**Biomimicry Workshop 2015**

**Class 4:** Abstracting design principles from the strategies found in nature.

**Intent of Class:** Intent of Class: iSite sharing, OSMP case study as an example of discovery and abstracting phases of the methodology, review of function and discovery phase, abstracting design principles

**Homework:** A) start to access biological information on how nature performs a function

B) Abstracting design principles from Nature practice sheet C) read OSMP case study and report D)iSite

**No Homework due this month – work on project with your team**

**A)** Set up a schedule to work with the EPA intern, Sheridan and access biological sources (don’t forget AskNature) to find organisms that perform the function of your challenge. Develop a strategy or outline of *how, what, who and where* you will get biological information. Don’t forget to decide *How Much?* Remember, each source you find needs to be read, studied interpreted and translated into design principles, so incorporate time for that task into your planning as well. If you have a biologist on your Team- lucky Team! If not, is there someone you can consult with if you have questions? This does not have to be someone with a degree in biology, but rather someone who understand the science and can assist you with terminology and/or procedures. This is an on-going task and your Team will need to have all of your source material by the in-person session.

**B) Abstracting design principles from Nature practice sheet:** complete the practice sheet

titled “Function and Abstract Worksheet” to become skilled at abstracting the design principles

from biological literature. I have included a cheat sheet which is titled “cheat sheet\_don’t look

at first “ that provide answers so that you can check on your progress.

**C) Read the OSMP case study and report:** this will provide you with a more detailed example of how biomimics take biological information and abstract design principles. The report can be found at: <https://bouldercolorado.gov/links/fetch/24170>

**D) isite:** Continue your iSite: here are a few ideas for you to try if you find them interesting. If

not – just continue to observe and expand your observation skills in Nature.

**Observe shadows:** Sit in front of an organism or natural object. Sketch only the shading that you see – draw without using lines. Observe the shade that one thing creates on another.

**Look for multi-functional design.** Study an organism and guess the primary function of something you observe (for example, ears designed for hearing). Then try to think about other functions that the forms, processes, or systems associated with that design might serve. Why else is that ear shaped that way? What else might it do for the organism or the system?