

International Council on Systems Engineering
ENCHANTMENT CHAPTER
UTEP Student Engagement Event
September 30, 2025

Zoom link

UTEP ISE Dept. (Industrial & Systems Engineering) Welcomes the Reviews
and Feedback provided by the Enchantment Chapter of INCOSE!

AGENDA

3:00 pm	Welcome and introductions	-Salcedo
	Dr. Bill Tseng, Chair IMSE Dr. Eric Smith, Sr. Design Class professor Dr. Sergio Luna, SE program Director Dr. Kendall Nii, NGC office of Chief Engineer Mr. Oscar Machado, UTEP Grad, NGC SE Ms. Amy Moy, Enchantment Chapter President Other Enchantment officers	
3:10 pm	Purpose and Goals of the event	-Moy
3:15 pm	General Description of projects	-E. Smith

Project one: Resource constrained Test flow optimization (Room No. A)

Background and Problem Statement

For the Program X we are building 3 spacecraft at the same time but we only have one or two sets of Mechanical Ground Support Equipment (MGSE). How do we optimize the schedule to get through all the required testing for single line flow?

hiye Zhang-Huang	-Zhang-Huang
Joel Burboa	-Burboa Baquera
Raul Salazar	-Salazar, Raul H

Project two: Long duration spacecraft (Room No. B)

Background and Problem Statement

The most advanced spacecraft that we have today are not built to get a tune-up. While automobiles can have their engines changed out, tires replaced, oil changed, and gas filled up, the same is not true for the majority of spacecraft. Northrop Grumman has successfully extended the lifetimes of

operating spacecraft through its mission extension vehicle (MEV) and with its future mission robotic vehicle (MRV) operations in space are about to get a lot more exciting. The question is, if you have a mechanic in space, how should we rethink spacecraft with that in mind. Typical high value satellites are designed for a lifetime of 15-20 yrs, but what if they could be designed to be serviced to last for 30 years, 40 years, or even 50 years?

Analaura Castillo	-Castillo, Analaura
Catalina Sanchez	-Sanchez, Catalina M
Jorge Mares	-Mares, Jorge
Javier Meza	-Meza Rodriguez, Javier A
Carlos Maiti	-Maiti Rivera, Carlos N

Project three: Improve Wire Harness Manufacturability (Room No. C)

Background and Problem Statement

Spacecraft harnesses are critical for the system to carry electric pulses, data handling and many other vital functions. The creation of harnesses dates back decades and has not been optimized to today's manufacturing process and accommodating fast productions. For this project we aim to create a process that would reduce the size and complexity of current harness development.

More detailed information, deliverables, statements of need, conops, and schedules are available on the project packages emailed last week. The information includes the names of the students in each of the project teams. Also included is a general rubric for ranking the three projects.

Bryan Jesus Almeraz	-Almeraz, Bryan J
Gael Meza-Robles	-Meza, Gael
Carolina Lozoya	-Lozoya, Carolina

3:30 pm We have established a Zoom side room for each of the project presentations, which will run concurrently. Please select the project of your interest. -Moy

4:00pm Return to main meeting room. Open up another room D (breakout room) for board members, Oscar, and E. Smith to discuss rubric rankings and determine winning team. Everyone else on break in main room.

4:15 pm Turn in rubric rankings and announce 1st place winners. -Moy

4:30 pm Thank you and adjourn -Salcedo

UTEP Participants

Dr. Oscar H. Salcedo, IMSE Special Projects
Dr. Bill Tseng, IMSE Chair and RIMES Director
Dr. Eric Smith, Associate Professor and Sr. Design instructor of record
Dr. Sergio Luna, Assistant Professor and SE Program Director

NCG Participants

Dr. Kendall Nii, Office of the Chief Engineer, Northrop Grumman Corp
Mr. Oscar Machado, SE Northrop Grumman Corp

Enchantment Board of Director Participants

Ms. Amy Moy, Enchantment Chapter President

Dr. Jen Giang, Enchantment Chapter Vice President

Dr. Jose Parga, Enchantment Chapter Past President

Ms. Ann Hodges, Enchantment Chapter Secretary

Ms. Mary Compton, Enchantment Chapter Treasurer

Dr. Cheryl Bolstad, Enchantment Chapter Director-at-Large

2 board members assigned to each breakout room