

Conference report from the 4th Symposium on Space Educational Activities

Barcelona, 27th-29th of April 2022

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1. Introduction and background

This report describes my travel to the SSEA 2022 conference which was made possible by the generous support from the Old Centralians' Trust.

The Symposium on Space Educational Activities (SSEA) is an event organised by European Space Agency's (ESA) Education Office, which provides a forum for students and professionals to come together and share their experiences in organising, running and participating in educational activities related to space. This is also the time when major CubeSat, rover and rocketry student teams come together to exchange knowledge and build new collaborations between universities.

This year's SSEA was the 4th edition of the event and was organised by Universitat Politècnica de Catalunya (UPC) · BarcelonaTech in Barcelona between the 27th and 29th of April 2022.



1 Universitat Politècnica de Catalunya (UPC) · BarcelonaTech - Main Campus

I have attended the symposium to present a co-written paper on findings from the ESA's "Fly a Rocket!" campaign which took place in October 2021. The programme entailed an online course held for a few weeks which then ended with a 5-day trip to the Andøya Space Center in northern Norway, where we as a team of 24 students from all over Europe could assemble and send a 2-meter-sounding rocket 8km into the atmosphere. Despite the fact that the programme finished, we as the team really came together and continued working on group projects – the papers presented in this year's SSEA are one of them.



2. The 'Fly a Rocket!' team from the 2021 course - a group picture with our rocket just before it was sent to the launchpad

2. The Symposium

Day 1 – Beginning of the Symposium

The first day of the event began with an Opening Ceremony by the ESA's Education Office and the UPC. We were surprised by the scale of the event, with some participants coming over from as far as Brazil.



3. The main hall of the UPC where the major talks and presentations were held

The ceremony was then followed by about 4 hours of oral presentations by student teams – the headliner of the event. The presentations were divided into subject blocks based on their topics. The Monday orals were divided into: ‘Solar System Science’, ‘Solar System Exploration’, ‘Small-Sat applications’ and ‘Space Education in Europe’.

Personally, I have taken part in the Solar System-related panels, where I was able to meet students designing martian and lunar bases for example.

In the evening, all participants were taken to the Terrassa campus, where we are able to attend workshops by Satellot and Open Cosmos – both being new-space companies born in Catalunya.



4. The Fly a Rocket team reunited in Barcelona after 6 months



5. UPC Terrassa campus

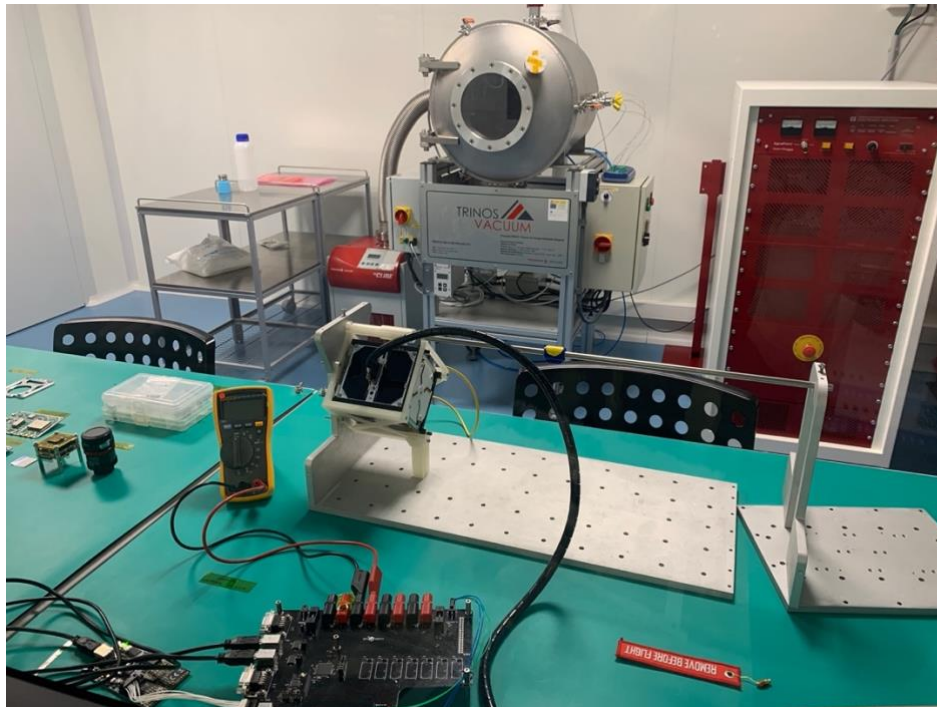
In addition to that, we were able to meet and talk to the students of UPC at their project fair, where they were showcasing their creations from rockets, rovers to the formula student car. Many connections have been made on that day with students from all over the world.

Day 2 – Presentations continue and Gala

The next day nearly immediately began with subsequent oral presentations. Thursday's topics were: 'Small-Sats in Education', 'New Space Opportunities', 'Space and Health', 'Space for sustainability, equality and diversity and 'Space Education at University. Also, this was the day when poster flash talks took place for the teams, which only had a poster. The topics varied widely here.

During these panels, we were able to see what experiences each team has and then approach them after the presentations. These proved particularly useful before the evening event on Thursday.

Before that, we were also able to tour the facilities of UPC, notably the NanoSat Lab, where we could see how CubeSats are being developed and tested. Despite being relatively small, it was impressive how many facilities and machines this small lab



6. The NanoSat lab interior with their new CubeSat being tested on the workbench

In the evening on the 28th of April, an official gala was held at the Fabra Observatory, overseeing the whole city of Barcelona. Apart from being an amazing social event, it allowed us to network with the most active students in space-related projects from all over Europe. For example, I have established a really good contact with students from the UK, Italy, Spain, Poland and Switzerland just to name a few.



7. The Fabra observatory with the evening view (picture on the right)

Day 3 – the ‘Fly a Rocket’ presentations and finishing remarks

Friday 29th of April was the final day of the Symposium and the day when our team got to present our work during the ‘Rocketry’ panel. The presentation went very smoothly, and we got plenty of questions from the audience.

Apart from ours, three more presentations from our Fly a Rocket programme were shown, outlining the hardware and the course itself.

The last day ended with an Award Ceremony when awards were given to the best presentations and posters.



8. Our team presenting the results from our flight data analysis.

3. Next Steps

Personally, the Symposium gave allowed me to meet very inspiring people from all over Europe in the field of space exploration. The contacts I have made with the UPC Rover Team and Team Diana from Politecnico di Torino have helped me and my friends at Imperial start a new space-student initiative called the “Imperial Planetary Robotics Lab” which is aimed to be the team for Imperial students to collaborate on space-related robotics, such as rovers aimed at competing in international rover challenges like the “European Rover Challenge”. We will aim to compete with other teams in the competition in September 2023.

I would like to again thank Old Centralians’ Trust for making this possible – this has been a great opportunity which I hope will not only benefit me personally but the Imperial community as a whole with our upcoming student projects.