

How higher education institutions engage with the STEM Ambassadors programme



University of Reading and the Climate Ambassadors Scheme – Professor Andrew Charlton-Perez, Professor of Meteorology & Head of School

The STEM Ambassador journey

For the last two years, I have been involved in developing an action plan with colleagues who are keen to move climate education forward in England. We are particularly interested in rolling out better, and more, climate education. One barrier we identified was the lack of a co-ordinated approach to allotting the climate expertise in public policy, academia and research laboratories, and targeting it at schools, colleges and other education providers.

So, the obvious way to tackle this was via the STEM Ambassador programme. **We proposed the establishment of a Climate Ambassador Scheme, bringing together STEM Learning's STEM Ambassador network with my UK-wide network in climate science.**

Initially we signed up 25 institutions to take part who pledged to promote and support the scheme with their staff, and then we formally launched a couple of days before the government released their policy on sustainability education in April 2022. We've signed up 100 Climate Ambassadors already!

The aim is to grow the scheme and to encourage people who may already be volunteering as a STEM Ambassador to go beyond their traditional volunteering activities of going into a classroom to deliver a piece of content that a teacher may not be comfortable with. Instead, we encourage them to consider taking on a broader role helping to deliver climate CPD, advice and action plans for teachers and schools. We need to promote the scheme widely in both directions, both to schools and potential Ambassadors, though

it's true that we don't need to do quite so much promotion to teachers given the new policy and emphasis in schools. We actually don't have enough Climate Ambassadors to meet the growing demand!

Our Climate Ambassadors are encouraged to do a range of things – we give them suggestions in the welcome pack that we've produced for them. These activities can range from delivering climate content across the whole curriculum – students to think about mitigation and adaptation – to delivering CPD for teachers in Multi Academy Trusts, talking to school leaders about how to develop their climate policy. This helps them to navigate the most appropriate and best value for money energy solutions for their schools, or opens up the discussion about climate science.

It feels like we have hit the nail on the head that there was a desire from schools to receive this sort of support and that people working in climate science wanted to be able to help. What has been great is that it hasn't just been the more senior and well-established climate scientists who have signed up (and who have very little spare time!), but also students and people just getting into this sphere. You don't need to be the world expert writing the IPCC (Intergovernmental Panel on Climate Change) report, you just need to know where to look and how things work and why in our field.

We are conscious that teachers can often be bombarded and overwhelmed with information about climate science. There is a mountain of it out there! But some of the resource is great and some is terrible. So, we need to facilitate this for schools. And for us as Climate Ambassadors, we know that when we do public outreach work and you present your views as a climate scientist, the first thing people will ask you is, "what do we do about it then?", and different people have different answers. It's good to have started the conversations, even if you don't provide a solution; you need to give a framework to the discussion and a way to work on creating a solution.

Richard Allan, Climate and STEM Ambassador, University of Reading

I am a climate scientist at the University of Reading. I first came across STEM Ambassadors years ago and I got my DBS check through the programme.

More recently, I've tagged myself as a Climate Ambassador because our university leads an initiative to improve awareness of climate issues.

Part of our remit at the university is to undertake wider engagement with the local community and as an academic scientist to speak more generally to the public, industry and school students.



Richard Allan

I find opportunities as a STEM and Climate Ambassador in several ways: through our administrative co-ordinator who acts as a focal point for requests from schools; via direct requests from schools; or I am asked to support other university outreach work which tends to have a focus on recruitment. I find that I get sufficient volunteering opportunities via these routes, so I rarely need to use the STEM Learning website!

I run activities both here at the university and in schools. When we do things in the department, we bring schools in to take part in sessions covering the science of weather and climate. We demonstrate fluid labs, measure wind and temperature and run a forecast factory where students make calculations and pass their information to their neighbours to act as a forecasting computer. In schools I run more interactive talks where I get the students to act out a feedback loop and use infrared thermometers to test temperatures through windows and out to the sky to demonstrate greenhouse effect.

Usually, I pick the messages that I want to share, but sometimes I am asked to link the content I deliver to the curriculum. I ran sessions in my son's secondary school where I was supporting their geography curriculum on climate change.

I get a real sense of purpose out of my volunteering as a Climate and STEM Ambassador. You feel like you are putting something back that you've learned. You're helping teachers and students to learn and to give a broader experience than they would have otherwise had.

It's also useful for my research and other teaching. It makes me think more widely about the problems I deal with and find ways to explain them in simple terms. The perspectives that you encounter from school-age students versus university students are very different. Sometimes they bring misunderstandings, sometimes they ask challenging and insightful questions! **I recommend the scheme to other people in my department, and especially to those who are younger or earlier in their careers.** It is good experience, especially if you want to do research or teaching – it makes you think of things that you didn't before! **Being a Climate and STEM Ambassador improves me as a scientist.**



Marta O'Brien, Climate and STEM Ambassador, University of Reading

I am an Environmental Scientist and a dedicated part-time PhD student focusing on air pollution research. I am also part of the Technical Services function at the University, where my role involves supporting teaching and research activities. Engaging with local communities and schools is an integral aspect of our work within the Technical Services team.

I find great satisfaction participating as STEM and Climate Ambassador in various activities, advocating for scientific and climate awareness, and important career opportunities available, particularly within our dynamic team. I happily disseminate information about diverse roles across various functions within the University.



I firmly believe in giving back to the community, and my commitment is evident through consistent volunteering in various capacities. Drawing from my extensive experience, I aspire to inspire others, particularly through hands-on activities with children.

In my interactions with pupils, I offer a range of engaging activities, including sample collection or basic sampling employing colour-changing strips sensitive to specific pollutants. Given the opportunity to utilize laboratory equipment, I provide children with an introduction to analytical chemistry and guide them through easy-to-follow experiments.

My encounters with schools have been overwhelmingly positive, as educators warmly welcome the support I offer. Collaborating on additional curriculum-related activities seamlessly integrated into their schedule is a rewarding aspect of this engagement. **I value receiving feedback from teachers, gaining insights into their needs and expectations, and improving the aspects of the activities that resonated most with the students.**

I consistently recommend the STEM Ambassador programme to my colleagues specializing in environmental science, meteorology, chemistry, biology, and agriculture. **The program offers a wealth of opportunities for us to share our expertise and contribute meaningfully to the community.** Together, we can make a substantial impact in fostering scientific curiosity and learning.

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](#).



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

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