



Tanaka-Imamura Lab

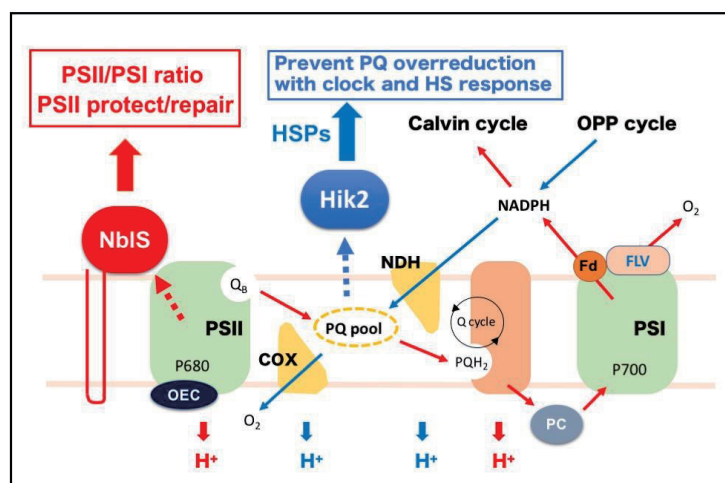
Researches on Cell Operating System and its Application

Molecular Bioscience Division, Laboratory for Chemistry and Life Science

http://www.res.titech.ac.jp/~biores/E/index_E.html

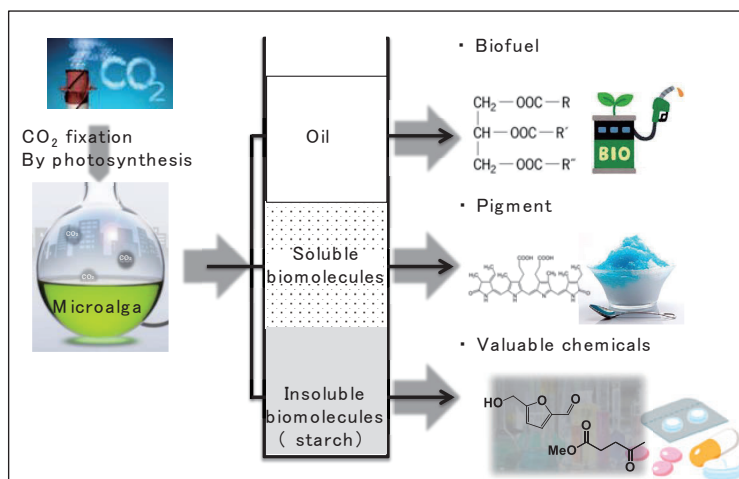
- Microbial Responses to Nutritional and Light Conditions
- Biomass production using microalgae
- Cell cycle control by organelle signaling

Cell is a basic unit of Life, where various molecular devices and systems are accumulated and organized to perform integrated outputs such as energy and biomolecules production. In this laboratory, we are focusing on various regulation in the cell, and trying to predict the cell metabolism and proliferation, as well as the application to cell control and biomass production. Especially, uses of photosynthetic microbes to understand light and nutrient signal transduction and biomass production is our recent favorite research subject.



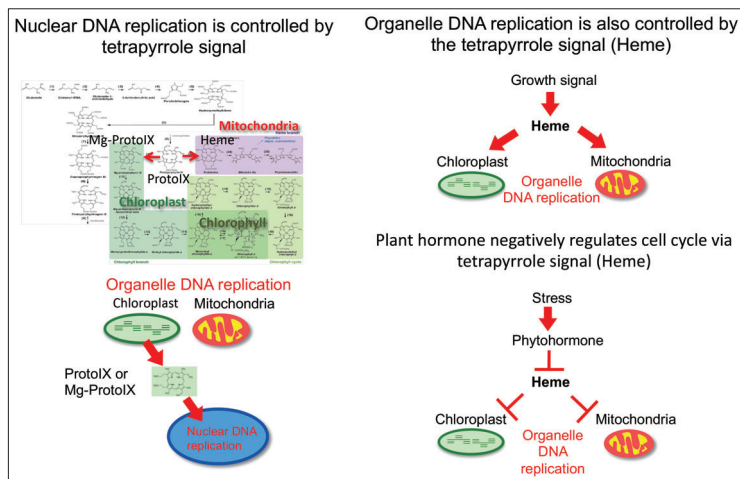
Monitoring of ongoing status of photosynthetic light reaction:

- Functional analysis of photosynthesis-linked conserved protein kinases in cyanobacteria



Biomass production using microalgae

- Understanding of underlying molecular mechanisms of biomass production
- Improvement of algal biomass productivity by genetic engineering approaches
- Production of novel and useful products using microalgal biomass



Cell cycle control by organelle signal

- Understanding of cell cycle control by tetrapyrrole signal
- Understanding of tetrapyrrole signal induction mechanism by environmental change · stress · nutritional status