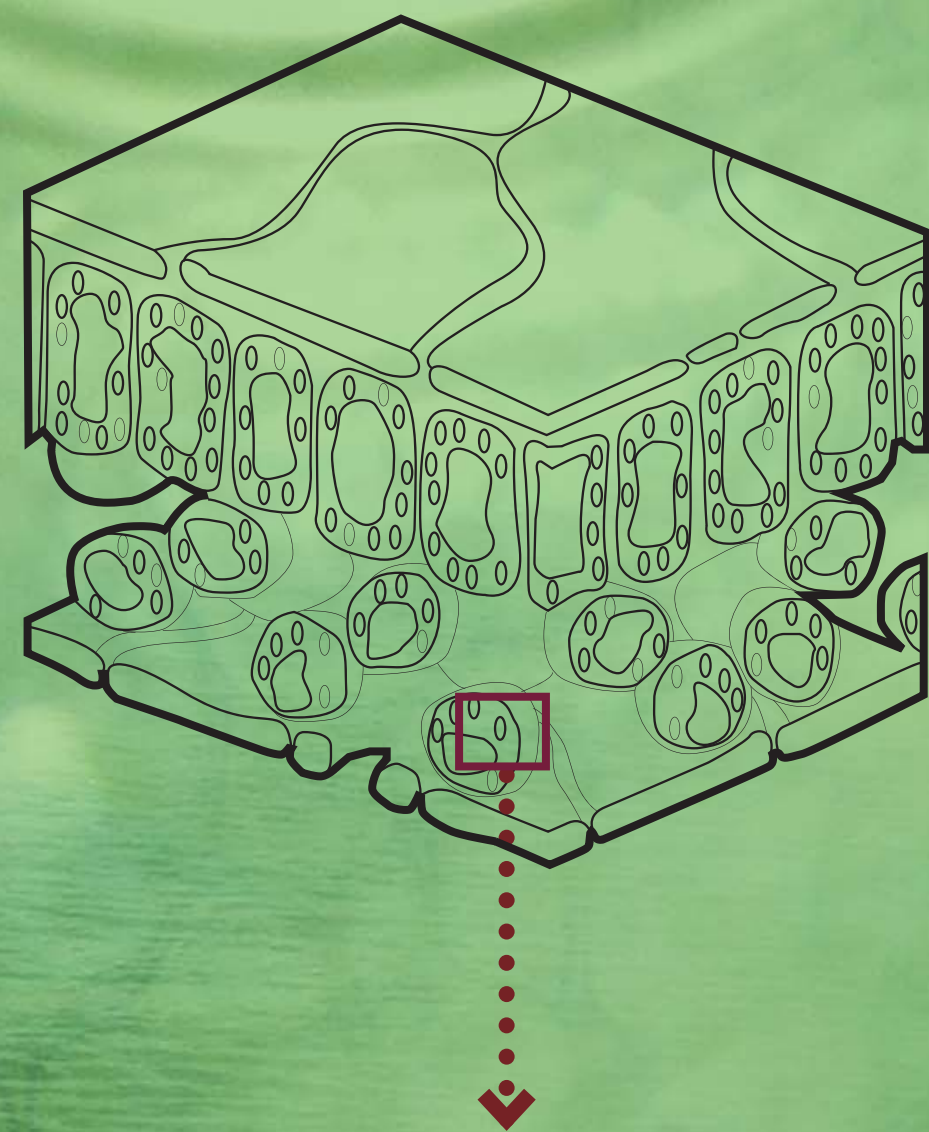


Nature

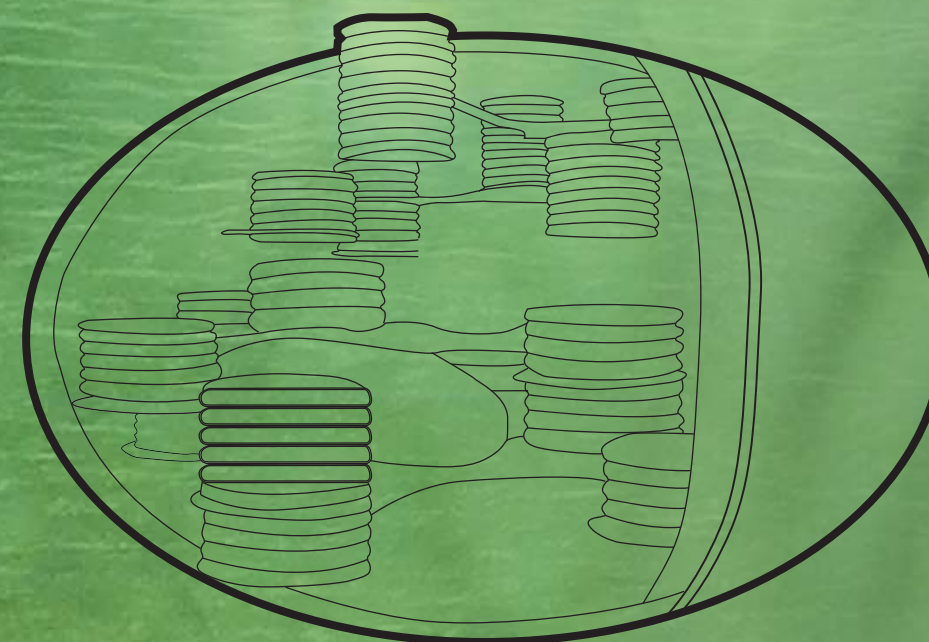
Leaf



Leaf Cross-Section

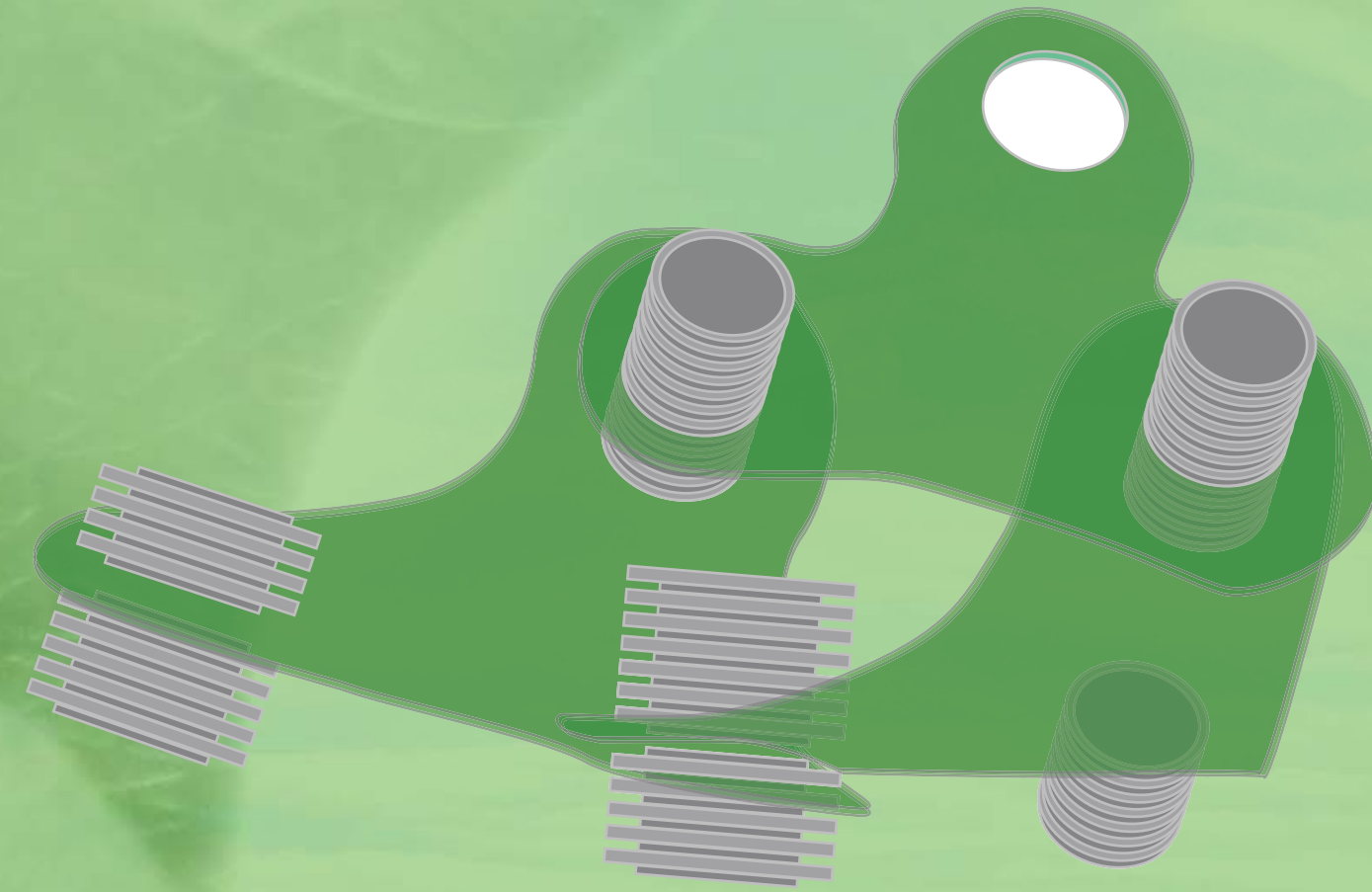


Chloroplast

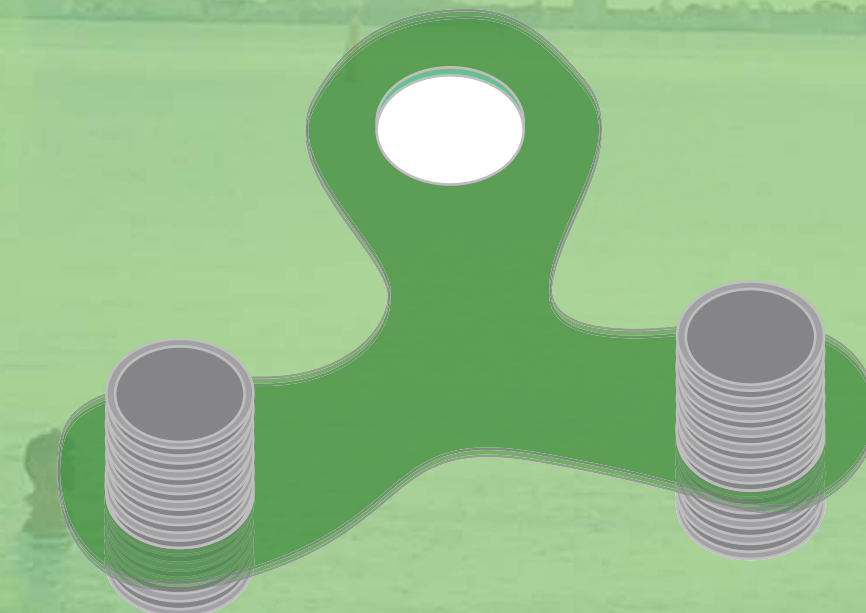


Design

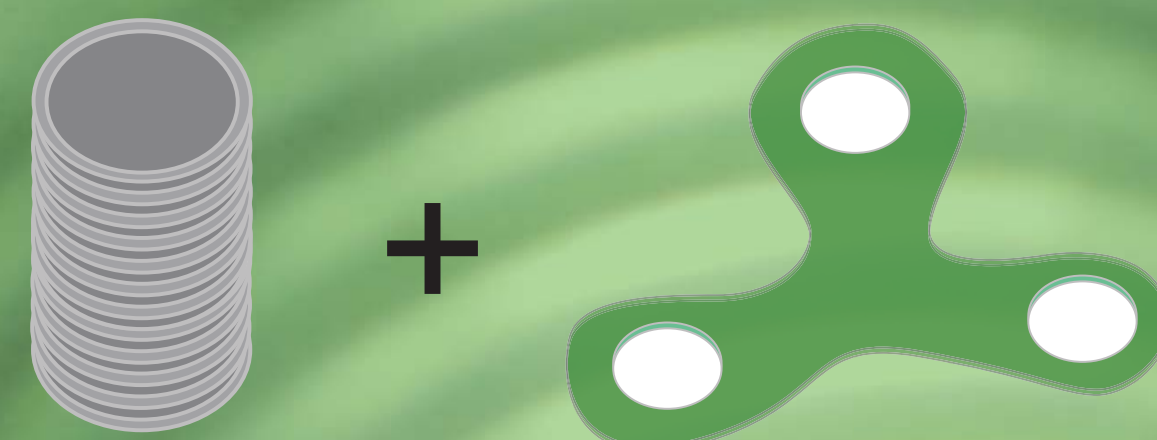
Collection



Unit



Joint & Platform



BPV

BPVs are fuel cells that use the power of photosynthesis in microscopic organisms to create electricity. One new design that uses genetically modified algae is more powerful than previous attempts, and even allows for storage.

Researchers at the University of Cambridge have developed a new fuel cell that is powered by algae, and that is five times more efficient than existing models that use microscopic plants and algae. This new design is not only more efficient, it is also more cost-effective and practical to use than previous attempts.

These algae-powered fuel cells, described in the journal *Nature Energy*, are a type of biophotovoltaic (BPV) device, also known as bio solar cells. BPVs harvest solar energy and convert it into electric current using the photosynthetic abilities of microorganisms like algae. This is both an environmentally-friendly and cost-effective alternative energy source.

The Cambridge team's version utilized genetically modified algae that works more efficiently than normal, minimizing the amount of electricity that is dissipated without use during photosynthesis.

Buoyant Airborne Turbine

An MIT startup has built a helium filled wind turbine that will catch winds up to 8x more powerful than those on the ground.

Large wind farms floating over major cities may seem like something from a sci-fi movie, but the concept of airborne wind turbines is close to becoming reality. Altaeros has already built the world's highest turbine that can generate twice the energy output of its ground-based counterpart. Besides generating power, these floating power plants can provide data coverage, cell service and local weather data and can be deployed in harsh weather conditions.