

## Ideas, Concepts, Talking Points and General Flow and Feeling for Presentations:

### In general, you want your presentation to accomplish the following objectives:

- Clearly define the field of biomimicry and its relationship with sustainability.
- Reconnect the audience to their inquisitive, nature-nerd, on-par-with-nature, selves.
- Demonstrate to the audience that Biomimicry is a viable and important discipline.
- Inspire, inspire, inspire!

### Ways to accomplish these objectives include:

- As you define biomimicry, emphasize that it is **a tool** for attaining sustainable products, processes and systems in the human world. It is possible to create bio-inspired technology that is either not sustainable itself or does not contribute to sustainability, but this is not biomimicry in its best, or true form. For humans to really fit in, for us to really be sustainable, our biomimetic products must be sustainable, which we can do if we base our designs on Life's Principles.
- Fill your presentation with fabulous pictures of organisms or systems—feature them in unique ways. For example, to tell a story about a jack rabbit, show a picture like this:



Rather than:



While the latter picture is certainly a jack rabbit, it's not compelling...there's nothing particularly unique, beautiful, curious, or awe inspiring about the image. Go for the Wow! factor in your images.

- Channel your inner Nature-Nerd as you speak. Get EXCITED about the stories you tell, highlight the amazing functions the organism you're talking about performs. Demonstrate to the audience that it's not only okay to fall in love with the natural world, but that it's normal to be in love with the natural world!
- Emphasize that WE ARE NATURE. We are natural beings, we belong here, we have a roll to play, we are connected to the rest of the natural world. Your talk should blur, if not



eliminate, the line between “us” and “them.” Biomimicry is about fitting in. The industrial age is about separation, fighting the forces of nature.

- Demonstrate that Biomimicry is a viable practice through multiple case studies. For an hour-long lecture, plan on having 12 – 18 case studies, and plan to spend 2 – 5 minutes telling the story of each. Tailor your case studies to your audience’s interests. Make sure that the majority of your case studies are about technology that’s already available or close to it.
- Your enthusiasm, pictures and stories will help to inspire the audience. Another tool is to end your presentation with a few stories about “what if…” What if we were able to emulate the hydraulic power of trees to silently pump water uphill in a 200 ft tall building? What if we were able to create walls that breathed like the stomata of leaves? Leave the audience with a primed imagination, whetted with possibilities.

### Typical Flow of a Presentation

- Thank the host
- Start with a casual story to get out the jitters before moving onto the big, important concepts. It’s often fun and effective if you can tell a story that ties in an experience, realization, or observation that occurred while traveling to, or preparing for, the presentation. This keeps it local, makes it relevant, etc.
- Find a story that illustrates the fact that creatures and natural systems need to solve for many of the same challenges that we’re trying to solve. For example: foundations, sound management, information and nutrient flows, etc. Draw parallels.
- Highlight a few creatures native to the area you’re speaking in and pull out some of the adaptations they’ve developed in order to fit into that place. This is a way to demonstrate fitting in and acting locally.
- Define biomimicry, and explain the large, guiding principles that make biomimicry a unique innovation tool, also give some perspective. **This is the foundation and guts of your presentation!**
  - Biomimicry is the Conscious Emulation of Nature’s Genius—it is **purposefully** looking to nature for solutions to human challenges, and we’re not copying verbatim those ideas, but rather pulling out the deep principles of that successful strategy and **emulating** the principle. Finally, **Nature’s Genius** implies that she knows what she’s doing. After 3.8 billion years of evolution, she’s figured out what works, what lasts, and what’s appropriate.
  - Biomimicry is a way of relating to nature as Model, Measure, and Mentor.
    - As **Model**, we learn what to emulate, and how to do it.
    - As **Measure**, we have an ecological standard to judge our innovations.
    - As **Mentor**, biomimicry is a new way of viewing and valuing the natural world based, not on what we can extract from it, but what we can learn from it. This is the paradigm shifting principle of Biomimicry, and also at the heart of our work. This is a big point to emphasize.
  - The concept of biomimicry, learning from nature, is not new (for example, flight in birds and our airplanes), but the biomimicry we’re talking about NOW, and why it is important NOW is about fitting in. It’s about living sustainably on this planet.
  - Give attribution to Janine as the one who consciously tied the concept of learning from nature to sustainability. She, along with Dayna, and now a whole team of individuals, have midwived the field of biomimicry as we now know it into practice.
  - Briefly talk about the functions of the Guild and Institute and what they are doing to “naturalize biomimicry in the culture” (e.g. lectures, research, and workshops from the Guild and K-12 curricula, design portal, 2 year certificate program from



the Institute). If the timing is appropriate, advertise the next course coming up here, or at least mention it in the Q&A.

- Provide an overview of Life's Principles (see new LP butterfly). Emphasize that ALL living organisms must respond the same pressures:
  - Earth is in a constant state of dynamic non-equilibrium (it's always changing)
  - Earth is subject to limits and boundaries
  - Earth is water based.

Life responds to these parameters with these strategies:

- Life adapts and evolves
  - By being locally attuned and responsive
  - By integrating cyclic processes
  - By incorporating resilience into her designs and systems
- Life creates conditions conducive to Life
  - By optimizing rather than maximizing
  - By leveraging interdependence
  - By using benign manufacturing

**This is the key to practicing sustainable biomimicry, and to living sustainably on this planet!** If we can ask our technologies and systems to perform according to the ecological standard of life's principles, we should have no issue fitting in.

- Now, when we practice biomimicry, we emulate form, process and ecosystem:
  - **Form** is what is made
  - **Process** is how it's made
  - **Ecosystem** is how it fits in
- If you have time, discuss the ways in which you can practice biomimicry:
  - **Biology to Challenge** (discovering something cool in the natural world and emulating the discovery for a human application)
  - **Challenge to Biology** (determining the function of the challenge then looking to nature for a suite of potential solutions)
  - **Biological Principles to Design** (abstracting the deep principle of the discovery and applying to a human challenge—this is where the big sustainability work is done).
- Also if you have time, show an evolutionary timeline compressed into one year (request this additional document from us).
- Now move into your case studies. Again, these should be tailored to your audience and the story you tell should clearly communicate the efficacy of this tool. Feel free to make constructive comments about which level of emulation the case study demonstrates, form, process or ecosystem. Be sure to emphasize the sustainability wins accomplished through the design.
- Wrap up by referring back to Life's Principle's and their importance for fitting in. Go back to an imagination space—ask the audience to visualize what a world would look like if our technologies and systems looked, acted, and fit in like Life's technologies and systems. Draw a parallel between the natural world and human world, and use fabulous images to illustrate. Ask the audience to think about where they'll start looking for inspiration, then point them in some directions:
  - Take a workshop (give another plug for the Biomimicry and Design or Biologists at the Design Table courses)
  - Come to the roundtable or workshop or dinner or whatever else you may be doing while there, if anything.
  - Give the website for the Design Portal and encourage them to play there
  - GO OUTSIDE!!! TAKE A HIKE!!!



#### **Additional Talking-Points:**

- Don't bring up environmental degradation issues. Biomimicry is a tool for solutions, and that's where it gets its power. It breeds hope. Most people already know that the environment is in rough shape and are brought down by it. No need to go there!
- If someone brings up nano-technology, here's a thought to add to your response: less than 10% of R&D money in nanotech goes to understanding the implications of that technology whereas 90% goes towards the development of new technology. Good idea to practice precautionary principle.
- If someone brings up God, we feel that if religion and your belief in God allows you to view and nature in a different way, not in a way of extraction, IT DOESN'T MATTER if you believe in God or Evolution. It's about viewing and valuing nature based on what we can learn from it, not from what we can extract from it.
- If someone brings up our clumsy technologies, or criticizes any of the biomimetic case studies you talked about one possible response is that our clumsiness stems from our inability to understand and place ideas within a system. Even if we can't take the design as deep as life does, it doesn't stop us from going down that path. We can build a chimera of solutions by blending life's principles and multiple strategies from many organisms.