



Tanaka-Yoshida Lab

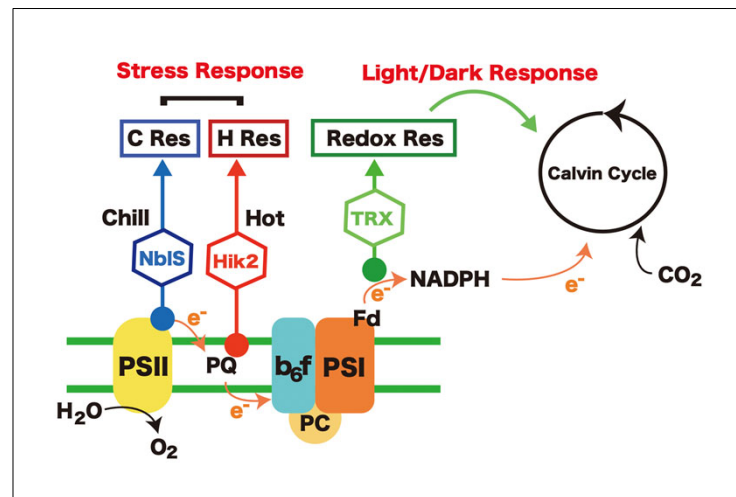
Researches on Cell Operating System and its Application

Molecular Bioscience Division, Laboratory for Chemistry and Life Science

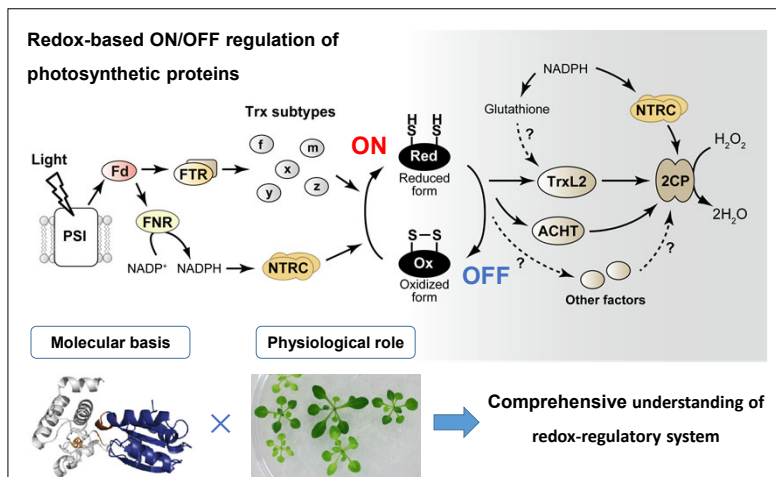
http://www.res.titech.ac.jp/~biores/E/index_E.html

- Microbial Responses to Nutritional and Light Conditions
- Redox-Based Regulatory Network for Controlling Plant Organelle Functions
- Biosynthesis and regulation mechanisms of extracellular polysaccharide in cyanobacteria and their applied use

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.

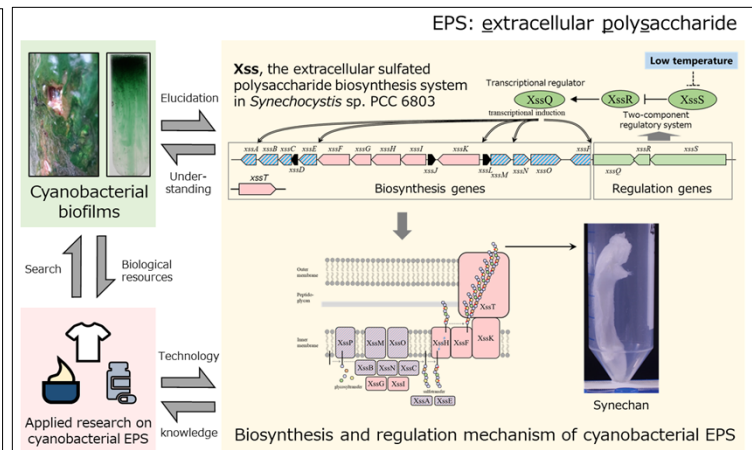


Monitoring of ongoing status of photosynthetic light reaction: Functional analysis of photosynthesis-linked conserved protein kinases in cyanobacteria



Redox-based regulatory network for controlling plant organelle functions

- Comprehensive understanding of how redox-regulatory system adjusts photosynthetic reactions under varying light conditions
- Enhancement of plant biomass production by designing redox-regulatory system



Biosynthesis and regulation mechanisms of extracellular polysaccharide in cyanobacteria and their applied use

- Comprehensive elucidation of the biosynthesis and regulation mechanisms of cyanobacterial EPSs to understand ecology
- Enhancement of productivity and alteration of the composition of useful cyanobacterial EPSs by artificial modification of the EPS biosynthesis and regulation mechanisms.