

Jessica Thies
Parsons School of Design

Title: Alliance

Abstract: My thesis work speculates on designing systems of care for a future with engineered living materials and active objects. Developments in synthetic biology are leading to innovations in engineered living materials, which integrate living microbes into man-made materials. These materials create so-called “active objects;” products which are alive and require care.

I’m primarily questioning how active objects change the relationship between humans and their belongings, potentially extending their useful life with possibilities that range from self-healing, self-cleaning, biosensing, to carbon capture. I am also questioning how active objects could change our mindsets to prioritize and care for nonhumans. While this exploration could lead to many potential opportunities, I chose footwear with photosynthetic textiles as the primary case study. Microalgae are already being used as food sources, pigments, biomaterials and biofuels. Based on the programming of algae cells with synthetic biology, they are integrated into the textile fiber, to absorb carbon dioxide, release oxygen, and self-clean.

I will theorize on the impact of active objects within the home and how users will develop new rituals to care for these objects. I will also consider the collaborations between designers and scientists to enable these new design systems.

Figure 1:

