

HyperXite: The Future of Transportation

Primary Advisor: Roger Rangel

Advisors: Jack Brouwer, Kenneth Mease,

Mahshid Fardadi, Khalid Rafique, Lorenzo Valdevit, Farzin Zareian, Manuel Gamero, Daniel Mumm



Goals and Objectives

- To design and build a 1:2 scale pod for the SpaceX Hyperloop Competition
- To educate and train students in simulation and advanced manufacturing
- To uphold the reputation of the Henry Samueli School of Engineering

Purpose of Competition

- Accelerate the development of a safe, rapid, renewable, and economical transportation system
- The full scale system will transport people and cargo between major cities in California

Controls: The control system manipulates actuators and valves to control the velocity, lateral stability and levitation of the pod.

Structures: The structure of the frame is designed to include a strong inner core from which plates are extended to support the other systems.



2015 UC Irvine Hyperxite Team

Power: The power system consists four compressed air tanks, one auxiliary tank, and three rechargeable battery packs.

Levitation System: Air bearings are surrounded by skirts to maintain a constant height of 2.5mm above the surface.

> containing one air spring and four metal springs, is designed to have

Operations Director Project Manager Jacob Gantz Anthony Cirillo

Controls Lead

Austin Johansen

Piping Lead

Margarito Guzman

Levitation Lead James Harvey

Network Lead

Dean Defuria

Braking Lead Gabriel Buenviaje

Power Lead

Zepyoor Khechadoorian

Chief Engineer

Patricio Guerrero

Jasmine Cordero Jim Faber Jundong Hu Ke Quan, Laliphat Kositchaimongkol Peyman Pourrajab Vivian Tseng

Arnau Rodon

Bander Linjawi

Meng-Ting Hsieh

Hugo Rodriguez

Team Members

Preliminary

Structures Lead

Juliana Andrews

Manufacturing Lead

Nathan Sharifrazi

Design Weekend

Testing Completed

01/29/2016

06/30/2015

Design

Complete

11/13/2015

01/13/2016

Final Design

Complete

06/01/2015

Construction

Completed

Summer 2016

Competition Weekend

Added Tax 8.25% Power Skis Suspension **Piping Brakes Structures Controls**

Patricio Guerrero Jacob Gantz **Anthony Cirillo**

Suspension: This system,

two capabilities: vibration

instantaneous retraction.

dampening and semi-

patriciogguerrero@gmail.com jacobgantz54@gmail.com cirilloa@uci.edu

2015-2016 COSTS AND EXPENDITURES TOTAL COST: \$76,341