

Ali Guarneros Luna

Project Manager, Aerospace and System Engineer

Summary

- Experience in building Space Hardware for on man and unman missions
- Program Manager for Electrostatic Discharge institutional program at ARC
- Deputy Project Manager-Leading effort to build and certify the SOAREX 8 and 9 experiment
- Deputy Project Manager-Leading effort to build and certify the Nodes Spacecrafts for ISS
- Space systems engineer – Currently leading efforts for TechEdSat Series, and SOAREX experiments. Lead the TechEdSat Project various technical areas: TechEdSat is a NASA/Ames-SJSU project and it's the first NASA/Academia Nano-Satellite to be jettisoned from the International Space Station and NODES spacecraft
- Aerodynamics, CFD, spacecraft design, space systems, orbital dynamics (using STK), and aerospace structures among others
- Engineering software expertise - STK, SolidWorks, AutoCAD, Pro-Engineer, MATLAB, and ESI CFD among others
- Project management of various SJSU space projects: Synchronized Network of Autonomous Position Satellites (SNAPS), Lunar rover, and various rockets such the A Rocket Launch for International Student Satellite (ARLISS) and San Jose State High Altitude Rocket Project (SHARP)
- Leadership skills, including managing, leading and teaching groups of up to 30 people like TechEdSat, SNAPS and ESD Workmanship Class
- Excellent communication and problem-solving skills

Work History

NASA AMES RESEARCH CENTER

Program Manager for Electrostatic Discharge (ESD) Program

March 2015 to present

Engineering Manager

- Managerial/oversight on all technical and programmatic aspects of the ESD program at Ames Research Center (ARC).
- Instructor for ESD at ARC -Ensure appropriate training and certification for all personal at ARC.
- Technical Authority for ESD Requirements on Center.
- Implement ESD Requirements at the Center.
- Implement Audits and Certify ESD protective areas per ANSI/ESD 20.20 requirements.
- Develop new ESD Program Plan for ARC.
- Responsible for reporting to AMS results of ESD audits and certification.
- Create a state-of-the-art workmanship lab at ARC.
- Oversight of 120 ESD Protective Areas at the Center.

Safety and Deputy Manager, System Engineer TechEdSat 7 and 8

June 2017 to Present

- Managerial/oversight on all technical and programmatic aspects of the TechEdSat Project; made technical contributions to both speed the development and meet ISS requirements.
- Lead Safety requirements of fast turnaround build spacecraft and develop documentation for ISS.
- Co-author technical papers for small cubesat and payload including project plan mission D, Safety Data Package. Develop and Author ISS standard document for Small SpaceCraft.
- Led the efforts to successfully meet ISS program and Ames Engineering requirements.
- Author of Safety Data packet for Payload Safety Review Panel (PSRP).
- Lead efforts to certify and build next generation of TechEdSats hardware for ISS Develop project.
- Lead coordination of the group to ensure feasibility studies, design, development, applied research, fabrication, integration, testing and operations of space flight systems applied during the development of the satellite.
- Oversight of scheduling and budgeting for the program.
- Plan, guide, coordinate, and manage the work of the team and ensure that the resource are engaged to accomplishing the missions and functions of the project.
- Proposal Author for future payload integrated into TechEdSat missions and State of the Art Technology.

Safety and System Engineer TechEdSat 5 and TechEdSat 6

March 2015 to June 2018

- Managerial/oversight on all technical and programmatic aspects of the TechEdSat Project; made technical contributions to both speed the development and meet ISS requirements,
- Led Safety requirements of fast turnaround build spacecraft and develop documentation for ISS.
- Co-author technical papers for small cubesat and payload including project plan mission D, Safety Data Package. Author of Safety Data packet for PSRP
- Leading the efforts to certify and build the next generation of TechEdSats hardware for ISS Develop project
- Led the SAA with San Jose State University to advance the capabilities of development of satellite by adding new ideas of experiment/subsystem/sensor and promoted state of the art technology.

Program Manager for NEArDrop Project

June 2015 to January 2016

- Created Schedule for the project base on cost on estimate lifecycle duration of project.
- Conducted engineering studies related to Science/Technology envelopment Objective & Diving Requirements for the NEArDrop Project.
- Performed project level technical risk assessment, and analysis.
- Identified the risk, cost and schedule of all Phase of the project.
- Assessed Technology and TRL based on project needs.
- Identified trade space options and resource.

Co-PI and Deputy Project Manager for SOAREX 9

October 2015 to October 2016

- Managerial/oversight on all technical and programmatic aspects of the NASA documentation and requirements for Sounding Rocket SOAREX.
- Lead Engineer for Integration of Main Payload.
- Oversaw the development of spacecraft and build up.
- Developed project budgets, and configuration management plan.
- Lead Coordinator with Wallops, and ARC -Coordinator for Analysis group Team for Re-Entry vehicle: DAC, CBAERO, POST, TRAJ, STK.
- Coordinated with partners and collaborated understanding of feasibility studies, design, development, applied research, fabrication, integration, testing and operations of flight payload system.

Deputy Project Manager for SOAREX 8

March 2014 to Sep 2015

System Engineering

- Managerial/oversight on all technical and programmatic aspects of the NASA documentation and requirements for Sounding Rocket SOAREX.
- Lead Engineer for Integration of Main Payload.
- Developed project management work breakdown structures, budgets, project plans, and risk and configuration management plan.
- Led and mentored new Engineers to the development of Flight Hardware.
- Lead Coordinator with in GSFC, Wallops, and ARC.
- Coordinator for Analysis group Team for Re-Entry vehicle: DAC, CBAERO, POST, TRAJ, STK.

Deputy Project Manager for NODES

March 2014 to Sep 2014

SS&MA and Test Engineer

- Managerial/oversight on all technical and programmatic aspects of the NASA documentation and requirements for ISS and ARC.
- Made technical contributions to both speed the development and meet ISS requirements for batteries.
- Lead Engineer on safety requirements for ISS.
- Co-author technical papers for small cubesat and payload including project plan mission –D, Safety Data Package, among others.
- Led effort to up-mass and certify the next generation of spacecraft.
- Led effort to rapid develop and certification of batteries for ISS approval.
- Responsible for system Safety and Mission Assurance of the mission and environment.
- Core team member of system and integration of flight hardware.
- Author of Safety Data packet for PSRP.

Safety and System Engineer TechEdSat 4

August 2013 to June 2014

- Managerial/oversight on all technical and programmatic aspects of the NASA/Ames-SJSU-IoU, TechEdSat Project; made technical contributions to both speed the development and meet ISS requirements.
- Led integration Engineer and solder- six-week turn around build spacecraft and develop documentation for ISS.
- Co-author technical papers for small cubesat and payload including project plan mission –D, Safety Data Package, among others.
- Led the efforts to successfully meet the requirements from ISS program and Ames Engineering requirements.
- Author of Safety Data packet for PSRP.
- Led efforts to certify and build the next generation of TechEdSats hardware for ISS.
- Developed and implemented project management project plans for class D project.
- Author of configuration management plan.
- Responsible for system Safety and Mission Assurance of the mission and environment test.

Safety and System Engineer TechEdSat 3

June 2012 to September 2013

- Managerial/oversight on all technical and programmatic aspects of the NASA/Ames-SJSU-IoU, TechEdSat Project; made technical contributions to both speed the development and meet ISS requirements.
- Co-author technical papers for small cubesat and payload including project plan mission –D, Safety Data Package, among others.
- Led the efforts to successfully meet ISS program and Ames Engineering requirements.

Systems Engineer

Sep 2012 to May 2013

NASA/ Metis Technology Solutions, Inc. – Mountain View, CA

SPHERES National Lab

- Expert on Safety requirements for the ISS.
- Member of engineering staff for SPHERES National Lab at ARC: responsible for flight and ground consumables and hardware.
- Author of Configuration Management Process for SPHERES Project.
- Author of Procedures for Battery Build.
- Flight Time Experience: Active participant in SPHERES ISS flight experiment sessions, and documented experiment outcomes.
- Over site procurement and service request for SPHERES Lab.
- Led efforts to certify and build ISS SPHERES National Lab and Engineering Batteries and CO2 Tanks.

NASA AMES RESEARCH CENTER

June 2010 to June 2012

Edison Program - Mission Manager and System Engineer TechEdSat

- Mission Manager for TechEdSat (managerial/oversight on all technical and programmatic aspects of the NASA/Ames-SJSU TechEdSat Project; made technical contributions to both speed the development and avoid ISS hazard obstacles, through innovative design, lab test, and qualification methods of the TechEdSat flight hardware).
- Developed and Engineered the Auxiliary Lateral Inhibit (ALI) Switch for safety deployment from ISS.
- Co-authored technical papers for small cubesat and payload including project plan mission –D, Safety Data Package, among others.

Center Chief Technologist - Engineering Intern

June 2010 to Sep 2012

- Co-author of the subsystem Interface Control Document (ICD) for the NanoSat Launch Adapter System (NLAS).
- Led SNAPS project from initial proposal and project award, and became the SNAPS Project Manager at San Jose State University, sponsored by NASA AMES.
- Lead investigator for a High School educational Balloon Payload for the State of Alaska Educational Department.

SPHERES National Lab

June 2010 to 2013

Program Office - Engineering Support

- Member of engineering staff for SPHERES National Lab at ARC: responsible for flight and ground consumables and hardware.
- Flight Time Experience: Active participant in SPHERES ISS flight experiment sessions, and documented experiment outcomes.
- Oversight procurement and service request for SPHERES Lab.
- Led efforts to certify and build ISS SPHERES National Lab and Engineering Batteries.

Additional Related Experience

San Jose State University

Feb. 2010 to May 2010

Front Desk at college of Engineering, Deans Office

- Coordinated and supported outreach events at San Jose State University.
- Assisted the Dean and Personnel in presentations.

San Jose State University

Feb. 2009 to May 2011

Teaching Assistant for AE Dr. Papadopoulos

- Responsible for grading student assignments and occasionally teaching up to 30 students.
- Helped students select an applicable final class project.
- Advised students on class project technical and programmatic elements.

- Responsible for organizing and supervising final class project demonstrations: SHARP, SNAPS, PolarBot and Lunar NanoRover.
- Assisted Dr. Papadopoulos with his various proposal efforts (as proposal manager).

American Institute of Aeronautics and Astronautics- Non-Profit Organization

San Francisco Chapter

Feb. 2009 to Feb 2011

College Outreach Office

- Led and coordinated the organizational committee for the 10th International Planetary Probe Workshop (IPPW-10), at San Jose State University in June 2013.
- Member of and organizational coordinator for the Plug-and-Play Mission Operation workshop at San Jose State University in May 2011.
- Led and coordinated outreach events throughout the year promoting science, technology, engineering, and mathematics (STEM).
- Led and Coordinated with the Mexican Aerospace Agency to develop an outreach program for Aerospace Engineering field by developing student projects.

San Jose Chapter

Feb. 2009 to May 2013

College Outreach Office

- Led and coordinated Programs for Students in the Aerospace Engineering Department at SJSU.
- Member of and Organizational coordinator of AIAA Space Student Workshop at San Jose State University in August 2011 and 2012.
- Helped Universidad Autonoma de Baja California develop an outreach program for Aerospace Engineering field by developing projects.
- Recruited and Developed students for technical work within the Aerospace Industry.

EDUCATION

August 2010 to May 2013

Master of Science in Aerospace Engineering - Emphasis on Space Exploration and System Engineer
San Jose State University, San Jose, California

August 2005 to May 2010

Bachelor of Science in Aerospace Engineering - Emphasis on Space Exploration
San Jose State University, California

Certifications

ESD Certification #210318 expiration 03/21/2020

Soldering Certification # J001-S 1856557898 Expiration 11/2020

Polymeric Application of Electronic Assemblies #QS0120 Exp: 01/31/2020

Crimpling, Cables, Harnesses and wiring Cert# 132 Exp: 01/31/2020

ARTICLES/ADDITIONAL INFORMATION

Award and Community Recognition

In recognition of Ali Guarneros Luna's achievements and extensive community involvement, the Hispanic Engineering National Achievement Awards Conference (HENAAC) named Ali as one of the 2013 Luminary Honorees.

Ali received technical merit with the International Space Station (ISS) Space Award in 2014 for her contributions to SPHERES, Modular Rapidly Manufactured Small Satellite (MRMSS), Nodes and TechEdSat Series Projects:

- SPHERES: For dedication and exceptional performance in the development and operations of free flying robotic satellites inside the ISS testing autonomous satellite maneuvers.
- MRMSS: For dedication and exceptional performance in research and development of modular design and manufacturing processes for spacecraft systems.
- Nodes: For dedication and exceptional performance in two nanosatellites that will be deployed from ISS to demonstrate networking and advanced multi-spacecraft operations.
- TechEdSat Series: For exceptional performance and dedication in the development, test, launch, ISS deployment, and operation of the TechEdSat Nanosatellite 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, 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.

In October of 2018, Ali received the Women of Color (WOC) Outstanding Technical Contribution in Government Award.

In September 2019, Ali was given the Most Promising Scientist or Engineer award at the Hispanic Engineer National Achievement Awards Corporation (HENNAC).

Ali's significant technical contribution to NASA and international space research along with her extensive community involvement promoting STEM to mass underrepresented STEM populations are highlighted in many media sources, including:

- SJSU Alumna Spotlight: <http://www.sjsu.edu/ae/alumni/quarneros-luna/index.html>
- NASA Ames Podcast: <https://www.nasa.gov/ames/nisv-podcast-Ali-Guarneros-Luna>
- MSN Noticias: <http://www.msn.com/es-xl/noticias/otras/nunca-pens%C3%A9-que-llegar%C3%ADa-a-la-nasa-ali-quarneros-luna-la-ingeniera-aeroespacial-mexicana-que-desarrolla-proyectos-para-viajar-a-marte/ar-AAAtaJCt>
- Xataka México: <https://www.xataka.com.mx/ciencia/ali-guarneros-luna-la-ingeniera-mexicana-que-tendra-la-mision-de-llevar-la-realidad-virtual-al-espacio>

- BBC Mundo: <http://www.bbc.com/mundo/noticias-41547843>