RAINHOUSE
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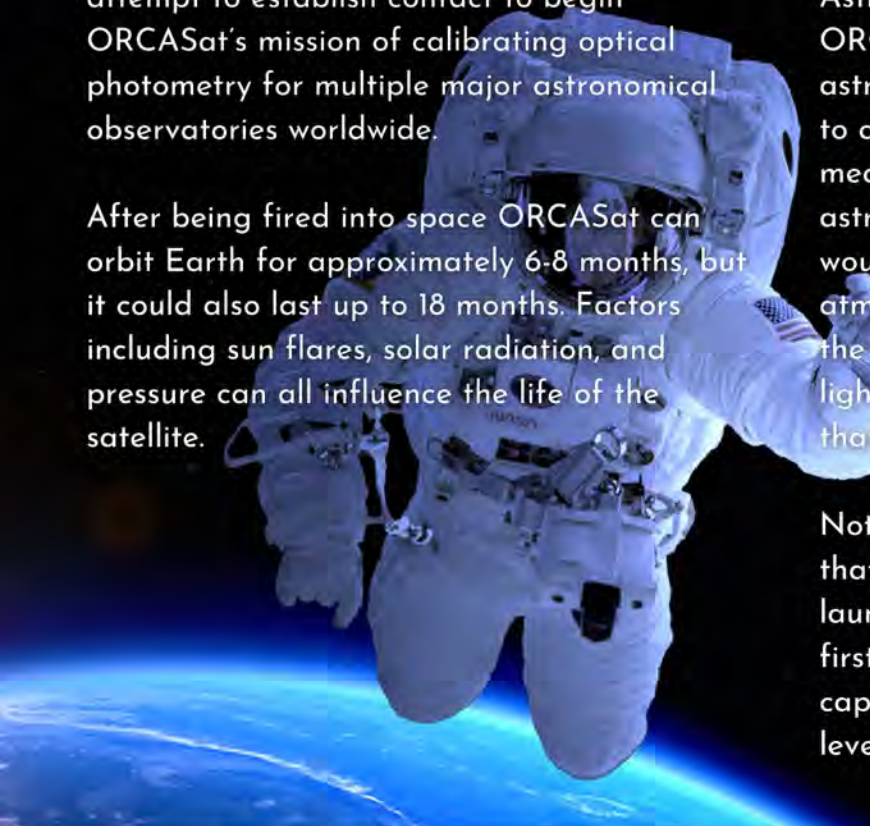
DECEMBER 2022 ● OPTICAL REFERENCE CALIBRATION SATELLITE

IT'S NOT EVERYDAY THAT YOU GET TO SEE PARTS THAT YOU'VE MACHINED BE LAUNCHED INTO SPACE!

November 22nd, 2022 around 12:54PM PST UVic's first student-designed satellite was scheduled to lift off but was delayed due to weather conditions. On November 26th, 2022 at 11:20AM PST, NASA launched the SpaceX Falcon 9 rocket which contained the UVic student-designed, Optical Reference Calibration Satellite (ORCASat). Once on board the International Space Station ORCASat awaited commencement.

Within 24 hours of being deployed from the International Space Station ORCASat's main ground station (on the UVic campus) will attempt to establish contact to begin ORCASat's mission of calibrating optical photometry for multiple major astronomical observatories worldwide.

After being fired into space ORCASat can orbit Earth for approximately 6-8 months, but it could also last up to 18 months. Factors including sun flares, solar radiation, and pressure can all influence the life of the satellite.



It "will be doing a 400-kilometre orbit around Earth and travelling at 7.5 kilometres a second. It's pretty fast."

- Alex Doknjas

The ORCASat is essentially an artificial star. It will act as a reference light source in orbit that can be viewed by telescopes on Earth.

Astronomers can measure how bright ORCASat appears, just as they would an astronomical object. This will allow astronomers to calibrate ground-based telescopes and measure the absolute brightness of an astronomical object. Rather than how they would appear after passing through the atmosphere and the optics of a telescope. At the same time, the satellite, using two laser light sources, will measure the amount of light that an astronomical object is emitting.

Not only is the ORCASat groundbreaking in that its the first UVic mini satellite to be launched into space. The ORCASat is also the first satellite ever to carry a light source capable of performing this experiment to this level of accuracy.

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