

Student project: Optical technologies for urine sensing

What you will do

OnePlanet is developing sensor solutions that support healthcare professionals in monitoring people's health at home. The ultimate goal is to enable early disease detection and timely intervention, for example through lifestyle modifications.

This project focuses on sensor technologies for use in the bathroom. To this end, we have developed a Smart Toilet, which includes a smart toilet seat equipped with sensors for measuring physiological parameters such as body weight and heart rate. The system can also be extended with sensors for urine analysis. Currently, we are developing optical technologies for non-invasive urine measurements.

During this internship, you will be responsible for

Conducting a study involving the collection of urine samples and measurements using our optical sensing technologies.

- Performing reference measurements in our chemical laboratory.
- Analyzing and interpreting the collected data, with the primary objective of comparing the performance of the optical technologies against the laboratory reference measurements.
- Developing and applying data analysis workflows in Python.

What We Expect from You

- You are currently pursuing a Bachelor's or Master's degree in Biomedical Engineering, Life Sciences, Analytical Chemistry, or a related field.
- You have an interest in healthcare innovation, sensor technology, and biomedical research.
- You are hands-on and comfortable working in a laboratory environment and following experimental protocols.
- You have experience with data analysis and programming in Python, or are eager to learn or further develop these skills.
- You are analytical, detail-oriented, and able to work independently.
- You have good communication skills and can clearly document and present your results.

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