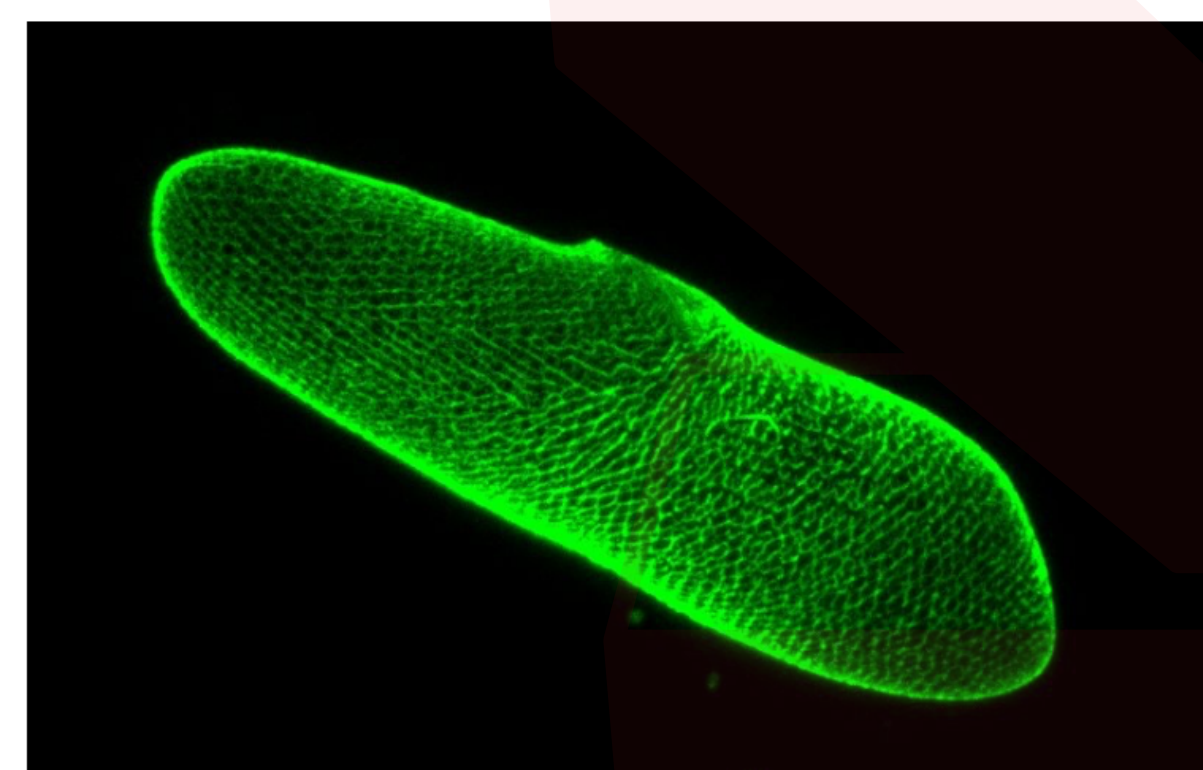
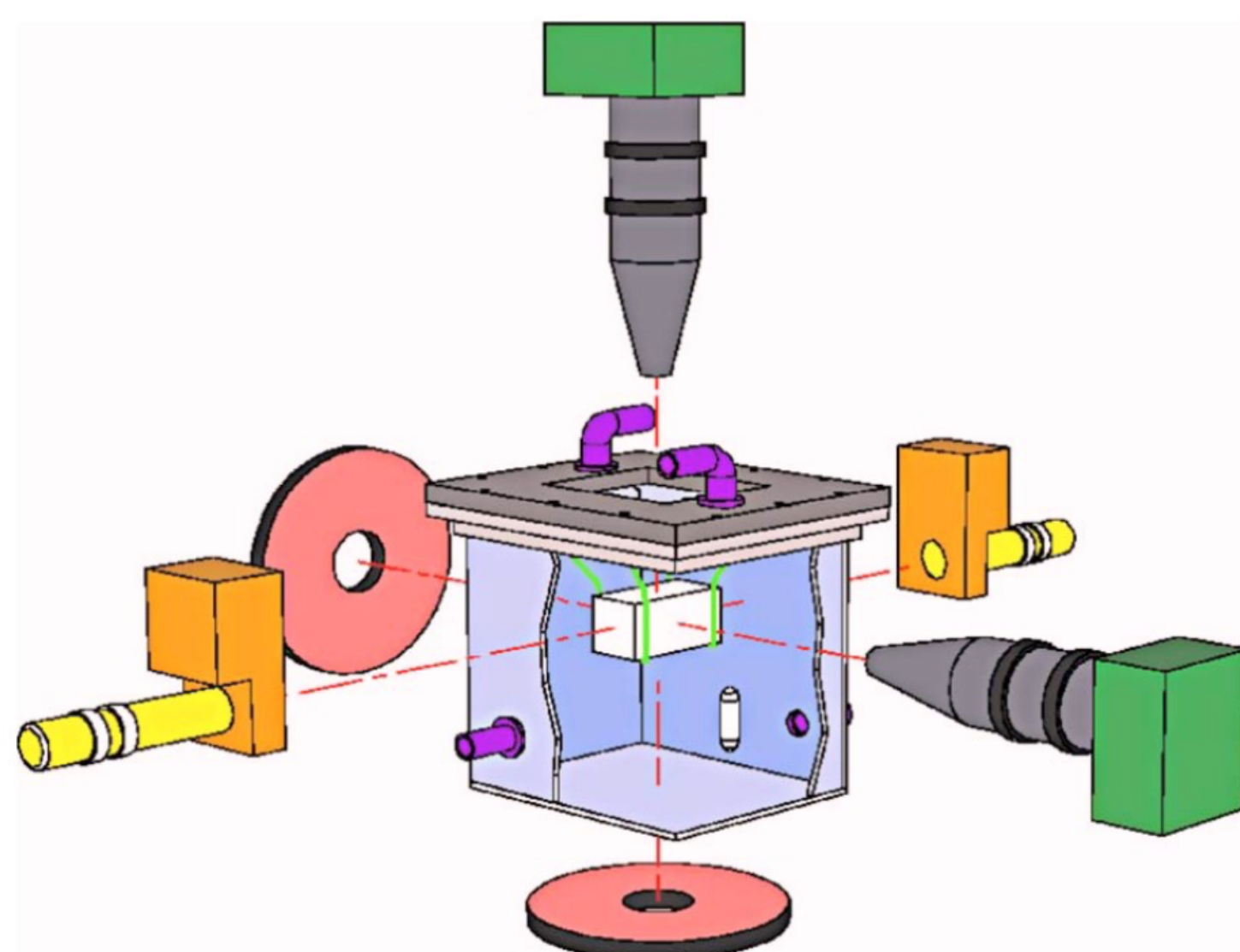


3D tracking of protists

Many sub-millimeter life forms living in water are moving around in order to hunt. Studying these motions allow understanding how these creatures move and what in what patterns. The challenge is to track these creatures in 3D using a dual-camera setup on a RaspberryPi and recreate the motion tracks.

Coach: Reto Trappitsch



Participants

1 _____ 3 _____

2 _____ 4 _____

Automated Petri dishes handling

Manual handling of Petri dishes is time-consuming, prone to contamination, and inefficient for large-scale microbiological studies.

Your challenge is to create the ultimate Petri handling machine to ensure a contamination free processing from nasty viruses and bacterias.

Put your gloves, goggles and mask on !

Coach: Reto Trappitsch



Participants

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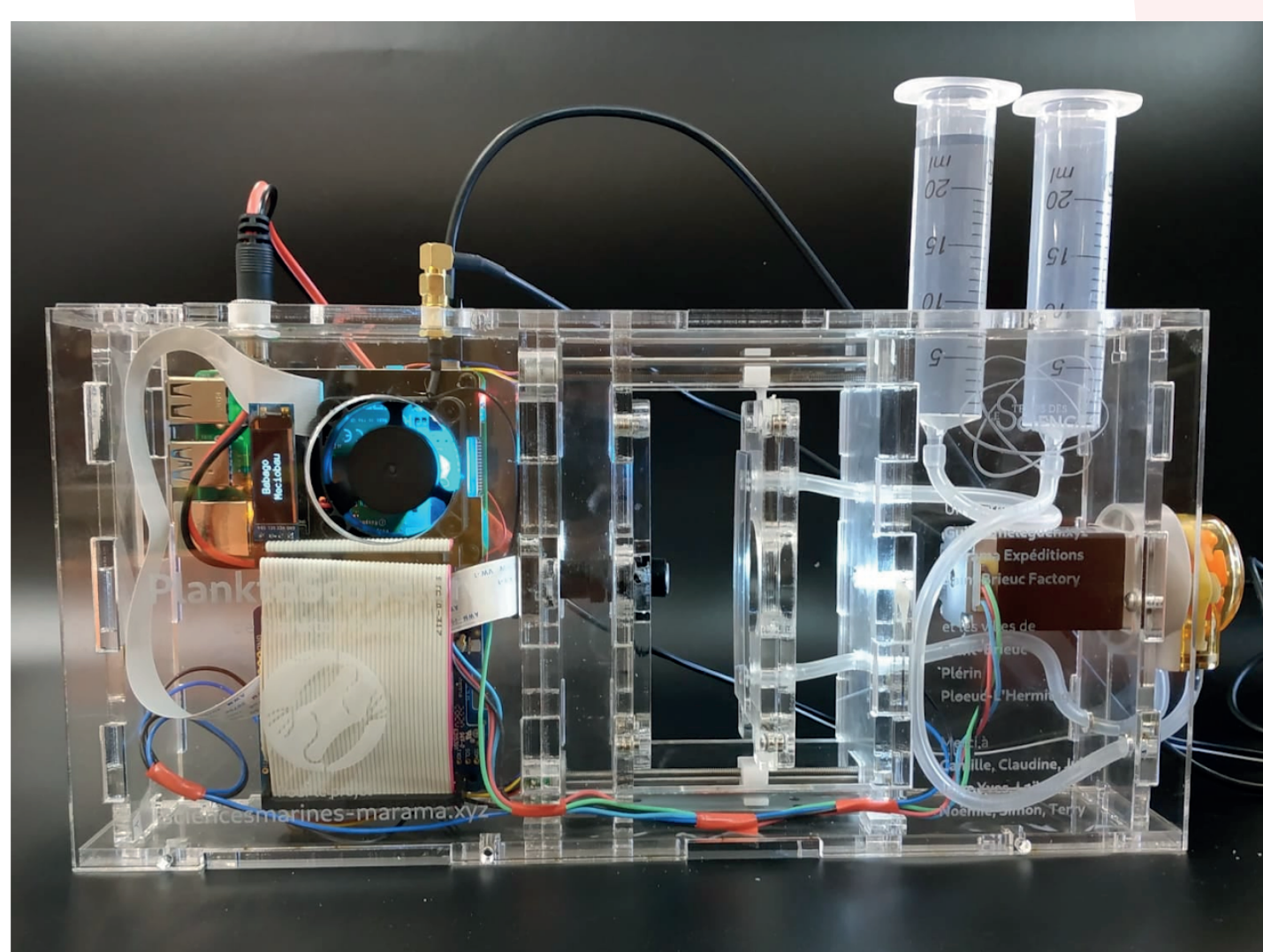
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Planktoscope

The PlanktoScope is a modular, open-source hardware and software platform that allows for high-throughput quantitative imaging of plankton samples in aquatic biology and ecology. Its small size, ease of use, and low cost make it suitable for deployment in a range of applications, including the monitoring of laboratory cultures or natural micro-plankton communities. It can be controlled from any WiFi-enabled device, and its versatility allows for rapid reconfiguration to match the evolving needs of the user.

Coach: Reto Trappitsch



Participants

1 _____ 3 _____

2 _____ 4 _____

Weather Station for Marine Science

In order to analyse the oceanographic measurements made with the instruments developed or deployed by Sailowtech, it is first necessary to have knowledge of the meteorological context. The objective is therefore to set up a weather station that can be installed temporarily at the measurement sites and that will collect additional data depending on the other instruments deployed.

Coach: Reto Trappitsch



Participants

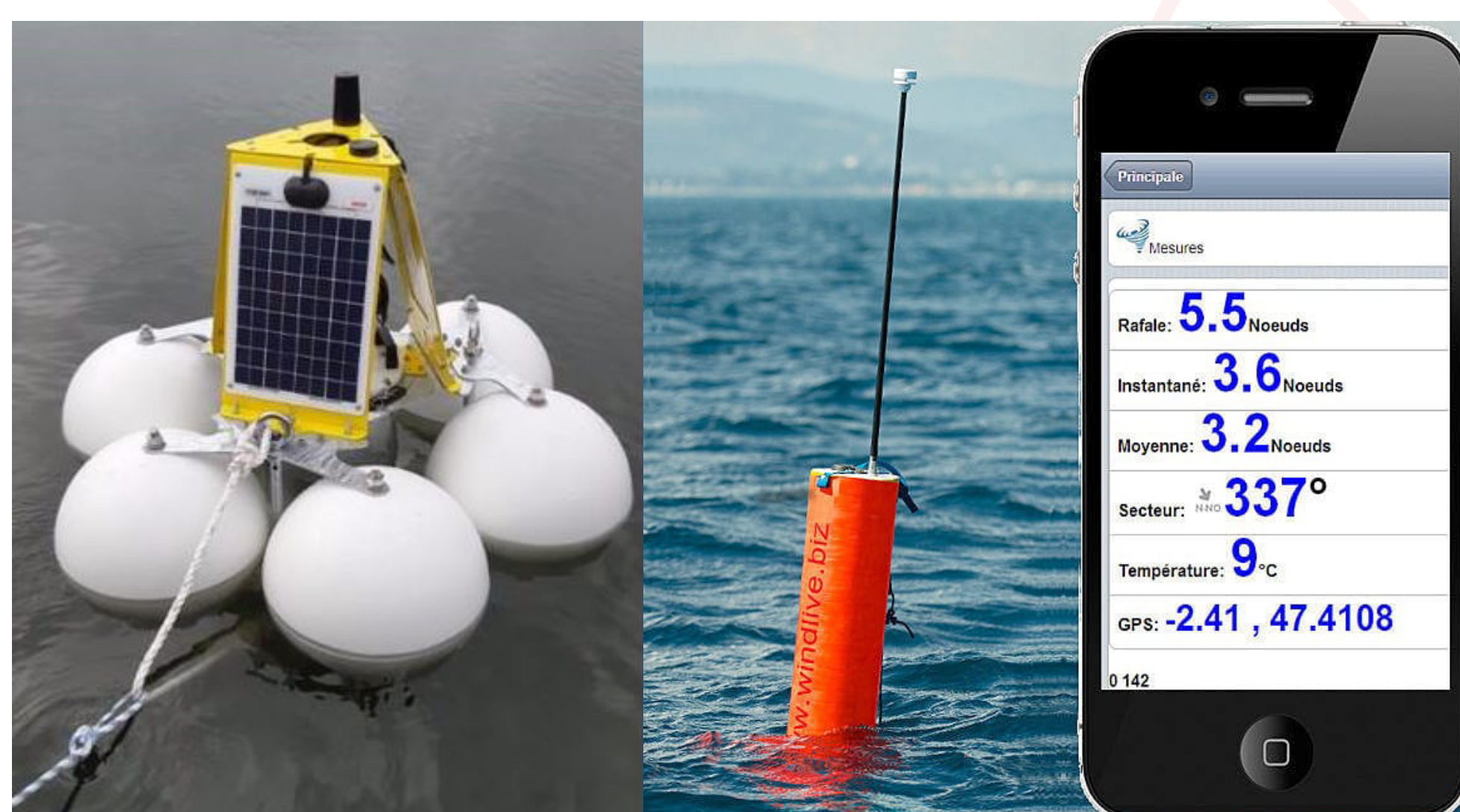
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Regattas buoy

Prototyping of a buoy for measuring wind and wave conditions for regattas (Swiss Sailing)

Coach: Stéphane Clerc



Participants

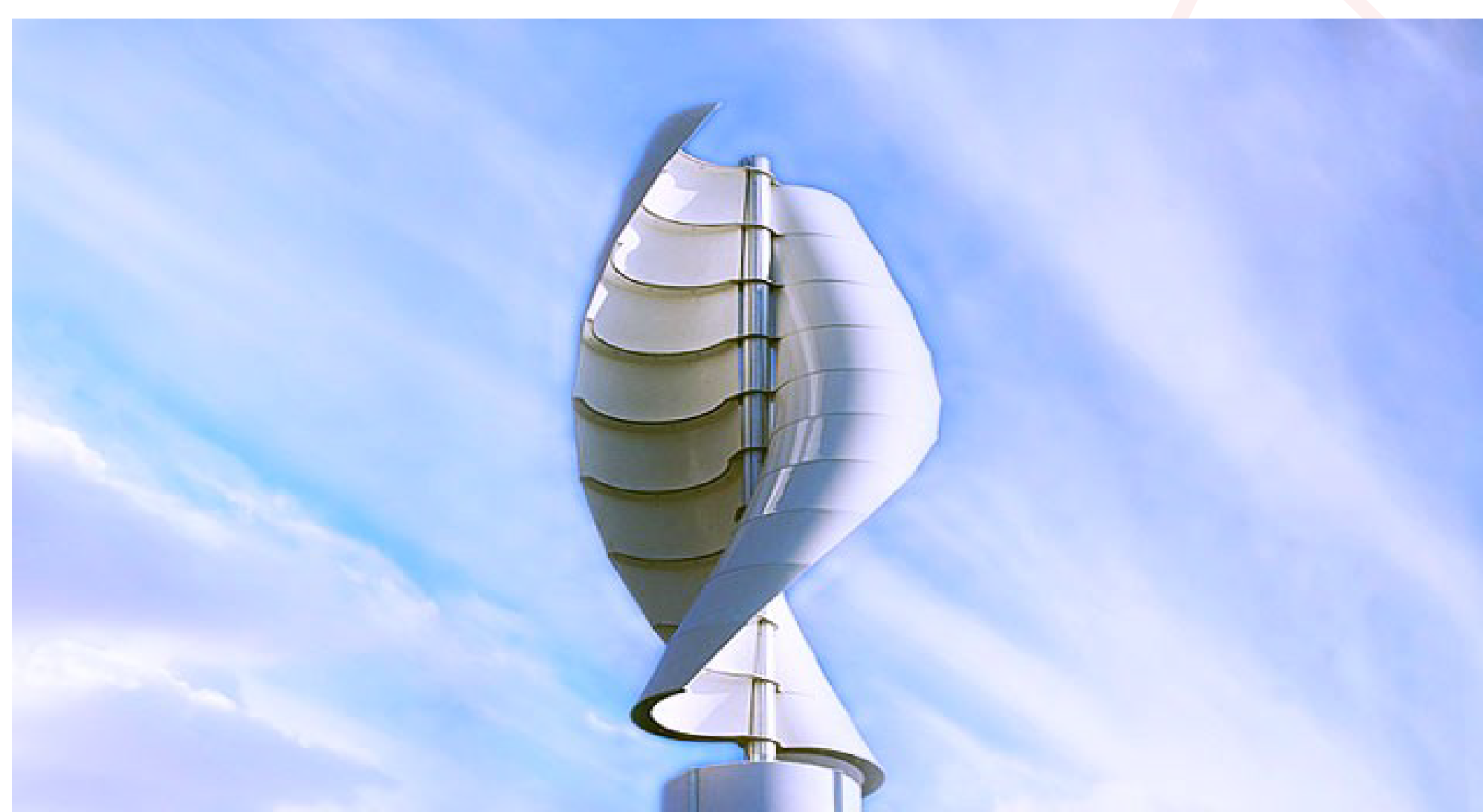
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Vertical axis wind turbine

A vertical axis wind turbine is a type of wind turbine where the main rotor shaft is placed transverse to the wind while the main components are located at the base of the turbine.

Coach: Stéphane Clerc



Participants

1 _____ 3 _____

2 _____ 4 _____

Water mill

Hydraulic energy is the energy provided by the movement of water, in all its forms: waterfalls, rivers, sea currents, tides, waves. Hydraulic energy is in fact kinetic energy linked to the movement of water as in sea currents, rivers, tides, waves or the use of potential energy of gravity as in the case of waterfalls and dams.

This energy is currently mainly converted into electrical energy, but has long been widely used to produce mechanical energy, by means of water mills.

Coach: Stéphane Pilloud



Participants

1 _____ 3 _____

2 _____ 4 _____

Piggott wind turbine

Season Two

The Piggott wing turbine is a low tech small scale wind powered generator.
Violette Desplanques and Alain Duchoud have made a first iteration @SKIL last semester
but there is still some work to do to improve the design and get better performances.
Are you ready to face the challenge ?

Coach: Marc Wettstein



Participants

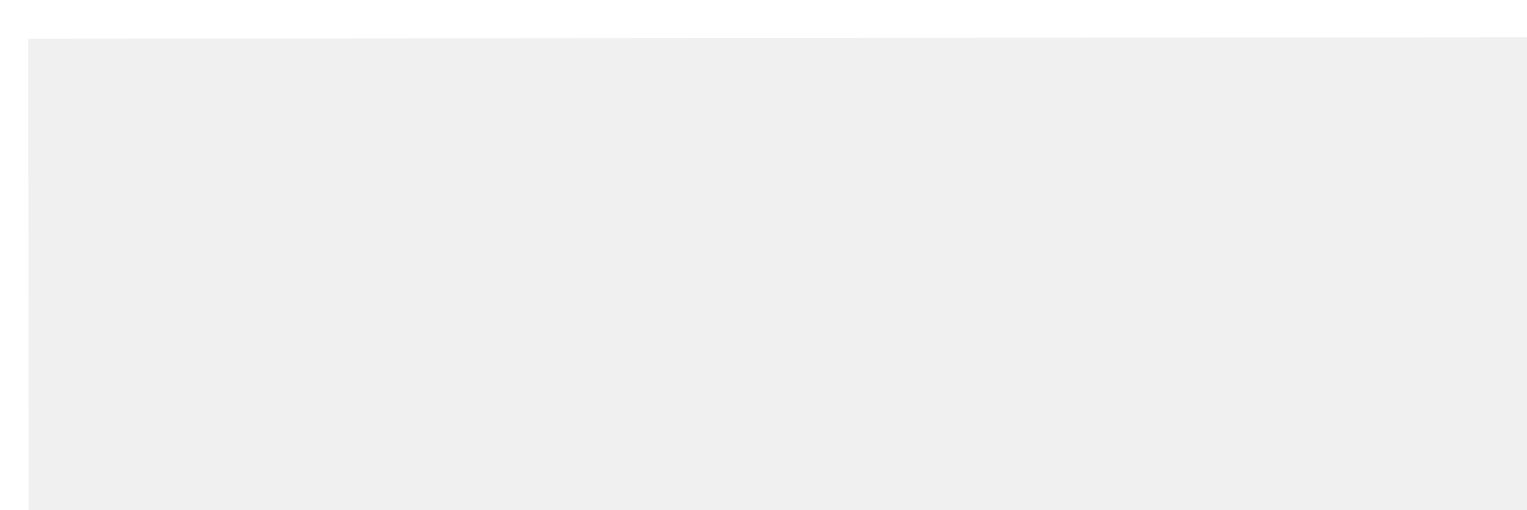
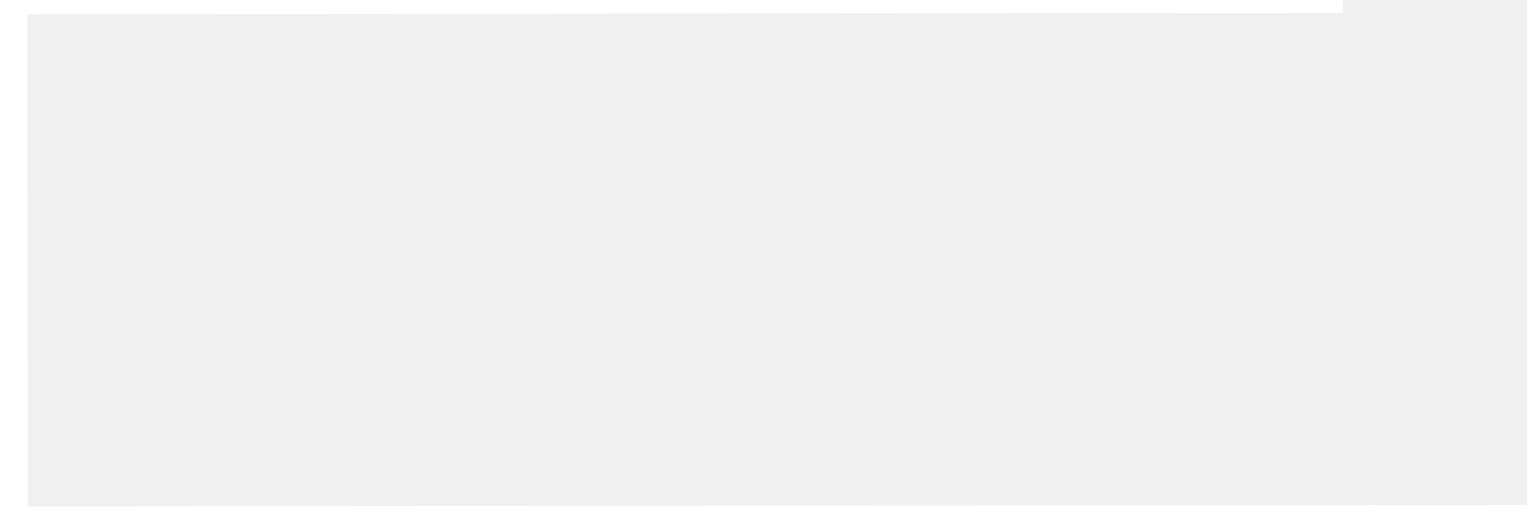
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Your Project Here !



Participants

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