

## Meet the Academic – Dr Alex Baker

### Introduction

So my name is Doctor Alex Baker. I'm a synthetic organic chemist at the University of Warwick and I specialize in medical diagnostics for the developing world and cell storage.

### What inspire you to become a scientist?

When I was younger, I'd go abroad a lot with my parents and particularly when I was 18 I worked in Nepal for quite a while as a chemistry teacher. Going there and seeing how medicine is done in countries that have a lot less wealth. Actually seeing how can we apply chemistry and medicine to actually help those communities?

But also I was inspired quite a lot for my mom and I've already mentioned. My family are full of doctors, my mom and my sister are both medics. And she would come home tell me about patients, and I think it's those discussions that really made me people focused in the science I do. Always trying to see an application to make the world a better place.

### Can you give some examples of your day to day tasks?

So at the university I do some teaching. I do public engagement as well. My research is mainly around medical diagnostics, so I spend a lot of time making lateral flow devices, improving those devices. Working with PhD students and masters students to try and really make devices that can be applied in the real world and can actually make a difference.

### How has the reality of your job measured up to your expectations?

So I think at GCSE the perception I had of what a chemist does was very much Bunsen burners and Bunsen burner flame tests blowing stuff up because that's kind of what the public engagement outreach often looks like. But actually when you come and do chemistry at university and when I started doing chemistry at university, it's much more looking at applications looking to make the world a better place. Looking to help people, batteries and cars, pharmaceuticals, medical diagnostics and really applying that knowledge rather than just looking at how many electrons does this particular atom have.

### What challenges have you faced over the course of your STEM career?

So when I was younger and about 11 years old, I had a science teacher who really didn't think I was very good at science. Actually, because I just didn't enjoy their teaching style. So this teacher would say, Oh well, you're clearly not going to do science at GCSE or A level. There's no career for you in science. And actually I always look back on that and go actually, I proved that person wrong. I you know, occasionally still come across academics who think that science has to be this very theoretical subject. I completely

disagree. I think we have to be applied. We have to try and make the world a better place and really show the worth of our subject in the local community and around the world.

**What advice would you give to someone aspiring to go into a STEM career?**

I think the advice I would give is set really clear targets of what you want and don't stop chasing those targets. So when I was in a level we would get leavers hoodies for when we were going to leave the school. I purposely got on my one doctor Baker because I knew that that was the career I was going to do. I was either going to become a medical doctor or I was going to get a PhD and I went after that target with all my energy. So be very clear on what goals you want. Be very clear on who you want to help, on who you want to work with and just follow that goal until you achieve. It would probably be the advice I would give someone looking at a stem career.

**What would be your dream research project if you had unlimited funds?**

So all my research is really focused on applications and I think one application, I'd really like to look at is snake bites. It's a massively underfunded and under researched area. It affects millions of people every year, but I hope that if you had enough funding you could make this universal anti venom that could really make a huge difference in these communities where even sort of basic anti venoms are far too expensive.