

only 9 months, TechEdSat-1 was the first American CubeSat deployed from the ISS as well as being one of the first CubeSats deployed from the Station overall. TechEdSat-1 completed a life cycle with over 1000 beacon packets and 208 days of service. The TechEdSat-1 deorbited May 5th, 2013.

As a result of TechEdSat-1's enormous success, an opportunity was presented to develop, build, test and certify TechEdSat-3P which ultimately launched to the ISS in 2013. For this mission, Ali served as a mentor to the other students and engineers as well as performed the role of safety engineer. For TechEdSat-4, launched in 2015, Ali was a radio frequency, safety and system engineer. TES-4 developed further the Exo-Brake passive deorbiting system by adding drag-modulation for accurate de-orbit and eventual re-entry control. It is also demonstrated a satellite-to-satellite communications system that allows for more frequent communication sessions with the satellite, leading to a higher rate of accuracy for satellite altitude and positioning predictions which are important for the operation of the Exo-Brake. TechEdSat-4 was also deployed from the ISS with re-entry occurring in only 4 weeks. For TechEdSat-5 Ali was the lead Safety Engineer. She ensured that all the safety requirements were identified, controlled and verified for ISS requirements. Ali also work on TES-6, TES-7, TES-8 and TES-10 as the quality and system engineer.

Ali was the deputy project manager, liaison and lead for ISS requirements for the Network and Operation Demonstration Satellites (Nodes) mission. The Nodes mission consists of two 1.5- unit (1.5U- 10X10X15 cm) nanosatellites derived from the hardware and software developed for the Edison Demonstration of Smallsat Networks (EDSN) mission (a swarm of eight spacecraft). Each Node utilizes the Android operating system with EDSN- specific software programmed to perform command and data handling tasks that allow the satellites to 1) relay ground commands through one satellite to the second satellite, 2) collect and relay science data on the radiation environment in the ISS orbit from each satellite to the ground station, and 3) autonomously determine which of the two satellites is best suited to control the space network and relay data to the ground ("Captain") and notify the ground system and second satellite ("Lieutenant") of the result. The science instruments on each satellite will collect data on the radiation environment at an altitude of 400 kilometers (km) above Earth after being deployed from the ISS. This mission was deployed from the ISS in May 16th, 2016.

Developing new technology, Ali worked with the SOAREX Series team. SOAREX serves as a test bed for a variety of re-entry and supporting technologies for use in autonomous sample return and other applications. Within the SOAREX team, Ali has multiple engineering roles from designing, building and serving as a testing engineer. She is also the deputy project manager and co-investigator for SOAREX 9 and SOAREX 10 missions. Ali supported the Orion Thermal Protection System (TPS) as a S&MA lead for the sensor on the Heat Shield (HS). She oversees the quality and safety of the design, build and testing of the sensor that will be installed in the HS for the next flight in 2018.

Ali works currently for the Small Satellite Technology Program at NASA Head Quarters (HQ). She is leading and Managing the Tipping points technology which are technologies that NASA wants to mature for commercial use.

As an aerospace engineer, Ali recognizes the significance of relatable role models. She is an advocate and actively promotes Science, Technology, Engineering and Math (STEM) education. She is registered with the NASA Ames Speakers Bureau and is an active participant of this program, speaking to local classrooms and community events about her

role with NASA. Ali also supports yearly programs including, Girls Scouts Go Tech, SJSU

spaceflight mission, launching the first NASA CubeSat from the ISS.

TechEdSat-3p: For exceptional performance and dedication in the development, test, launch, ISS deployment, and operation of the TechEdSat-3p Nanosatellite “Exo-Brake” spaceflight mission, launching the first 3u NASA CubeSat from the ISS.

In October 2015, Ali was awarded the NASA Honor Award - Equal Employment Opportunity Medal. This prestigious NASA medal is awarded for outstanding achievement and material contribution to the principles and goals of NASA's Equal Employment Opportunity, Diversity, and Inclusion Programs, either within the Government or within community organizations or groups.

In February of 2018, Ali was awarded the 2017 Space Technology Award for the Project Nodes.

Ali’s international recognition includes the Ohtli Award or Reconocimiento Ohtli, which will be presented to her May 3, 2018. The Mexican Government bestows this honor to individuals who have given assistance to Mexican citizens or promoted their culture.

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