

Sasakawa International Center for Space Architecture (SICSA)



GUILLERMO TROTTI, MR. SASAKAWA AND LARRY BELL AT NEW SICSA FACILITY



APOLLO 11 ASTRONAUT BUZZ ALDRIN WORKING WITH SICSA SPACE ARCHITECTURE STUDENTS ON ORBITAL STRUCTURE CONCEPTS





<https://www.youtube.com/watch?v=evn1uUu1USU>

Early Works



LARRY BELL AND GUILLERMO TROTTI WITH LUNAR HABITAT MODEL



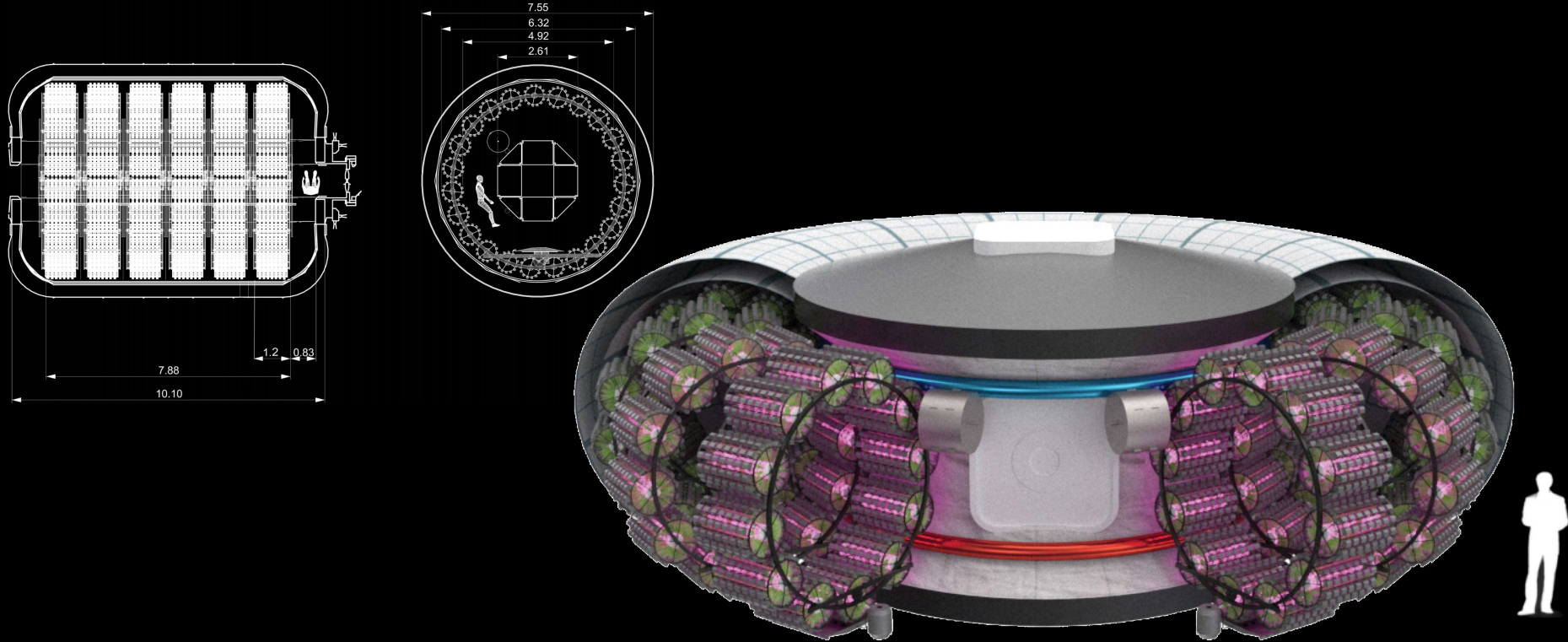
INFLATABLE SPACEHAB CONCEPT

<http://sicsa.egr.uh.edu/sites/sicsa/files/files/publications/SICSA%20History.pdf>

National & International Partners



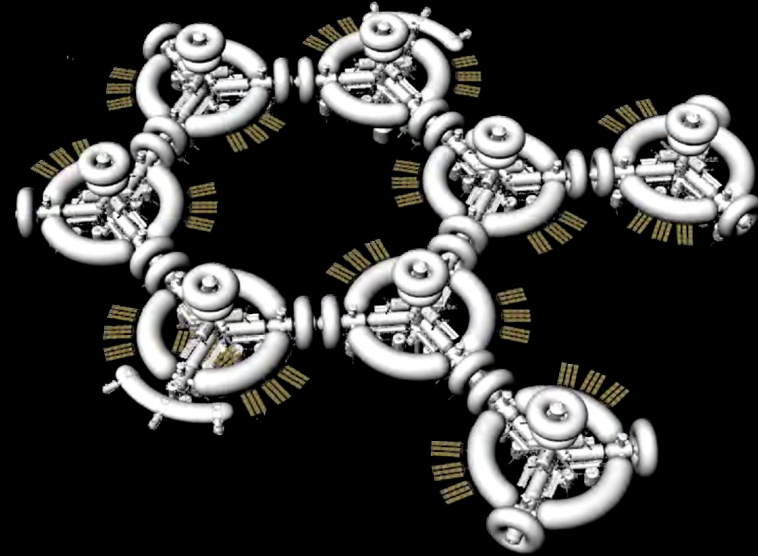
Orbit



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/final-thesis.pdf>

Thomas Lagarde

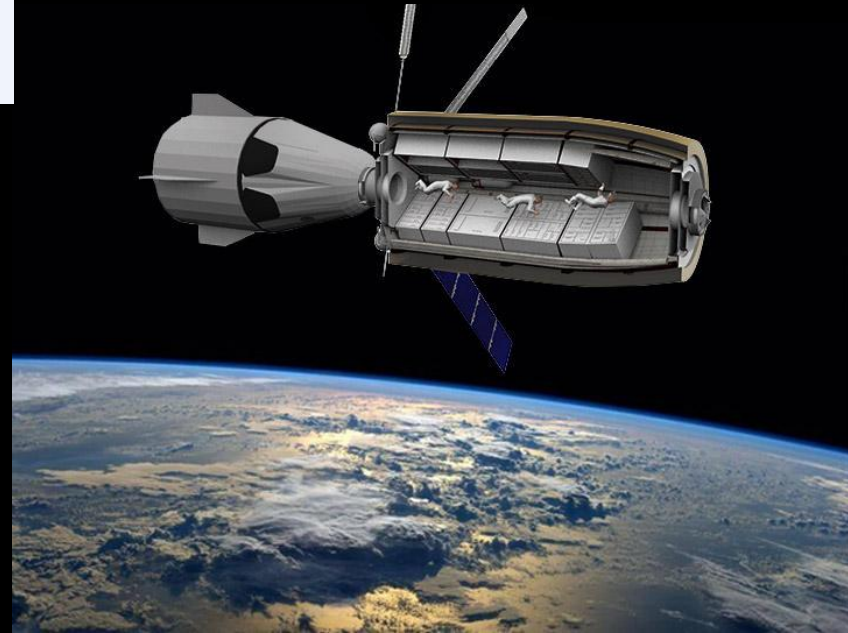
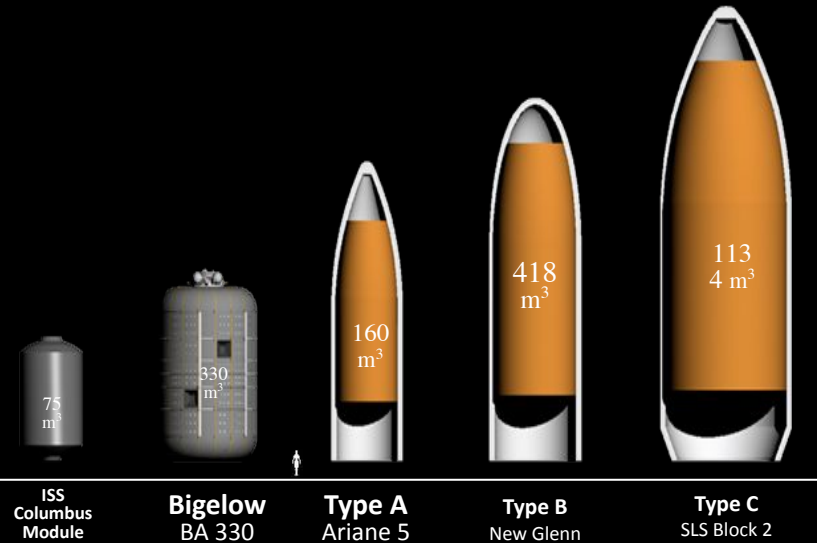
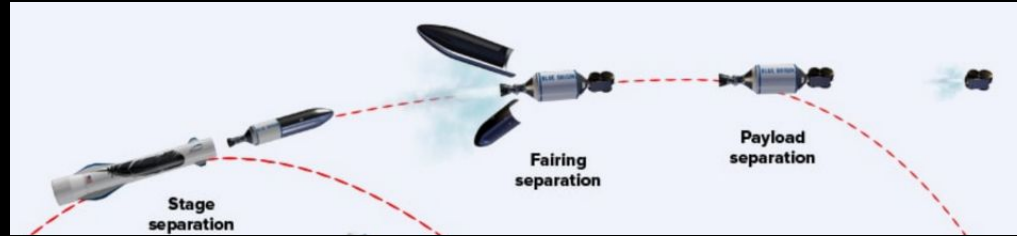
New Venice



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/thesis-final-presentation-suzana-bianco.pdf>

Suzana Bianco

Payload Shrouds as Space Station



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/ices-2019-113-leonardo-guzman.pdf>

Leonardo Guzman

Gravity Simulation Platform On-Orbit



<https://www.youtube.com/watch?v=oR7pOtlVHTM>

<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/final-presentation-albert-thesis-albert-rajkumar.pdf>

Albert Rajkumar

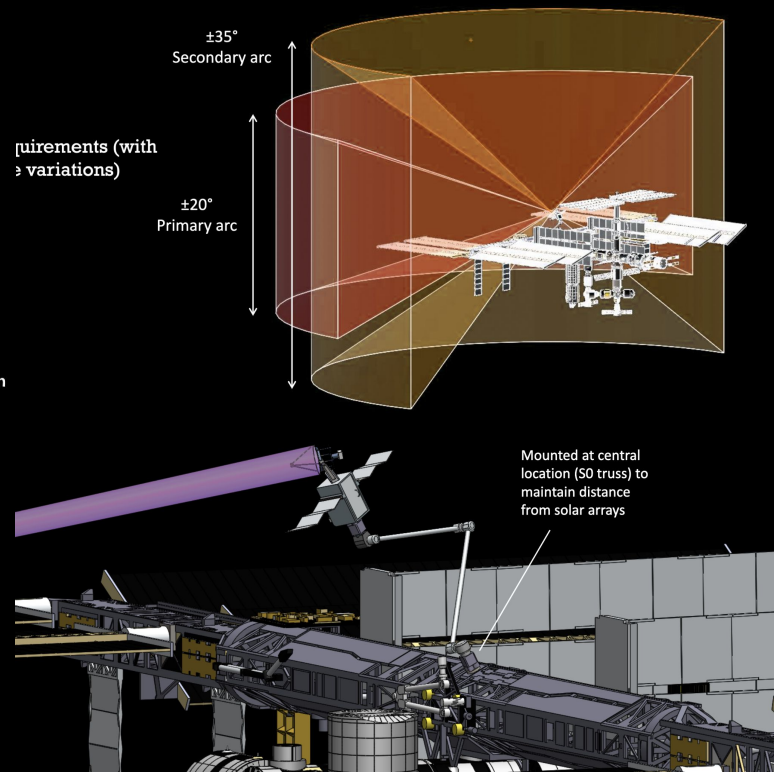
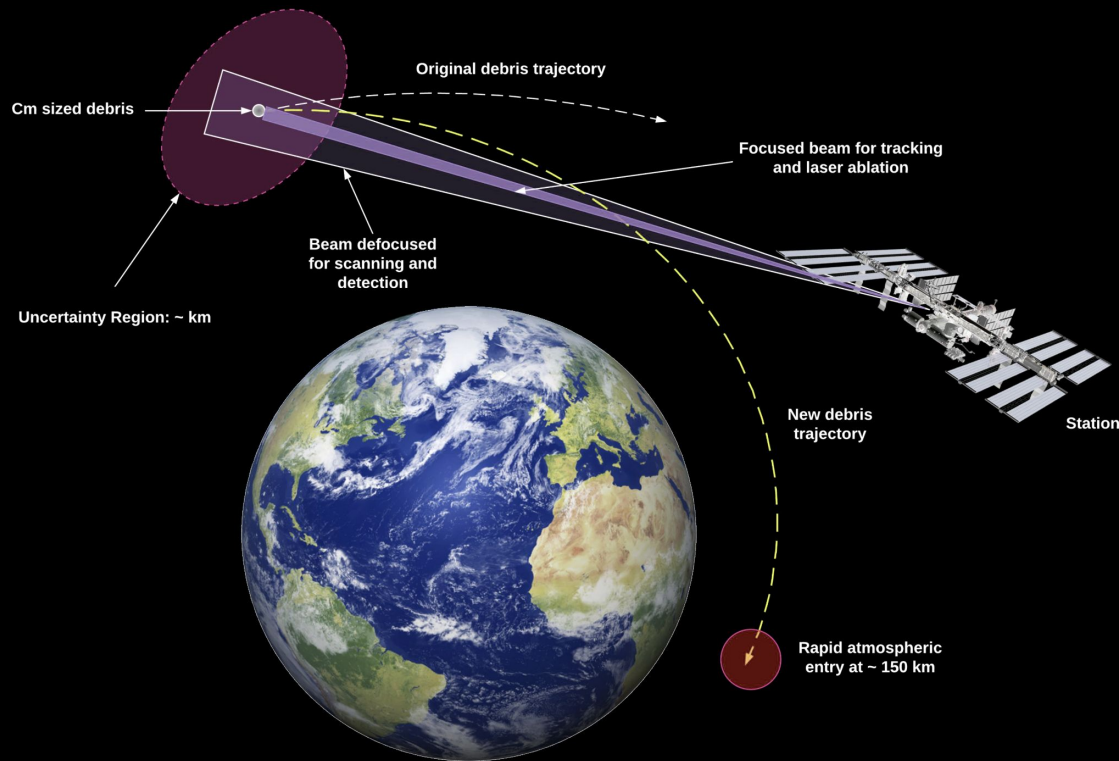
AstroPod



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/final-thesis-ppt.pdf>

Tamalee Basu

Active Protection System for ISS

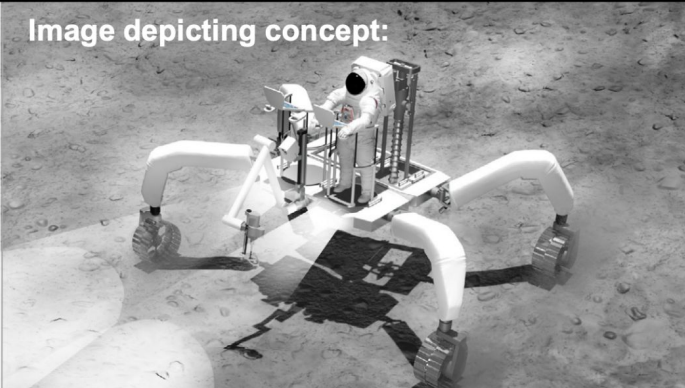


Moon

Theme:

Theme 1 | South Pole Multi-Purpose Rover

Image depicting concept:



Innovations:

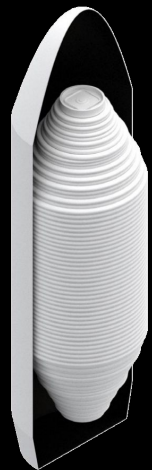
MUV modularity design allows:

- Expandability and versatility.
- Growth and adaptation for all three Lunar mission phases along with the rest of the Artemis program.
- New possibilities for human-robot interaction and human-robot exploration.
- Advancing mission safety.
- Increasing redundancy.

Concept Synopsis:

The Modular Utility Vehicle (MUV) is an unpressurized lunar multipurpose rover that utilizes a feasible design for a modular, upgradeable, telerobotically operated and/or manned rover for operating on the Lunar South Pole. Its capabilities include payload deployment, water-ice sample collection, geologic analysis, and terrain mapping. The defining aspect of this modular approach allows for diverse future mission requirements and objectives to be met.

Hyper Inflatables



SLS Block II Fairing
Volume: 1,166 m³
Weight: 100,000 kg



BFR Cargo Fairing
Volume: 780 m³
Weight: 70,000 kg



B330
330 m³



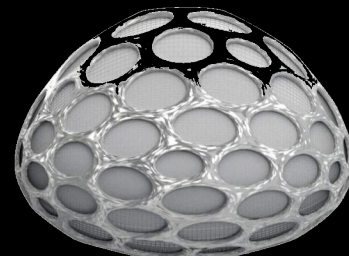
B2100
2100 m³



No Exoskeleton
1500 m³



Exoskeleton
25000 m³



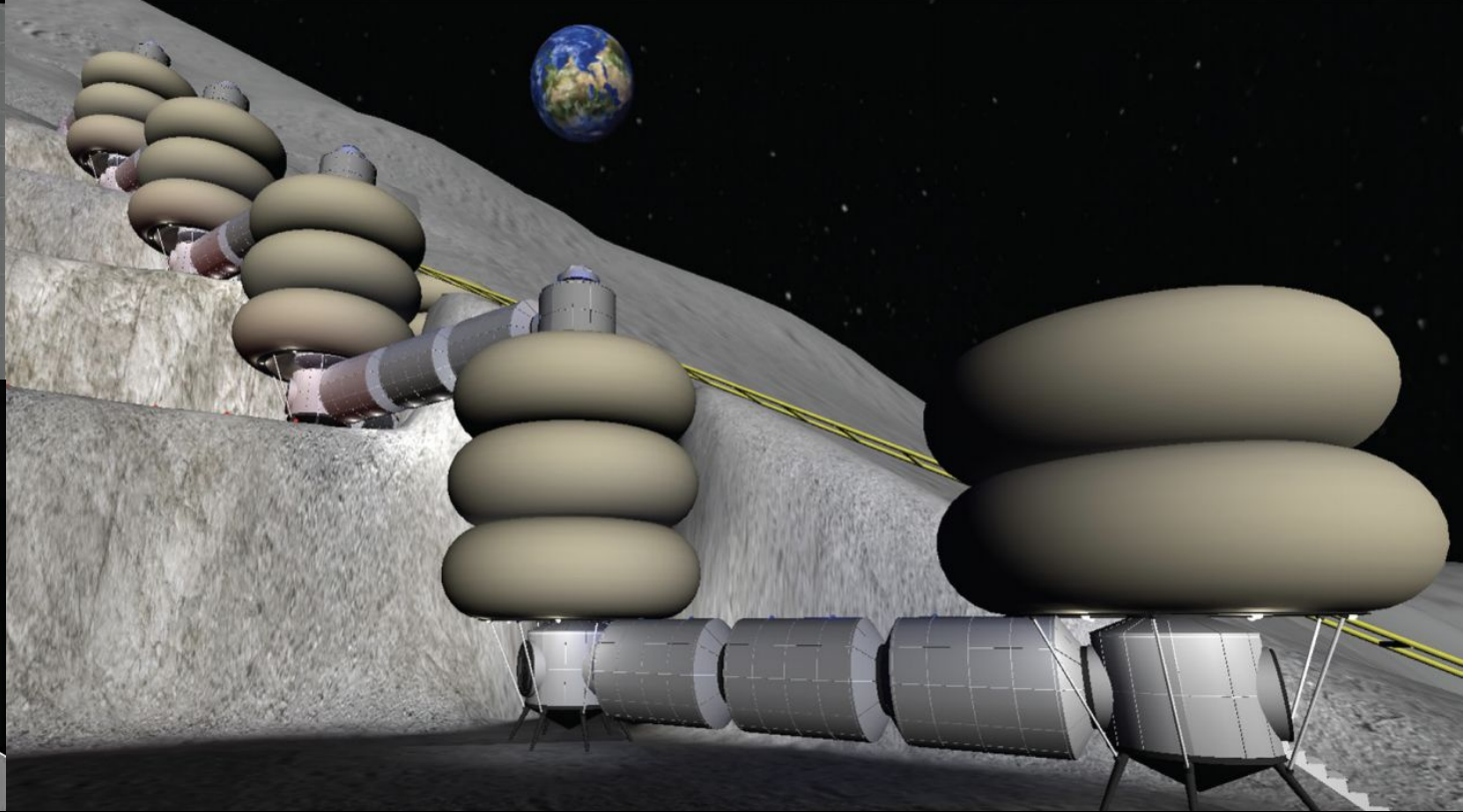
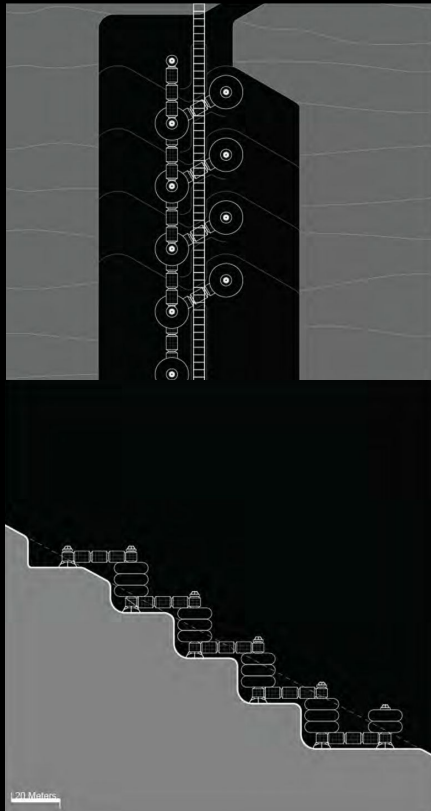
Manipulated Volume
20000 m³



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/thesis-defense-presentation-zach-taylor.pdf>

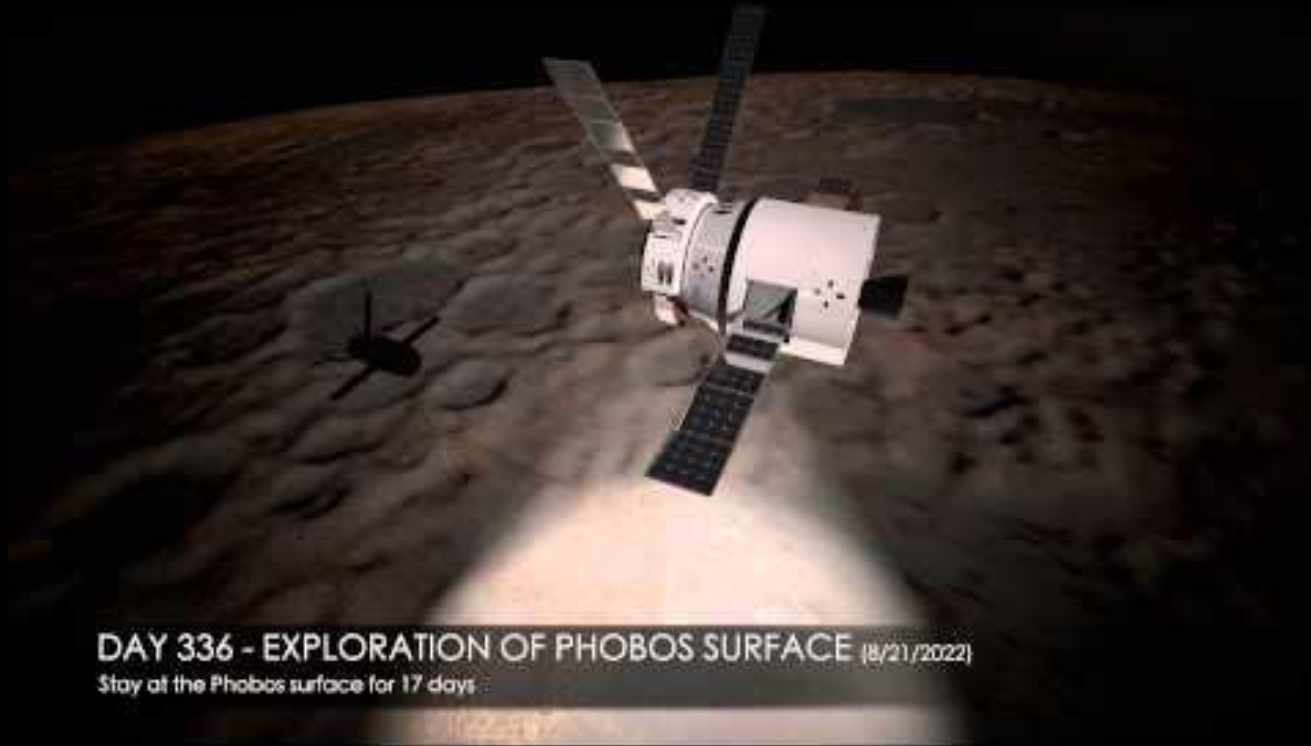
Zachary Taylor

Lunar Settlement Planning



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/lunarsettlement.pdf>

Mars



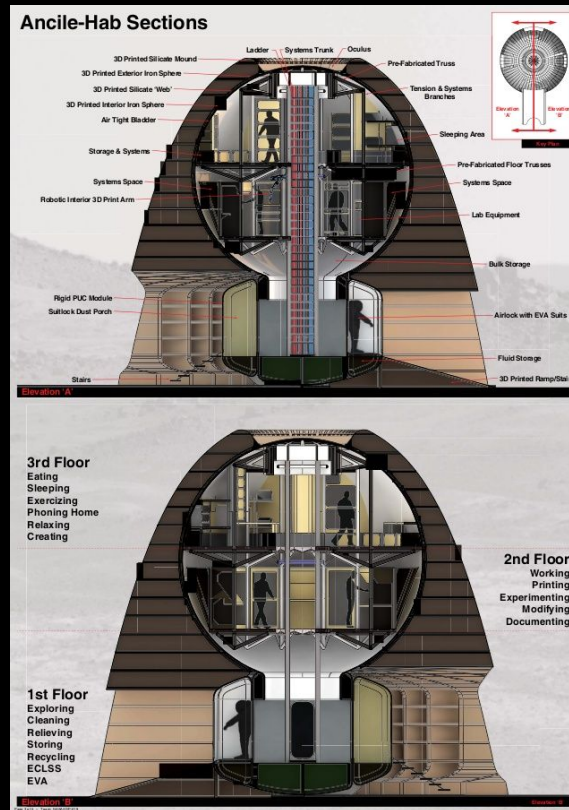
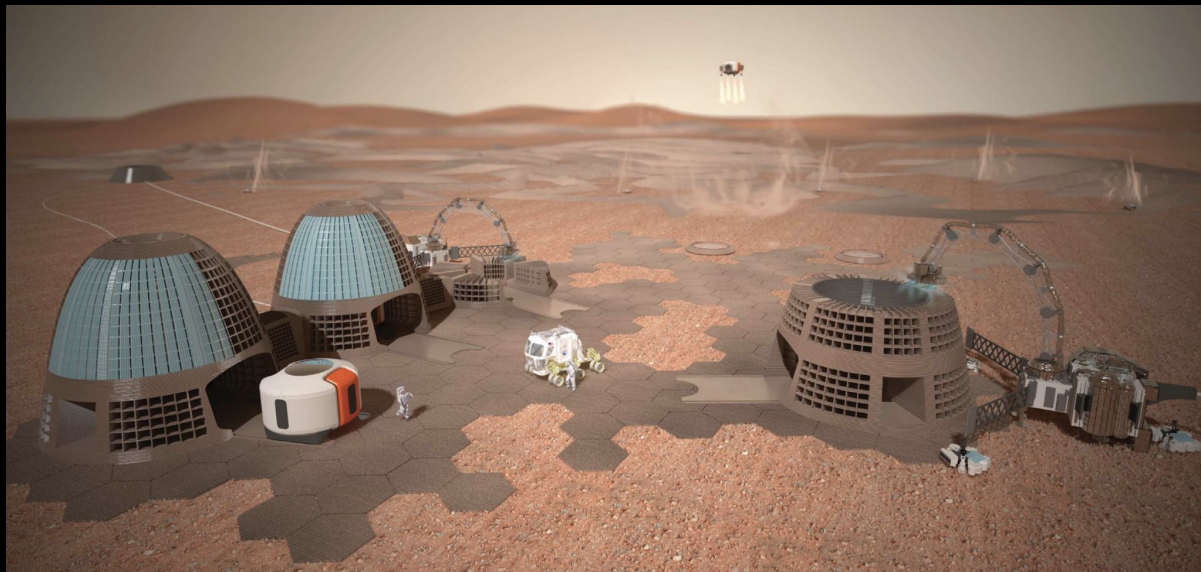
<https://www.youtube.com/watch?v=SUcK8iEr3j8&t=1s>

Nejc Trost



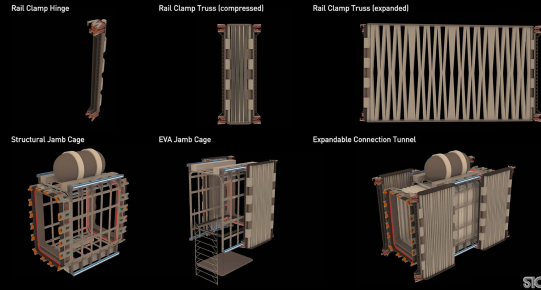
<https://www.youtube.com/watch?v=sXIJbDTyGj8&t=1s>

Ancile Hab: The Shield of Mars



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/america-makes-set-01.pdf>

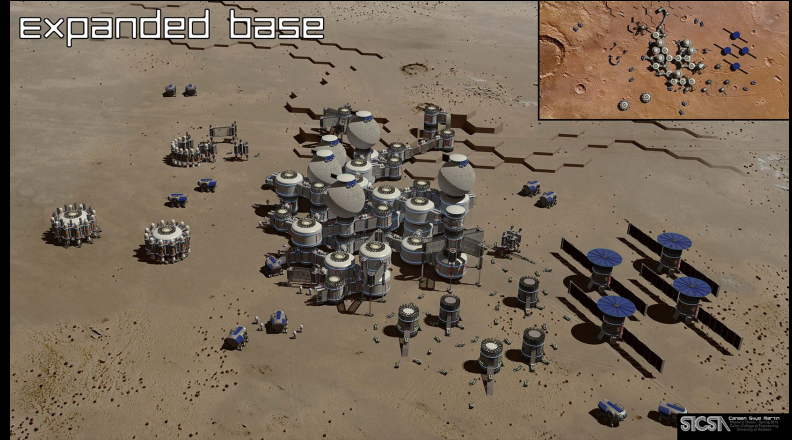
connection components



EXTERIOR PERSPECTIVE



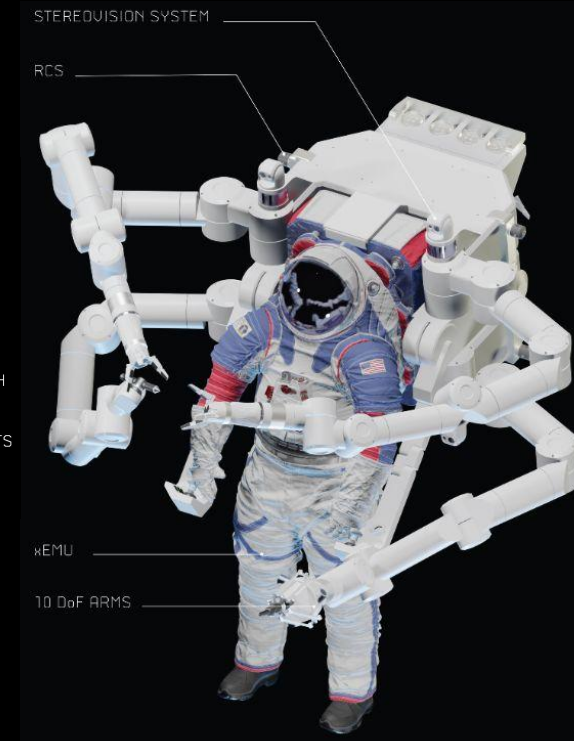
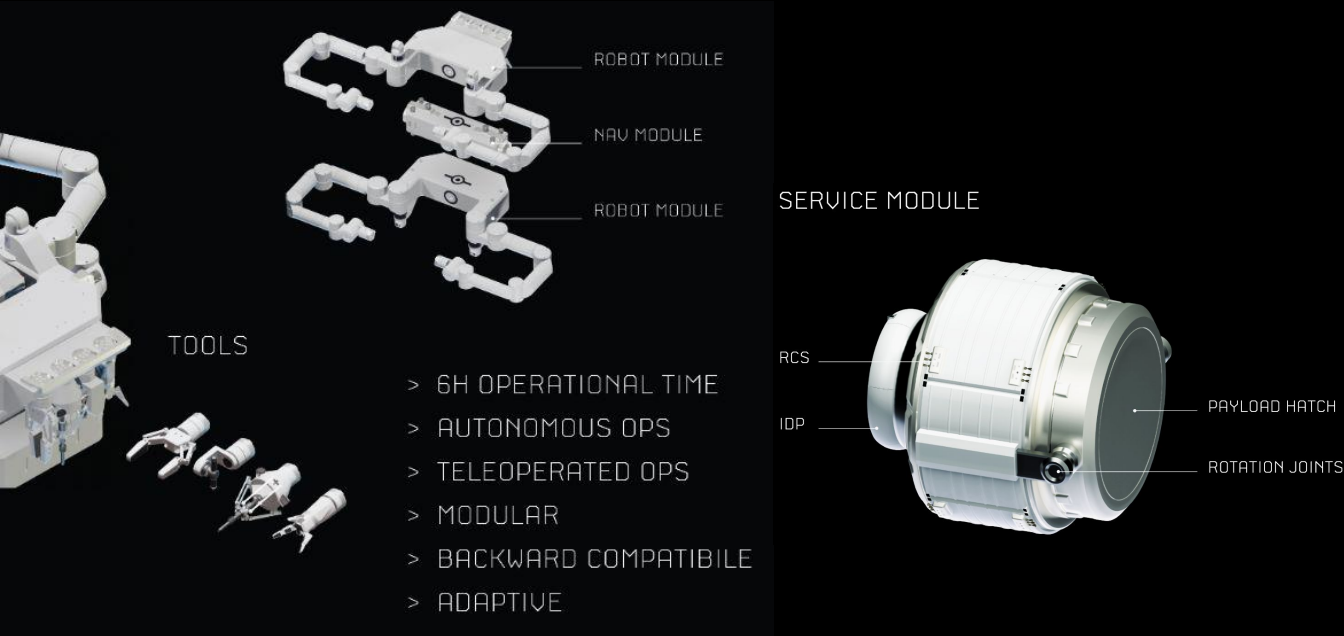
expanded base

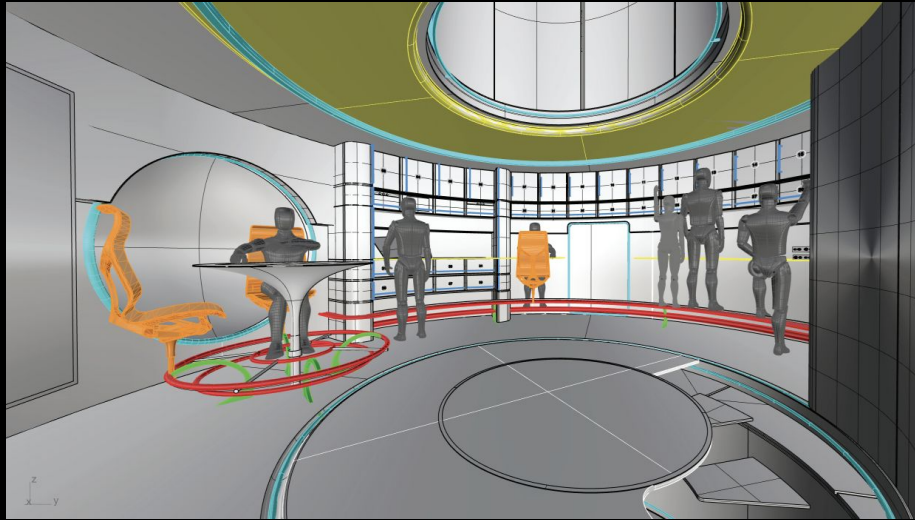


<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/novum2016canaanmartinmastersthesisbook.pdf>

Commonality and Human System Integration

Multi-Mission Extra-Vehicular Robot





<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/paola-gonzalez-thesis-presentation2.pdf>

Paola Gonzalez Marquez

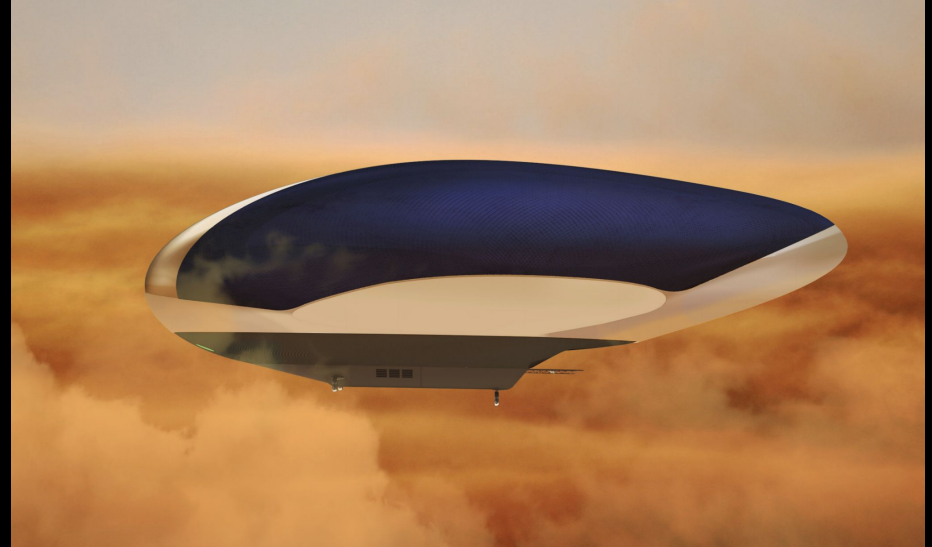
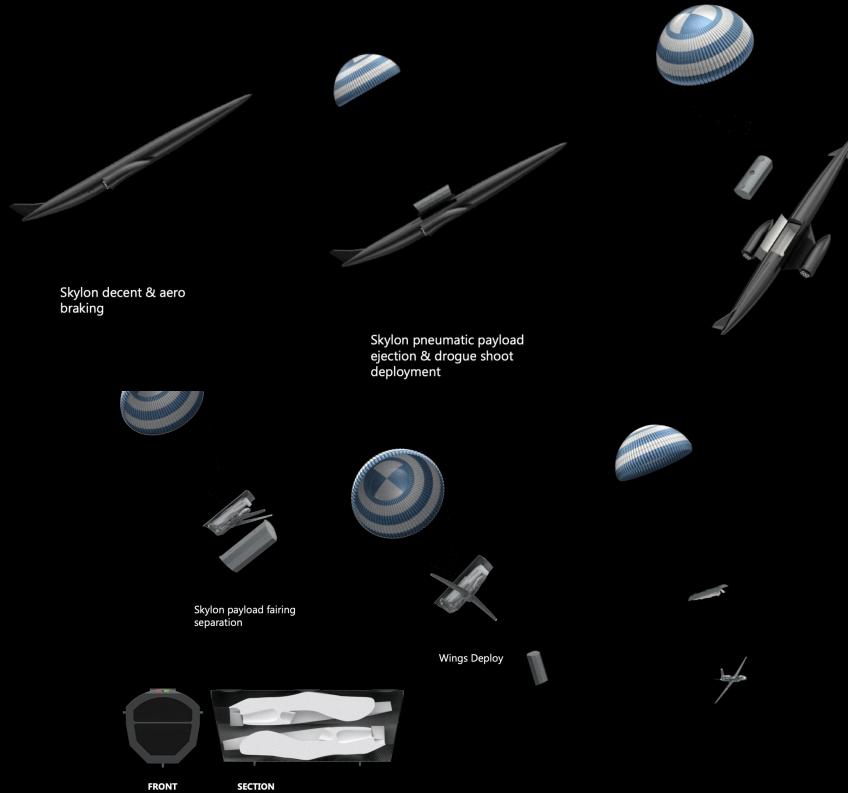
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gon_marquez7@live.com

Spring 2020

Other Places in Solar System

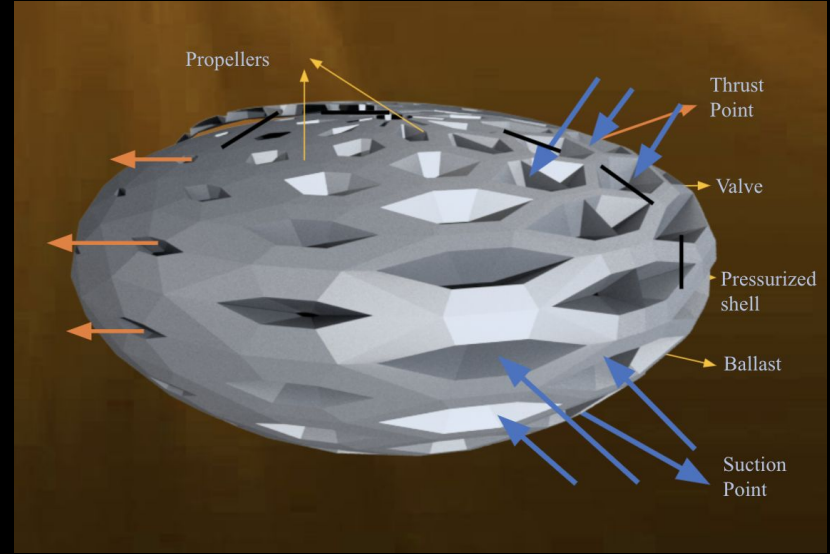
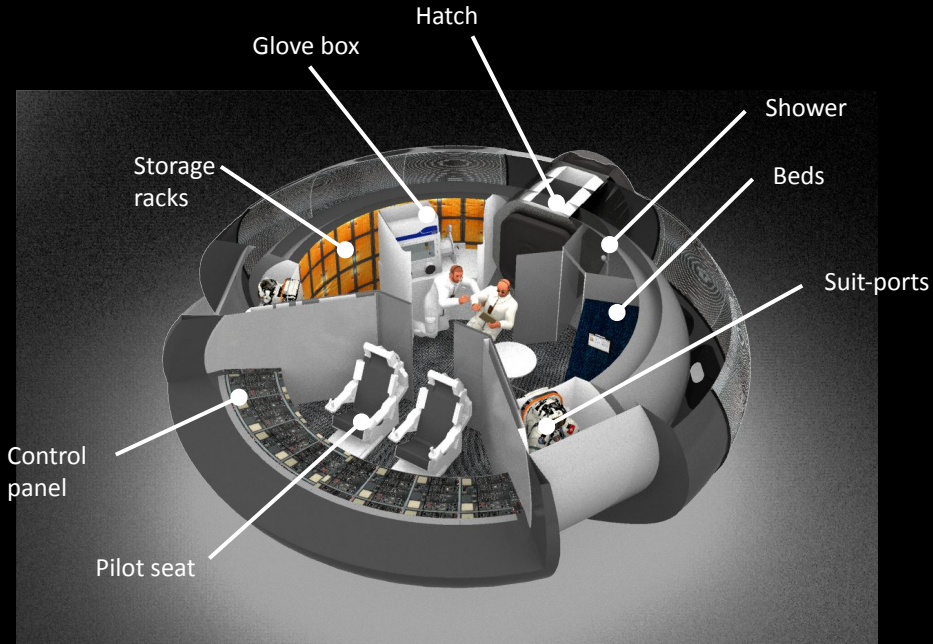
Outpost: V-001 for Venus



<http://sicsa.egr.uh.edu/sites/sicsa/files/files/projects/taylor-phillips-hungerford-masters-thesis.pdf>

J. Taylor Phillips - Hungerford

PARAMETRIC PROPULSION USING TITANIC CONDITIONS





Thank You
<http://sicsa.egr.uh.edu/>