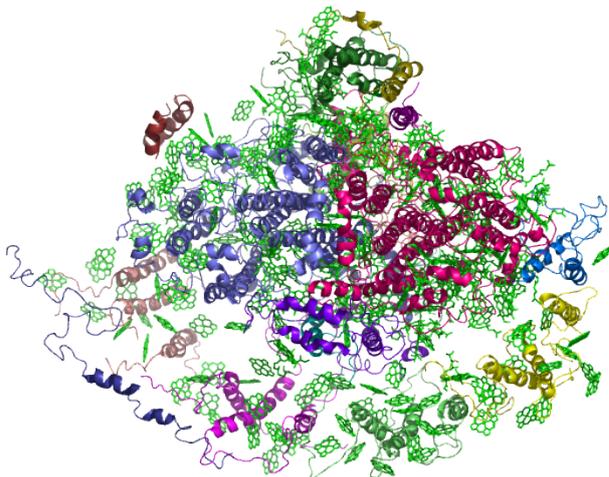


## Photosystem I: the most efficient nanomachine in nature

Thesis about the efficiency of photosynthesis at the Laboratory of Biophysics, as part of a BSc/MSc in the programs of Molecular Life Sciences or Biotechnology.

In photosystem I (PSI) nearly every absorbed photon is used to generate a charge. It is therefore seen as the most efficient nanomachine that nature produced. Thus far it has been assumed that the efficiency of PSI from various higher plant species is the same. However, we have recently found evidence for variations between plants. In this project you will study the efficiency of PSI in different plant species with ultrafast fluorescence spectroscopy. Next, you will isolate the photosystem and perform biochemical and biophysical measurements to reveal the cause for the differences in efficiency.



*Structure of PSI from pea with the chlorophylls in green and the protein backbone in various colours.*

### You will learn:

- Using advanced equipment for time-resolved fluorescence measurements
- Working with specialized data analysis software
- Biochemical purification methods
- Low temperature absorption and fluorescence spectroscopy
- Literature research and data interpretation

### *BSc or MSc-thesis project:*

- Assessing the efficiency of photosystem I from various plant species with ultra-fast fluorescence spectroscopy



Further information:

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