MSc. internship

Response of cyclic electron transfer to dynamic environmental conditions

Background & aim

Cyclic electron flow (CEF) is an alternative electron transport pathway that is thought to be important for plants due to its role in balancing the production of ATP and NADPH by the thylakoid electron transport chain. While CEF is well studied in the steady state, the response of CEF to dynamic environmental conditions is undefined. This is due to the laborious nature of measuring this process. In this project, we aim to develop a method to measure CEF under dynamic conditions using 1) high-throughput imaging systems to identify changes in CEF in response to user defined environmental changes and 2) hand-held systems and/or plant mounted sensors to identify changes in CEF to natural environments.

This project will involve learning chlorophyll fluorescence methods applied within a variety of approaches. An interest in method development is required, and a background in plant physiology and data analysis in Python (or another language) is preferred.

Institute: Jan Ingenhousz Institute

Theme: Plant biochemistry

Type of experiment: Chlorophyll/imaging

Location: Radix

Jan IngenHousz Institute

The Jan IngenHousz Institute (JII) is an open science research institute dedicated to improving photosynthesis to enhance global crop productivity, sustainability, and climate resilience. JII brings together expertise in engineering, data science, plant biology, biophysics, genetics, and breeding. We develop innovative sensors, research methods, and data analysis platforms that enable collection and interpretation of real-time field measurements of photosynthesis.

Located on the campus of Wageningen University, JII offers a dynamic, interdisciplinary environment where curiosity meets impact. If you're a student eager to apply your knowledge to photosynthetic efficiency challenges, this is your opportunity!

For more information, contact **Deserah Strand** (dez@jii.org)

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