

How higher education institutions engage with the STEM Ambassadors programme



Background: Professor Elpida Makrygianni MBE –
Head of Education Engagement,
Faculty of Engineering and the Centre
for Engineering Education, UCL

The STEM Ambassador relationship

I am the Head of Education Engagement for the Faculty of Engineering, and I look after all our STEM outreach and engagement work with children and young people. UCL Engineering has a well-established, award-winning education



engagement programme. Volunteering is at the core of our engagement strategy, **it is about making a real difference and collectively contributing towards a more culturally and scientifically engaged society**. Our mission is to engage, inform and inspire a new generation of engineers from a diverse range of backgrounds.

Success of our programmes unquestionably depends on the vital contribution of our staff and student STEM Ambassadors – their passion and active engagement brings programmes to life, they are the best ambassadors for STEM.

Our STEM Ambassadors span staff members, postdoctoral research associates, undergraduate and postgraduate students across all our UCL Engineering departments, institutes and centres. We also work closely with industry, government, national and international organisations to maximise

our impact through collective efforts and share good practice towards the common cause of strengthening and diversifying the UK STEM workforce.

Personally, I have been a STEM Ambassador for eons. **I have always loved the idea that you are part of a bigger community of STEM Ambassadors** and that you could come together, meet others, share ideas of engaging with young people in fun, educational and meaningful ways, while finding out about a wide range of outreach opportunities offered through STEM Learning.

When I joined UCL Engineering to lead our education engagement team, I wanted to make sure that all our staff and students working with us in outreach were also trained and registered as STEM Ambassadors. I wanted us to be part of this wonderful STEM community and to offer our staff and students designing and delivering our outreach programmes a high-quality experience. **They benefit from different types of training and support as well as being part of a network of like-minded people from all walks of life**, studying and working in STEM, all who have the passion and commitment to inspire young people into STEM careers and degrees, and to make UCL's research and educational resources accessible to a much wider and diverse audience.

The certification and accreditation offered by the STEM Ambassadors programme is especially important, as it is a formal process which recognises and rewards the many hours of volunteering work that our staff and students are involved in. Our students tell us that volunteering helps them develop invaluable transferable skills and that it can help with improving their wellbeing and give them new perspectives on their academic subject and research. It also gives them the chance to make a difference and play their part within communities beyond UCL. During the COVID-19 pandemic, our student STEM Ambassadors delivered over 10,000 hours of online tutoring and mentoring to young people!

What is the impact of STEM Ambassadors?

Through an innovative collaborative approach, we have enabled our STEM Ambassadors to play a crucial role in the development and evolution of the outreach programmes, bringing ideas and improvements, while also leading on activities. **Our STEM Ambassadors do everything from tutoring and mentoring to hosting work experience and research placements, running summer schools and masterclasses, teacher placements and training**, as well as bespoke projects and interventions, through sustained, meaningful engagement over time, tailored to the needs of the communities we serve.

We keep a close eye on the impact that we have as STEM Ambassadors. We work closely with the schools and community centres we support, and we look at data on attainment and achievement at the start, mid-point and end of the year for our sustained engagements so that we can measure and track our impact.

We ask questions about increased knowledge, attitudinal change and aspirations too. **Our interventions have achieved a step-change in the representation of girls and young people who identify as Black, Asian or other global majority backgrounds across all our STEM programmes**, which has been recognised at national and international level by the likes of UNESCO and the European Commission amongst others.

I think the STEM Ambassador programme is wonderful, as are the people who lead it. They work with us to continuously improve our experience, the support they provide and the development of exciting new partnership programmes. Our focus now is to further strengthen and raise awareness of the STEM Ambassador programme for our new staff and students as well as across UCL.

About STEM Ambassadors

STEM Ambassadors is a fantastic volunteer programme that has been running for over 20 years.

Our volunteers offer their time, passion and energy to visit schools, colleges and youth group organisations to deliver requests from teachers and youth group leaders who want to link STEM subjects to the real world of work.

Find out more at our [information session](#).



Become a partner

Our STEM Ambassadors programme inspires the next generation and helps young people to develop the skills, confidence and mindset to build successful futures in STEM.

By running a STEM volunteer cohort we provide even more opportunities to connect young people to real-life STEM careers, prioritising support for those who need it most.

Find out more at our [information session](#).



My journey to becoming a STEM Ambassador – Arundathi Shanthini

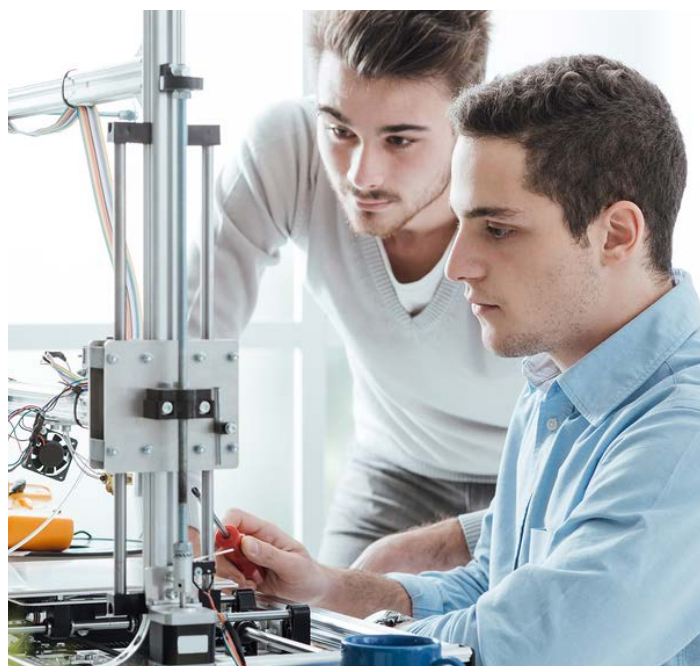
To me, being a STEM Ambassador is also a platform for sharing my interest and love for a subject with another person, whilst promoting STEM subjects. The best reward is to see them smile when they understand a topic or when they celebrate the joy of seeing the circuit or project they worked on function the way they expected it to work. By the end of most programmes, we see a change in most of the pupils in the way they look at STEM subjects and this becomes more evident when they ask you practical questions about how we got an offer at UCL.

Some pupils go even further and ask questions about how we pay the tuition fees, about the scholarships that are available and about working while at UCL. These were important concerns and questions I had before I came to UCL, and it makes me happy to be able to be of help to at least a few aspiring engineers.

Being a STEM Ambassador has given me an opportunity to eliminate certain misconceptions and worries about pursuing a career in STEM-related fields among young people and sometimes even among their parents. Being female myself, I can reassure mothers (of especially young girls) because, for them, seeing a girl pursuing her studies in the field, talking about her choice with confidence, offers them a lot of assurance.

Undoubtedly, the most rewarding part of volunteering as a STEM Ambassador is the joy of being able to share and develop an interest in subjects that I am passionate about among the young people. But that's not all. From volunteering as a STEM Ambassador, I have personally benefited in various ways too. Through these programmes I have met a lot of students from across different departments who share similar interests with me. Planning and conducting sessions and preparing study materials added a lot to my experience at university and it helps develop your personal skills as well.

Now that I am tutoring secondary school students, I feel like the more I teach, the more confident I feel about my knowledge in the subject. **The different questions they ask make you think in different ways and learn more about the different ways of solving a problem.** Often, I get to learn new approaches and methods myself!



How to get involved

If you have been inspired by how STEM Ambassadors support the learning and development of young people across the UK and you'd like to know more, please contact us at employersupport@stem.org.uk or visit stem.org.uk/stem-ambassadors/partner-info

 @STEMAmbassadors  /STEMAmbassadors