Roaming for domes: city planning to analog astronaut missions

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Personal background

- Senior engineering undergraduate student at Georgia Tech (Go Jackets!)
- Going to G4G since 2018 – interested in polyhedra in middle school, then caught the “Bucky bug” in high school
- “Dome tourism” across the country
  - Woods Hole Dome
  - Carbondale house + more around SIU Carbondale
  - Stanford University archives
- I also help run a student-led Mars analog astronaut mission, Southeast Analog (SEA)!

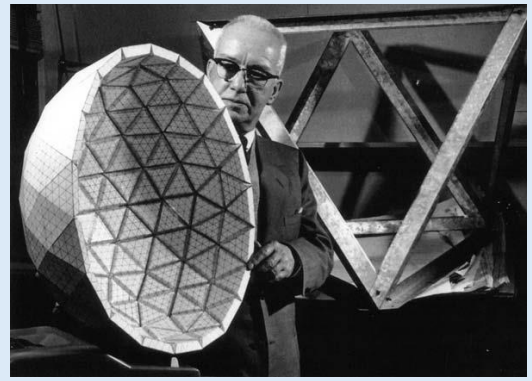
G4G13 build day at Rinus Roelof’s table!

Image from Stanford Archives

Synergy Dome, Carbondale, IL

Bucky’s House, Carbondale, IL

R. Buckminster Fuller and geodesic domes



- Fuller popularize the idea of “doing more with less” with geodesic domes post ‘54 Milan Triennale
  - Strong and fast deployment, energy efficient, maximizing internal space, etc.
- These domes spread throughout the world - a new way of “radical shelter” on small and large scales

Construction of Bucky’s house

Montreal Expo ‘67 dome

Poly Canyon (SLO, CA) dome

Big Sur dome

Credits: Stanford University Libraries and Special Collections, Buckminster Fuller Institute, Fuller Dome Home, BBC

Geodesic domes in a larger context

Domes, beside geometrical significance, can be used for *community building*!

- Biosphere 2 SAM, HI-SEAS as an analog site
- CHARAS – Harlem community center– back to community ownership
- Synergy Dome – former drug rehab center in Carbondale

Biosphere 2 (ASU) Space Analog for the Moon and Mars (SAM)

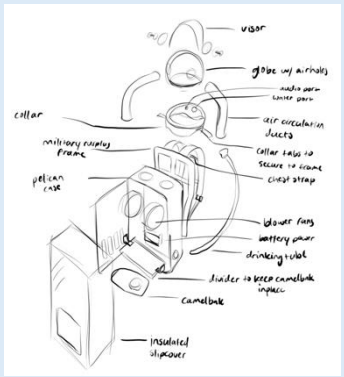
HI-SEAS Habitat on Mauna Loa, HI

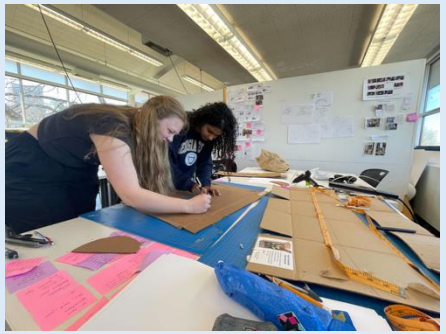
CHARAS with Fuller, Harlem, NY

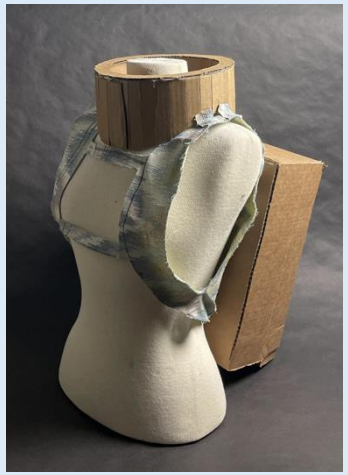
Credits: Biosphere 2, HI-SEAS, Syeus Mottel's *CHARAS: The Improbable Dome Builders*

Running a student-run analog: domes for community

- Southeast Analog – a way to build a *student-oriented*, analog Mars mission to *focus on teaching hands-on engineering* principles applied to space and human factors
- Habitat finalists: HI-SEAS, Biosphere 2, or a team-built geodesic habitat







Various SEA I team activities and designs

Credits: Elias Pimentel, Leslie Nava, Southeast Analog

Running a student-run analog: domes for community

- Southeast Analog – a way to build a *student-oriented*, analog Mars mission to *focus on teaching hands-on engineering* principles applied to space and human factors
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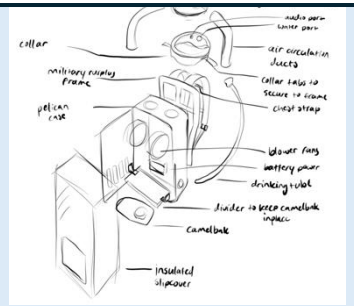
Goal is to operate in a habitat that fosters **innovation, hands-on involvement**, and **collaboration**



SOUTHEAST ANALOG
TRAIN · TEST · TEACH

Credits: Elias Pimentel, Leslie Nava, Southeast Analog

Credits

Thank you to the following for their invaluable help:

- The Fuller Dome Home Preservation Project
- Stanford University Libraries Special Collections
- Southeast Analog (SEA)
- Syeus Mottel, *CHARAS: The Improbable Dome Builders*
- And of course, Gathering 4 Gardner!

G4G16

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Georgia Tech

RBF DOME NFP
Fuller Dome Home

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