Cristo Rey Experiment Ideas

1.  Grow a selection of protein crystals that are selected based on the following:  1) interested partners at Rice and A&M, 2) at least one protein that would be visually interesting in its formation, 3) proteins whose crystal structures would be interested to have solved upon return.

2.  Creating (3D printed?) meisocopic "lipids" that would self assemble in an observation chamber.  We would print a set of meisoscopic units that would self assemble upon release and dispersal.  We could redisperse as necessary.  The units would have low level magnetic components and elecrostatic components and be either physically or electromagnecitally separated for redispersal.  See:  <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC122665/>

3.  Sending up a couple small succulents (Senecio rowleyanus) and observing their growing patterns and detecting/collecting the perfume they emit.

4.  Sending up a couple cocooning worms to observe their cocooning behavior.

5.  Observing the infection pattern of a non-harmful virus upon its natural substrate (think TMV, but with some other virus and some other substrate).  We would observe the infection pattern in multiplicate within a multichamber observation platform and induce infection in rounds.

6.  Observing slime-mold behavior by inducing corporate action and sporulation in succession within a multichamber observation platform.