

CanSat case study: Greg Duffy

LIFT OFF FOR SCHOOL SPACE PROJECTS: FROM CANSAT TO ROCKETRY CLUB

CanSat opens doors

Greg Duffy is the assistant head teacher at Allestree Woodlands School in Derby. He mainly teaches computer science as well as creative media and food technology.

"I came to CanSat almost by accident. I helped one year with coding and then the lead member of staff left the school. The next September a group of year 13 students came to see me and said 'Mr Duffy, Mr Turner said you're running CanSat now.' I didn't know that but I thought I would give it a go as it seemed like an interesting project. It has been transformational; being involved in this project has been hugely rewarding."

Greg was pleased to get involved and watch the school's CanSat programme flourish.

"In 2015, they built a very simple CanSat with just a few temperature, pressure and gas sensors in it, and we were delighted to see this thing coming down from a weather balloon at 100 metres. The parachute worked, and we got our data. We weren't anywhere close to winning the competition, but we were over the Moon."

Greg quickly saw the doors that CanSat opened for his students and committed to supporting the students to do more with their CanSat experience.

"CanSat always makes our students stand out at interview. We've placed students with Rolls Royce for degree apprenticeships, into UK space industry internships and also into university pathways. All have talked about CanSat in their applications.

From the 2015 competition, we then improved year on year coming second in 2017 and then winning the UK stage in 2018 and 2019."

For more information on the CanSat competition, please visit: www.stem.org.uk/esero/cansat



UK Space Conference

Greg recognises the benefits of events and conferences in growing a network of supportive employers and industry professionals who want to help the next generation get started in their careers.

Greg was pleased to take a group of students to the UK Space Conference, where they continued to advocate for CanSat and met some personal heroes.

"Within about 10 minutes of being there the students had met Tim Peake! They were all a bit stunned I think."

Connecting the UK space industry with schools

Schools taking part in CanSat have been able to make connections with companies from around the UK. A monthly video call provides an opportunity for CanSat teams to interact with people working in industry who want to promote STEM careers.

"We've got a monthly event going on where somebody from the industry speaks to the CanSat teams about their work. Any team can join that. We also ask the CanSat students to present to the industry speaker so they also learn about the competition. We're pushing for companies to support a local team; let them see that this is real. It's not just a pretend project. There's an outreach from us to the industry, and then the industry reaching back to the students. One of the fascinating things about it is that in the feedback, the students love it but the people presenting also love it; you've got the CEO of a company somewhere, and they get to interact with some students and hear questions about their work."

"CanSat has sparked conversations, opened doors for students and schools, and provided opportunities to engage students who may never have seen themselves as being able to achieve in this way without the challenge."

Encouraging school participation

Greg wants to encourage other schools to give CanSat a go.

"We talk to the rest of the school about the project through assemblies and sharing the team's success. We have started to branch out and now have a rocketry club too. Our governors have been really interested in the project and helped us to get funding. We try and involve students who may not typically step forwards or face disadvantage in some way.

The way the students are motivated to learn more is remarkable. Coming into it, they know nothing about electronics, parachutes and sensors. Then by the end they know more about it than I do! We celebrate every little success along the way because they just love getting to grips with it all."

"I'd definitely say give it a go. Yes it is a big project but what it gives back to the students and your school is well worth the effort."



Personal development

Greg recognises that CanSat has given him an opportunity to gain new skills too.

"It has been transformative for me. It's reawakened a fascination that I had with space as a kid.

I'm now known for weaving space into everything! I'm in charge of the year six transition to secondary school so we have a summer camp which is called 'Rocket Mission UK' where the children design and launch five different sorts of rockets!"

