1. Complex Adaptive Systems Volume 2, Procedia Computer Sciences Volume 12-2012, Cihan H Dagli Editor , Elsevier, SciVerse ScienceDirect ( www.sciencedirct.com) ISSN 1877-0509, November 2012. http://www.sciencedirect.com/science/journal/18770509/12

Moon Plants as Model System for Life Support to Enable Human Exploration

I did my senior design project on the exact same concept as this paper so I’m very familiar with the aspects of this system. One crucial aspect that this project accounted for (as well as ours) was integration into the ISS. The ends of the chamber had to be formatted to the exact sizings of the reciprocal chambers it plans on attaching to. I like how they mentioned their system would undergo actual shock testing and they too stressed the importance of maintaining a 1 atm constant pressure. I’m not sure if the system was actually manufactured or not but a couple things that were different and stuck out to me: they wanted to use Bluetooth for communication inside the chamber (our system incorporated programming arduinos and wiring the inside), their shape was cylindrical but we chose to change it to an arch-shape because practical manufacturing reasons, they mention lights for the plants but don’t go into detail about what kind of lights, they don’t mention a weight requirement of the system which is the whole purpose of a space habitat such as this, etc.. A big question I’m left with is if their model is to scale. I would question whether it could survive shocks when scaled to a full size and if it’s practical for the prototype to not be collapsible. Very interesting hearing their take on all of the issues I’ve had to think about previously. Here’s an attached CAD (which I designed!) of our habitat:



