



# Plant Growth in Artificial Environment - Water

**Measuring the adequacy of the water recycled by the closed loop system for plant growth**

<b>Laboratory:</b>	PERL
<b>Number of students:</b>	1 (Bachelor)
<b>Section:</b>	SIE, SV
<b>Status:</b>	Available (Spring 2021)



- **Description of the project:**

Plant-based food production and life support systems – e.g. for earth-like environments – will be key elements in the development of a sustainable space base. Therefore, it is essential to understand plants' reactions to artificial conditions and develop techniques to foster their growth in such environments.

The challenges raised by growing plants in artificial conditions – especially on celestial bodies – are, indeed, numerous: soil availability and composition, light, access to water, etc. Therefore, the goal of this project is to identify and tackle one of these issues, namely the use of water recycled by the closed loop water treatment system, also developed within Asclepios. The goal would be to measure the impact of the use of such water on plant growth (the water characteristics will be provided by the student working on the other project).

- **Description of the student's work and mission:**

The project will be implemented in four steps:

1. Preparing the experiment: selecting the plants to grow, defining the experimental process (number of plants, separating into control/treatment groups, etc.);
2. Conducting the measurements;
3. Writing the report.

**Name of Supervisor:**

**Charlotte Grossiord**

**Name of Asclepios' contact:**

**Jérémy Aubert**  
[jerem.aub@protonmail.com](mailto:jerem.aub@protonmail.com)



**space@your  
service**