



Pictured left to right are the NUSTEM team: Professor Carol Davenport; Dr Antonio Portas; Annie Padwick; Jonathan Sanderson; Mel Horan and Joe Shimwell.

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Northumbria STEM outreach project marks major milestone

An outreach group from Northumbria University is celebrating a decade of STEM engagement in the North East and beyond, and has recorded over 170,000 interactions with children, families and teachers in that time.

NUSTEM works closely with schools to develop and provide activities and opportunities for children from all backgrounds to engage with the subjects of science, technology, engineering and maths (STEM). The work of the group,

made up of experienced teachers, researchers and outreach specialists, is underpinned by Northumbria's [world-leading research](#) and academic expertise, and has won [regional and national acclaim](#).

Since NUSTEM's launch over 10 years ago, [Professor Carol Davenport](#) and her team have undertaken thousands of hours of work with children from pre-school age through to those leaving secondary school. They have shared the benefits and opportunities that working in science-related subjects can bring to inspire future generations of scientists and engineers and support efforts to diversify the sector.

Award-winning initiatives such as [STEM Person of the Week](#), which involves the introduction of classroom materials to familiarise children with the personal attributes of people working in STEM careers such as marine biologists, satellite engineers and polar geologists, are used to make STEM careers more relatable for young people. [Research has shown](#) that through the intervention, children develop a much less stereotyped view of people who work in STEM, and are often inspired to further their own knowledge as a result.

Professor Davenport, Director of NUSTEM, said: "We believe that by supporting children, families and teachers to identify how their personal characteristics align with the characteristics of people that work in STEM, children and those around them will feel more confident that a career in STEM is attainable.

"We describe ourselves as an outreach and research group but when we first started we were an outreach project that used evaluation of our interventions as a tool to move us forward. Over the past 10 years we've gone from an organisation that used other people's research to guide us to producing our own research which is now used by others to move them forward.

"Over time, our focus has become more about working with children at the earliest opportunity so we can have the biggest impact. Much of our work takes place in primary schools with very young children. Uniquely for outreach work, we collaborate with the schools and they act as a testbed when developing our resources. We're very privileged that our partner schools are also our research environment."

At a recent celebration event held at Northumbria University to mark 10 years

of NUSTEM's outreach work, the team gathered with partners to reflect on over 60 workshops and talks, at least 44 projects, and 22 [academic research articles](#) and conference papers delivered during that time.

Among the teaching staff in attendance at the celebration event was Toby Hutton, Deputy Headteacher at New Delaval Primary School in Blyth. Members of the NUSTEM outreach team have been working with the primary school for eight years with children aged between 4 and 11 years old, including in Reception, Year 4 and Year 6 classes.

Mr Hutton explained: "After trialling the STEM skills and careers approaches suggested by NUSTEM with some of our year groups in their science units, the increase in engagement from the children when it comes to STEM activities has been clear to see. We are now in a position where NUSTEM will be involved in our whole school inset day in September to ensure all staff are supported with the training to teach science in this way to start the new academic year.

"As a school we are located very near to the Port of Blyth which is a world leader in renewable energy. We believe engineering-based roles will continue to be in high demand regionally and in our locality thanks to organisations like this on our doorstep. Providing our pupils with extra opportunities to develop knowledge and awareness of this field, while challenging stereotypes and raising aspirations for the future, is an important focus for us."

New Delaval Primary is one of the 63 schools members of NUSTEM have worked with regularly over the last decade, many of them in areas of deprivation. They have also collaborated with over one hundred external organisations, from [flagship regional partners such as the International Centre for Life \(Life\)](#) and North East Museums to leading national organisations including the Institute of Physics and the British Science Association.

[Professor Andy Long](#), Vice Chancellor and Chief Executive at Northumbria University, said: "Northumbria has a long history of making a difference to individuals and to society through high quality education for students from all backgrounds. Through the work of NUSTEM, we reach communities, classrooms and inspire the youngest of curious minds, while sparking confidence by offering a wide variety of opportunities to engage in science.

“It’s a proud moment as the team mark this important milestone, and I know they will continue to innovate and find new to ways to equip many more children and young people with the skills and ambition to pursue a future in STEM.”

Almost 40 per cent of Northumbria students come from areas with low rates of participation in higher education, the highest for a research-intensive university. And almost two thirds of Northumbria graduates go into employment in the North East. Find out more about unlocking your potential at Northumbria University by visiting www.northumbria.ac.uk

Discover more about the work of NUSTEM at www.nustem.uk

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