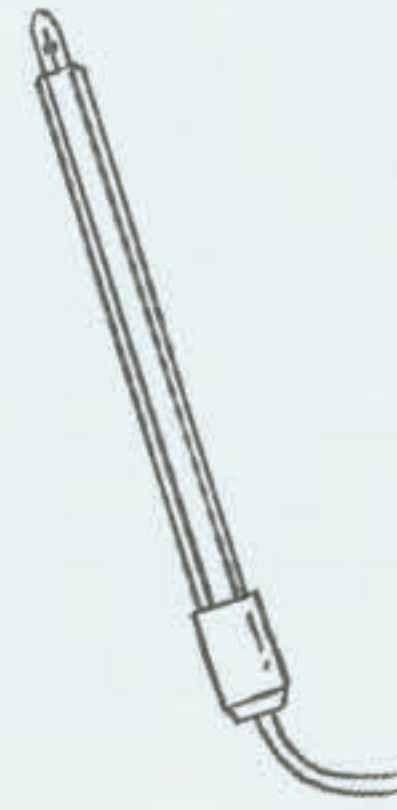# SEAPERCH II

The SeaPerch underwater robot is cruising into the 21st century! SeaPerch II will be a tool for climate science as well as a fun and educational DIY robot project.

MIT SeaGrant College Program is developing SeaPerch II for people interested in STEM and concerned about the impacts of climate change. This project is being rolled out as a series of modules that can be added to the existing robot body.
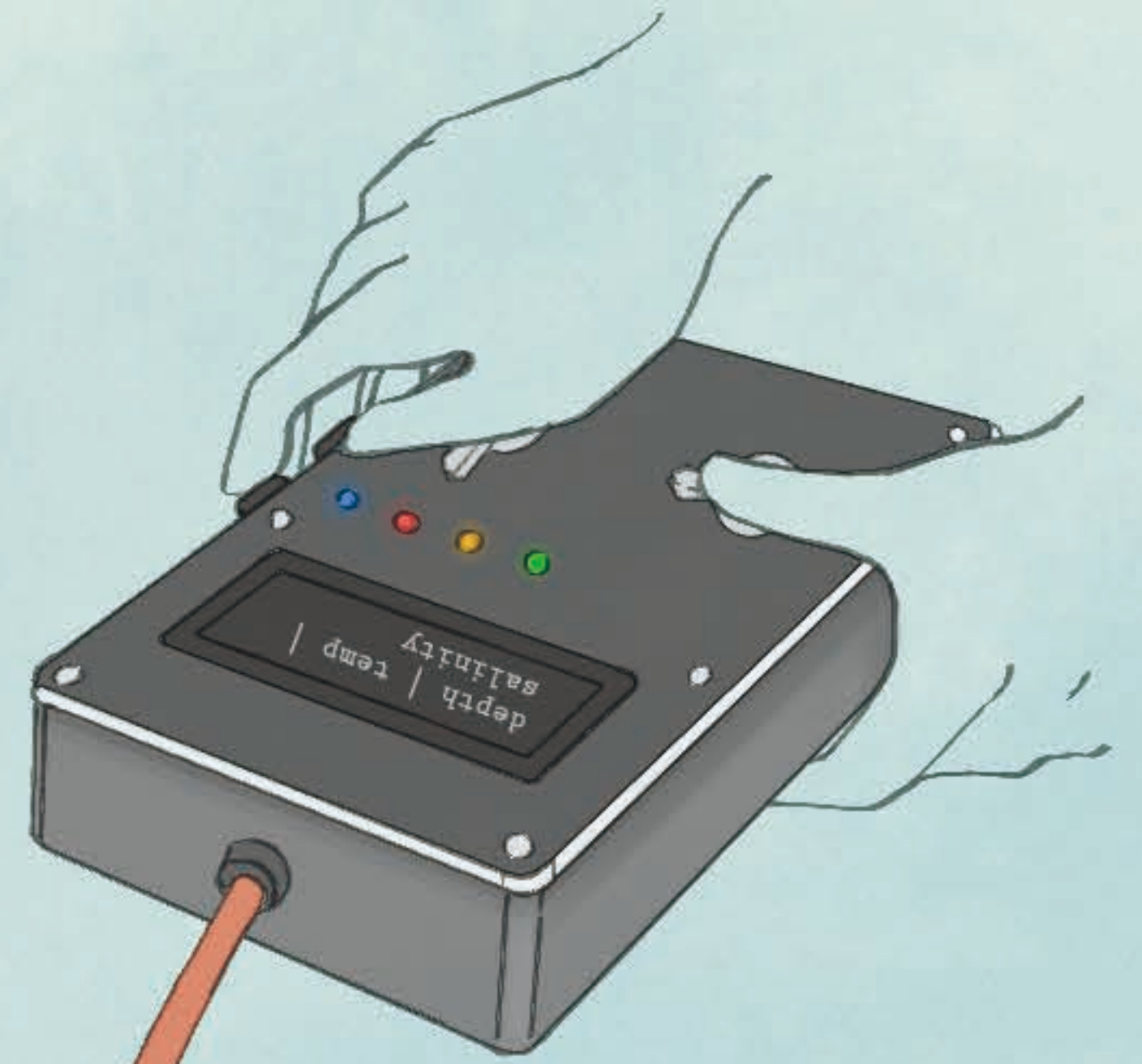
Pressure (Depth) and Temperature Sensor

Make a simple and inexpensive device that reports absolute pressure and temperature under water. Depth underwater is easily calculated from pressure.
Find out if your robot is too high, too low, or just right by lighting LEDs for each range.

Conductivity (Salinity) Sensor

Adapt a lab conductivity sensor to use right on the SeaPerch. Conductivity is the measure of how well a material conducts electricity (it is the reciprocal of resistance). In water, conductivity is a way to measure dissolved salts, or salinity, which is an important parameter of water quality.
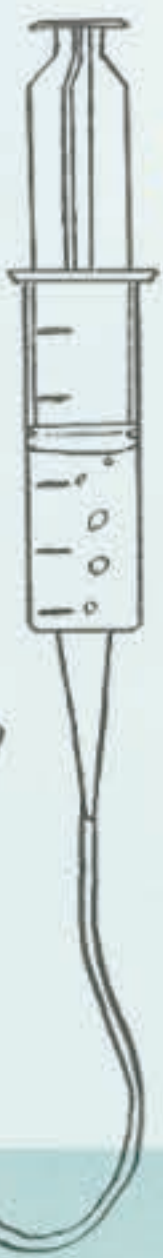
Soft-robotic Grippers

The gripper is a soft-robotic device molded from silicone rubber. The "knuckles" inflate with water from a syringe and the gripper curves around an object. The design is intended for use underwater and does not affect the buoyancy of the SeaPerch.
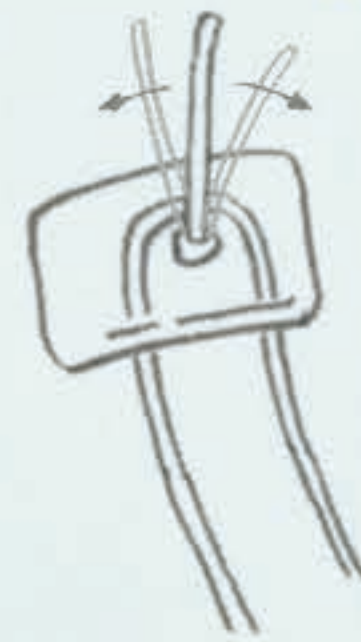
Whisker Touch Sensors

Make your own simple and inexpensive touch sensors that work both in the air and underwater. Flick the whisker sensor and make an LED light up on a remote display. Navigate an obstacle course or find hidden objects.
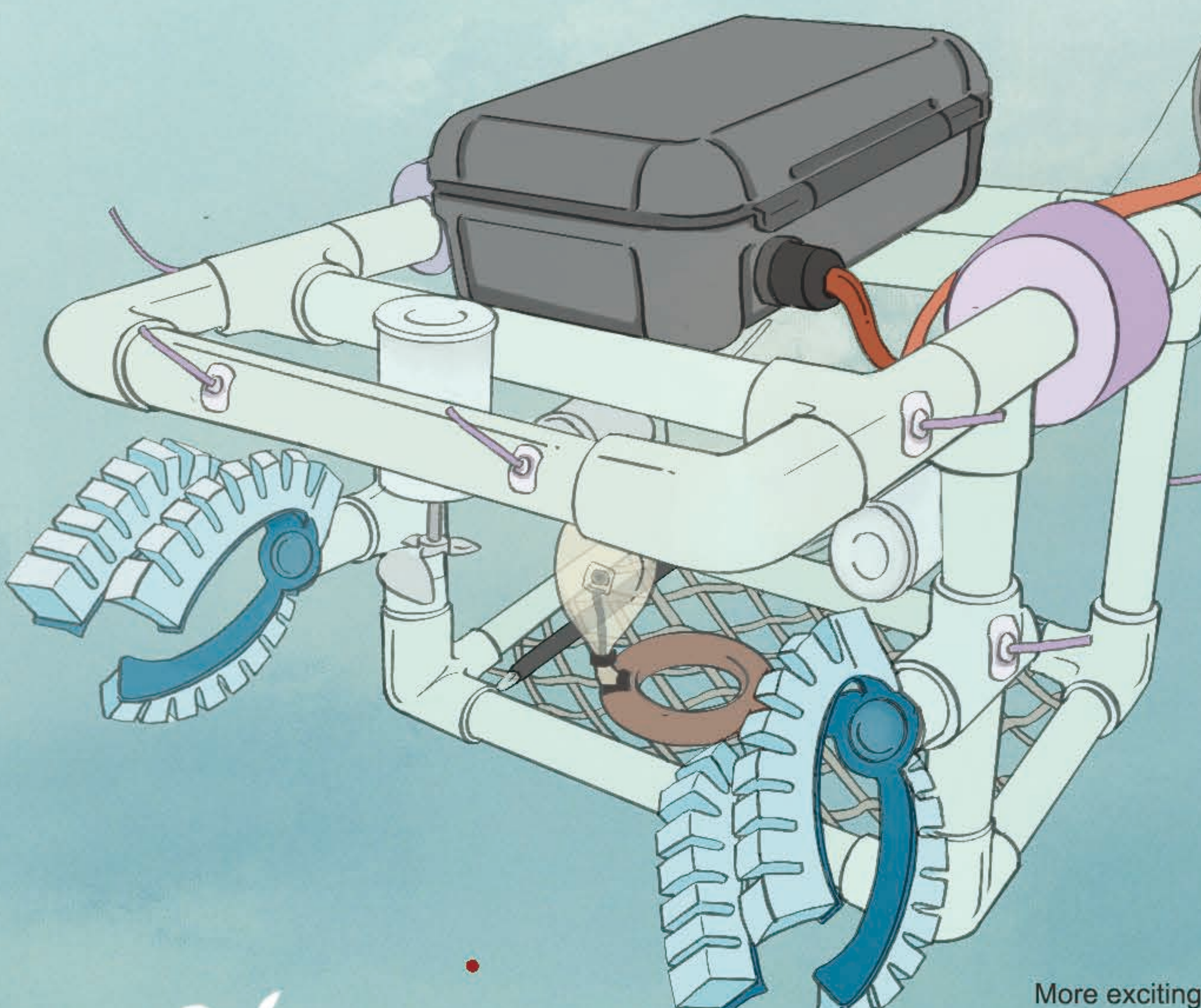
What is the project goal?

Citizen scientists will build their own instrumented SeaPerch robots, then use them to explore and take samples at coastal locations in their communities. They will learn how to analyze the data and see what it tells them about the health of their marine ecosystems.
We hope to share this data publicly and aid in the greater efforts to battle climate change.

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More exciting modules coming soon! Check our website for more resources: https://seagrant.mit.edu/seaperch2/

poster designed by Elena Huang