

# CubeSat Launch Initiative ELaNa 25A

Launch Vehicle: NG-12 – Antares II

Launch Date: 11/2/2019

Mission Name	Deployment Status	Mission Description	Payload(s)	Organization(s)
Argus-02 or MVP A	02/19/2020 6:00:00 GMT, Nanoracks	This 1U mission will fly with a commercial SD memory card that will be routinely checked for errors due to space radiation. Using a camera to capture images of Earth, on-board software will identify “interesting” features in those images where researchers will then train the system in what is actually interesting, so it can learn to do it better on its own. The second objective is to take a baby-step towards SLU’s next space project, called DORRE, which will be a small constellation of two or more spacecraft and two or more ground systems (telescopes).	Independence payload, a predictive model for electronics in space radiation	Saint Louis University
HARP (Hyper-Angular Rainbow Polarimeter)	02/19/2020 6:00:00 GMT, Nanoracks	The HARP mission is designed to measure the microphysical properties of cloud water and ice particles in the atmosphere using a hyperangular imaging polarimeter. HARP is a precursor for the new generation of imaging polarimeters to be used for the detailed measurements of aerosol and cloud properties, and is a NASA/ESTO (Earth Science Technology Office) funded CubeSat mission under the InVEST (In-Space Validation of Earth Science Technologies) Program.	Hyperangular imaging polarimeter	UMBC (University of Maryland Baltimore County), USU/SDL (Utah State University/Space Dynamics Laboratory), STC (Science and Technology Corporation), and NASA/GSFC (Goddard Space Flight Center)
Phoenix	02/19/2020 09:35:00 GMT	ASU’s first fully student led CubeSat project that will study UHIs (Urban Heat Islands) from LEO (Low Earth Orbit) through infrared remote sensing with a Tau 2 640 Longwave Infrared Camera. ASU was given the opportunity to develop Phoenix through NASA’s Undergraduate Student Instrument Project (USIP), and the NASA Space Grant Consortium.	Tau 2 640 Longwave Infrared Camera	ASU (Arizona State University)
RadSat-U	02/19/2020 07:10:01 GMT	A 3U technology demonstration of a new radiation tolerant computer system in a low earth orbit (LEO) and a second goal is to design and integrate a solar cell experiment with the RTCS on the spacecraft.	Radiation Tolerant Computer Stack	Montana State University
HuskySat I	1/31/2020 NRCSD-E (External Nanoracks Deployer)	A 3U technology demonstration mission of a pulsed plasma electric propulsion system and a high-frequency K-band communication system built at the University of Washington.	Pulsed Plasma Electric Propulsion System and a high-frequency K-band communication system	University of Washington
SwampSat II	1/31/2020 NRCSD-E (External Nanoracks Deployer)	A 3U technology demonstration mission to test a boom and antenna spooling and deployment mechanism to support a matched very low frequency (VLF, 3-30 kHz) antenna receiver pair for a Design-Build-Fly CubeSat for Characterization of VLF Wave in Low Earth Orbit.	Boom, antenna spooling and deployment mechanism	University of Florida, Gainesville
SOCRATES (Signal Opportunity CubeSat Ranging And Timing Experiment System)	02/19/2020 14:30:00 GMT	A 3U CubeSat mission for a technology demonstration mission of a x-ray-based navigation involves using pulsars, or astrophysical signals, to facilitate a means of positioning oneself in space when GPS is not available. The second objective is to investigate electronic accelerations in sun flares in order to understand the science behind the solar anomalies. This project was funded by NASA through the Undergraduate Student Instrument Project (USIP).	X-ray-based navigation	University of Minnesota