

# On Campus student takes telescope project to NASA

**A student at the University of Sheffield joined his team in taking a solar telescope project to NASA, thanks to funding from the IET's On Campus initiative.**



*Project SunbYte team at launch of their telescope in New Mexico*

Yun-Hang Cho is part of a team led by the Department of Automatic Controls and Systems Engineering (ACSE) at Sheffield, who have been working on Project SunbYte II. The aim of the project is to design and build a high-altitude balloon that can lift a telescope to the edge of space, as a low-cost method of discovering more about the sun.

With support from ACSE and other departments at the University of Sheffield, the team have worked with industry sponsors, partner universities and other stakeholders. Together they've

designed a platform that can stabilise the movement of the balloon, to allow the telescope to point straight at the sun.

"We were given the opportunity to launch SunbYte on the NASA High Altitude Student Platform, which flies small experiments designed and built by students," said Yun. "This involved integration and testing of the experiment at NASA's Columbia Scientific Balloon Facility in July and August, and a launch at Fort Summer, New Mexico, in September."

Yun and his team members were keen to raise the money for the trips. "We knew this would give

us a chance to not just visit a leading space agency, but to work together to achieve something useful," he said.

As a member of the IET On Campus group at the University of Sheffield, Yun decided to contact the IET for support – and was successful in securing funding for himself for both trips.

On the integration and testing trip, the team tested parts of SunbYte including its hardware and communications system. "This gave us some new insights, particularly on thermodynamic improvements that needed to be addressed prior to launch," said Yun.

In addition to their work at the balloon facility, the team made stopovers to learn more about the space industry and research in the USA. "We were incredibly lucky to attend an astronomy evening at Massachusetts Institute of Technology, where we learned more about the ways that celestial objects can be tracked and imaged," said Yun. "We also visited the Johnson Space Centre, where we saw real astronaut training facilities."

Yun and his team made their second trip to the USA to see their telescope launch on 4 September. "We worked extremely hard to make sure the experiment was ready," he said. "It was an incredible experience to see it successfully launch."

The academic lead of the project, Dr Viktor Fedun (ACSE), added: "The success of the SunbYte II project was the result of real collaboration between undergraduate and PhD students from different University of Sheffield departments. I am very proud of all the students involved and look forward to seeing their future progress and participation in SunbYte III."

**If you're part of an IET On Campus student community, you may be able to receive financial support from your local network for activities. You can also apply for additional funding directly from the IET, by completing the request form on our website: [www.theiet.org/apply-funding](http://www.theiet.org/apply-funding)**



## Lights, Camera, Action!

**In September, the IET ran a new competition to inspire and excite children about working in the engineering industry.**

We teamed up with iconic BBC television show *Blue Peter* to offer children the chance to design and engineer their very own music video for British pop-rock band New Hope Club.

Winners will get to meet the band, as well as actively participate in engineering the music video; from designing the storyboard for one of its key scenes to receiving mentorship from industry experts to perform the roles of lighting,

video and production engineers on set.

Despite the breadth of sectors that the engineering industry supports, recent research by the IET has shown that children view engineers as donning hard hats (44%), high vis jackets (40%), using protective eyewear and carrying a toolbox (37%). In reality, this couldn't be further from the image of a 21st century engineer, working

in sectors from aerospace to computing, and music production to motorsports.

Launching in mid-September, the competition was open to children aged 6-15 who had to submit a storyboard for a short scene for the upcoming video. Entrants were also asked to write about their favourite engineer and the impact they have had on the world.

The winning storyboard will be incorporated into the final video, with the winner and two runners' up joining New Hope Club on-set. Winners will be announced on *Blue Peter*, CBBC channel, at 5.30pm on 22 November.

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