepared me for professional laboratory roles.

The academic staff are incredibly helpful and are always happy to help you with learning.