



# BUSTING MYTHS ABOUT STEM CAREERS

DR AJAY SHARMAN, STEM LEARNING'S NETWORK LEAD FOR LONDON AND SOUTH EAST, TELLS US ABOUT THE CRUCIAL ROLE OF THE STEM AMBASSADORS PROGRAMME IN OVERCOMING STEREOTYPES ABOUT SCIENTISTS, TECHNOLOGY SPECIALISTS, ENGINEERS AND MATHEMATICIANS

**STEM LEARNING'S VISION IS TO ACHIEVE WORLD-LEADING STEM EDUCATION ACROSS THE UK.** It's about giving young people opportunities to be inspired and motivated to study STEM subjects, ultimately leading them into STEM careers. We don't just support teachers, we also work with a wide range of youth and community groups. STEM Learning is a unique organisation in terms of what it does and its links to education, business and universities.

**STEM LEARNING HAS A WHOLE HOST OF PROGRAMMES AND INITIATIVES DEDICATED TO THIS.** From continuing professional development (CPD) for teachers and support staff to STEM Ambassador role models from industry; all of our programmes are designed to have a positive impact on those who work with young people, and ultimately on the young people themselves.

**THE STEM AMBASSADOR PROGRAMME IS A NETWORK OF OVER 30,000 ROLE MODELS FROM INDUSTRY AND RESEARCH ORGANISATIONS.** I'm a microbial biochemist by background and, as well as being the Regional Network Lead for London and the South East, I'm proud to be a STEM Ambassador.

**FUNDAMENTALLY, IT'S ABOUT ENGAGING WITH YOUNG PEOPLE DIRECTLY, AND MAKING SURE WE OVERCOME SOME OF THE STEREOTYPES AND MYTHS** surrounding people who work in construction, engineering, technology, cybersecurity, core sciences, pharmaceuticals, biosciences, etc. What do these people really look like? What do they do? How much do they get paid? I always say we work on behalf of government, which we do, but we're also working on behalf of society and UK Plc. We're giving young people the chance to access a real window of opportunity in the future.

**THE JOBS THAT ARE GOING TO EXIST IN THE NEXT 10-20 YEARS' TIME WILL HAVE MOVED ON HUGELY FROM THE JOBS WE TALK ABOUT TODAY OR EVEN 20 YEARS AGO.** What the STEM Ambassadors programme does really well is get real people talking about their jobs, which helps to dispel any existing preconceptions young people have of what scientists, engineers and technologists actually do day to day.

“STEM Ambassadors come from diverse backgrounds and industrial sectors. The perception of engineers wearing dark suits and hard hats is not what STEM is about.”



### STEM AMBASSADORS COME FROM DIVERSE BACKGROUNDS AND INDUSTRIAL SECTORS.

The perception of engineers wearing dark suits and hard hats is not what STEM is about. When you think about construction or engineering, you don't realise that there are so many high-value, cutting edge jobs in these fields. People in construction and engineering aren't just shovelling bits of sand around; there are a lot of technical aspects that go into putting a bridge together, building a new aeroplane or developing electronic components, for example; then there are sustainability and environmental issues to consider when looking at different materials; and much, much more.

**TEACHERS ARE REALLY KEY TO THIS.** Teachers have a huge impact because they're talking to so many students every day. Both teachers and role models such as STEM Ambassadors have a part to play in overcoming barriers to entering into the technology, science and engineering careers of today and the future.

**HOW DO WE GET GIRLS TO THINK ABOUT CAREERS IN STEM SECTORS, WHICH ARE SCREAMING OUT FOR MORE DIVERSITY?** By showing young people from all backgrounds the variety of STEM career pathways available and getting them thinking about pathways they hadn't previously considered. When girls meet female role models working in engineering, there's often a sudden light bulb moment. They'll say "I like science, but I didn't know I could do that".

**FOR ME, THE LETTER 'M' IS THE UNDERLYING PRINCIPLE BEHIND ALL OF THE STEM SUBJECTS.** The enjoyment and importance of mathematics is something we should strive to.

**THE WORD 'ENGINEERING' IS QUITE REMARKABLE, ACTUALLY.** Amongst our community of STEM Ambassadors, there are engineers involved in chemical engineering, construction, electrical engineering. Engineering is fascinating because there are so many facets to it, and young people understand that when they meet real engineers.

**IT'S VERY EASY FOR TEACHERS, SCHOOLS, COLLEGES, COMMUNITY GROUPS AND SCIENCE CLUBS TO FIND A STEM AMBASSADOR.** All they need to do is register on the STEM Learning website, [www.stem.org.uk](http://www.stem.org.uk), and ask for a volunteer to come to a school, community event or career-related activity.



### ABOUT AJAY SHARMAN

My role is to inspire and enthuse young people in STEM (science, technology, engineering, mathematics) by creating links between those who work with young people and STEM Ambassadors. STEM Ambassadors are volunteers who give up their time to demonstrate the value of STEM subjects in life and careers. If I have businesses telling me that they're getting increased numbers of skilled young people in STEM jobs, that's the kind of impact I want to hear.



### ABOUT STEM LEARNING

STEM Learning is the largest provider of education and careers support in STEM. It works with schools, colleges and others working with young people across the UK.

### THERE ARE OVER 30,000 STEM AMBASSADORS, OF WHICH:

**43%**  
are women  
(in London, 50% are women)



**60%**  
are under 35



**13%**  
are from minority ethnic groups





## WHAT DO STEM AMBASSADORS DO?

- CLASSROOM ACTIVITIES TO HELP BRING THE CURRICULUM ALIVE
- PROVIDE CAREERS SUPPORT SUCH AS MOCK INTERVIEWS, CV WORKSHOPS AND SPEED NETWORKING
- SUPPORT STEM CLUB ACTIVITIES
- JUDGE COMPETITIONS AND TAKE PART IN FESTIVALS AND FAIRS
- MENTORING



### VICKY STEWART

ASSOCIATE ACOUSTICIAN  
ATKINS, PART OF THE SNC-LAVALIN GROUP  
STEM AMBASSADOR

"It's my job to investigate sound, and to work with planners and architects to design measures to make places sound better. This can be anything from investigating potential changes in noise from new roads or railways; designing schools to be good learning environments; making sure that people in stations, airports and shopping centres can hear emergency announcements and alarms; and designing the acoustics in cinemas, concert venues and cars, even.

When I was a teenager I was interested in maths, physics and music, and I wanted to work in the music industry, so I went to Salford University to study audio technology.

A graduate in my profession would earn upwards of £25,000, increasing with experience and responsibility.

I love that my job gives me the opportunity to make a difference to people's lives, work with interesting people, and see the projects that I work on come to life."



### JAMES STONES

CHARTERED AND EUROPEAN PATENT  
ATTORNEY  
BECK GREENER  
STEM AMBASSADOR

"My job involves identifying and helping to secure intellectual property rights for my clients' ideas, and defending their patent rights from attack by others. I also defend my clients' "freedom to operate", which means that I help my clients attack the patent rights of others, thereby clearing the way for my clients to commercialise their ideas. In the main, I draft and file patent applications for inventions, and guide the applications through examination to grant.

The profession is generally well paid. New starters can expect a salary in the region of £32,000 rising to about £55,000 when newly qualified, and to about £70,000 after two years' experience.

What I love most about being a patent attorney is the involvement in the development of an invention: from the original idea, which might simply be on a piece of paper, to the launch of a commercial product into the market."