

Strathclyde students launch experiment into stratosphere

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The balloon being prepared for launch.

A group of students at the University of Strathclyde, Glasgow, recently launched an experiment on-board a stratospheric balloon – as part of a prestigious European Space Agency (ESA) programme.

Balloon Experiments for University Students (BEXUS) allowed the Strathclyde team to launch an inflatable [structure](#) to 35km – the same height as Austrian skydiver Felix Baumgartner jumped from when he broke the speed of sound late last year.

The team – Tiago Queiroz, Frazer Brownlie and Andrew Allan – travelled to the Swedish rocket base Esrange in the far north of the country to join four other student teams from Germany, Italy, Hungary and Spain.

The successful launch of their prototype smart inflatable structure follows research on bio-inspired smart [space](#) structures at the University's Advanced Space Concepts Laboratory by PhD student Thomas Sinn.

Thomas, who was the supervisor for the project, said: "BEXUS is a fantastic programme which gives students the chance to design, build, test and fly their ideas on a stratospheric balloon. All the steps are very similar to real space projects.

"Launching large structures into space is very expensive. By making a structure ultra-light and deployable, a very large structure like a space power concentrator can then simply be packed and launched with a single rocket.

"By going a step further and taking all the rigid components out of the structure by disaggregating the electronics and making the structure able to change its shape, the possible applications become countless."

The launch campaign was part of a programme coordinated by the European Space Agency, the German Aerospace Centre (DLR) and the Swedish National Space Board (SNSB).

Tiago Queiroz who studies Computer Science with fellow team members Frazer Brownlie and Andrew Allan from the Department of Mechanical and Aerospace Engineering, added: "The whole project was an excellent learning experience. We had to cope with critical last minute changes, make fast decisions, conduct numerous tests and carry out post-flight

analysis.

"To be part of such a complex and diverse project as an undergraduate student provided a great opportunity to apply technical knowledge and develop personal skills which otherwise wouldn't have been possible.

"Seeing the launch of BEXUS, carrying the experiment that we worked so hard on for over a year and to then go to the ground station to see that everything was working as planned was a once-in-a-lifetime experience."

The University of Strathclyde is internationally-renowned for space-based research and is currently leading the Stardust programme – the first research based training network of its kind, boasting some of the world's foremost experts in asteroid deflection and manipulation of space debris.

The programme's opening training school is currently underway and is the first step in training the next generation of scientists, engineers and policy-makers from a pool of more than 100 highly-qualified applicants.

Provided by University of Strathclyde, Glasgow

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