Mai Watanabe

**JSPS Overseas Restart Research Fellow**

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| Education | **PhD** **The University of Tokyo**, Graduate School of Arts and Sciences  Title: Analysis of supramolecular organization of photosystems.  Advisor: Prof. Masahiko Ikeuchi  **MS  University of Hyogo,** Graduate School of Life Science  Title: Reconstitution of cyclic electron transport in *Synechocystis* sp. PCC 6803 by a cell-free system.  Advisor: Prof. Kazuhiko Satoh,  Associate Prof. Hiroyuki Koike | 2008–2012  2006–2008 |
| Honors, Awards and Grants | **JSPS Overseas RESTART Research Fellowship** 2018–2020  **Research Fellowships for Young Scientists by JSPS**, 2018– for Postdoctoral Fellow (RPD) (declined it because of another fellowships)  **Grant-in-Aid for Scientific Research on Innovative Areas (Japan Society for the Promotion of Science (JSPS) KAKENHI grant No. 17H05716)** 2017–2019  **16th International Congress on Photosynthesis** Poster award　2013  **13th congress of THE JAPANESE SOCIETY OF PHOTOSYNTHESIS RESEARCH** Poster award 2013  **International conference Photosynthesis Research for Sustainability** Young talents award　2011  **9th congress of THE JAPANESE SOCIETY OF PHOTOSYNTHESIS RESEARCH** Poster award 2009 | |
| Research Experience | * **Cultivation of cyanobacteria** (*Thermosynechococcus elongatus*/*Anabaena* sp. PCC 7120/*Synechocystis* sp. PCC 6803/*Synechococcus* *elongatus* PCC 7942/*Synechococcus* WH 8102/*Cyanothece* sp. PCC 8801/*Acaryochloris marina*/ *Gloeobacter violaceus* PCC 7421/ *Tolypothrix* sp. PCC 7601) * **Cultivation of algae** (*Cyanophora paradoxa*/ *Cyanidioschyzon merolae*/*Chaetoceros gracilis*/*Thalassiosira pseudonana*/*Phaeodactylum tricornutum*) * **DNA work** (design and construction) * **RNA work** (preparation and Northern blotting) * **Photosystem complex isolation and analysis** * **Protein complex** **preparation and analysis** * **spectroscopy** * **physiology of cyanobacteria** * **Joliot type spectroscopy** (P700 oxidation/re-reduction) * **PAM** (P700 oxidation/re-reduction) * **Oxygen evolving activity measurement** | |
| Conference Presentations (International) | **Oral**  ○**Watanabe M**, Ehira S, Kondo K, Narikawa R, Ohmori M, Ikeuchi M  **“The novel antenna-photosystem I supercomplex that drives nitrogen fixation”**  Japanese-Finnish Seminar 2012, Naantali, Finland, September 2012.  **Poster**  ○**Watanabe M**, Yoshino H, Matsumura M, Okuda Y, Ikeuchi M  **“Enhanced recovery from photosystem I photoinhibition by the assembly factor.”**  10th European Workshop on the Molecular Biology of Cyanobacteria, Romania, August 20-24, 2017  ○**Watanabe M**, Matsumura M, Yoshino H, Okuda Y, Ikeuchi M  **“Recovery from photosystem I photoinhibition by the assembly factor.”**  17th International congress on Photosynthesis., Maastricht, The Netherlands, August 2016.  (and 12 other posters) | |
| ResearchJob | **Post-doc, Albert-Ludwigs-Universität Freiburg,** Institut für Biologie III, **JSPS Overseas Research Fellowship** 2018–2020  **Post-doc**,**The University of Tokyo**, Graduate School of Arts and Sciences, **CREST project** 2012–2018 | |

Publication list

**Published (peer reviewed)**

1. Ikeda Y, Komura M, **Watanabe M**, Minami C, Koike H, Itoh S, Kashino Y, Satoh K “Photosystem I complexes associated with fucoxanthin-chlorophyll-binding proteins from a marine centric diatom *Chaetoceros gracilis*” BBA-Bioenergetics. Elsevier Ltd., 1777, pp351-361, 2008.

2. **Watanabe M**, Iwai M, Narikawa R, Ikeuchi M “Is the Photosystem II complex a monomer or a dimer?” Plant and Cell Physiology. Oxford university press., 50(9), pp1674-1680, 2009.  **※Editor’s choice**

3. **Watanabe M** “High concentrations of Detergent induce a dimerization of Photosystem II!?” Photosynthesis Research (Japan). The Japanese Society of photosynthesis research, 2, pp 48-51, 2009.

4. **Watanabe M**, Kubota H, Wada H, Narikawa R, Ikeuchi M “Novel supercomplex organization of photosystem I in *Anabaena* and *Cyanophora paradoxa*” Plant and Cell Physiology. Oxford university press., 52(1), pp162-168, 2011.

5. **Watanabe M**, Sato M, Kondo K, Narikawa R, Ikeuchi M “Phycobilisome model with novel skeleton-like structures in a glaucocystophyte *Cyanophora paradoxa*” BBA-Bioenergetics. Elsevier Ltd., 1817, pp1428-1435, 2012.

6. **Watanabe M**, Kubota H, Wada H, Narikawa R, Ikeuchi M “Supercomplex organizations and evolution of Photosystems I and II (*Anabaena* sp. PCC 7120, *Cyanophora paradoxa* and *Cyanidioschyzon merolae*)” Photosynthesis Research for Food, Fuel and the Future Advanced Topics in Science and Technology in China pp13-16, 2013.

7. **Watanabe M** and Ikeuchi M “Phycobilisome: architecture of a light-harvesting supercomplex” Photosynthesis Research. Springer. 116, pp265-276, 2013. **Review**

8. **Watanabe M**, Semchonokc A. T, Webber-Birungic T. M, Ehira S, Kondo K, Narikawa R, Ohmori M, Boekema J. E, Ikeuchi M “Attachment of phycobilisomes in an antenna-photosystem I supercomplex of cyanobacteria” Proc. Natl. Acad. Sci. USA, 111 pp2512-2517, 2014.

9. Fujisawa T, Narikawa R, Maeda S, Watanabe S, Kanesaki Y, Kobayashi K, Nomata J, Hanaoka M, **Watanabe M**, Ehira S, Suzuki E, Awai K, Nakamura Y “CyanoBase: a large-scale update on its 20th anniversary” Nucleic acids research, 45(D1), ppD551-D554, 2016, Oxford University Press

10. Kohzuma K, Sato Y, Ito H, Okuzaki A, **Watanabe M**, Kobayashi H, Nakano M, Yamatani H, Masuda Y, Nagashima Y, Fukuoka H, Yamada T, Kanazawa A, Kitamura K, Tabei Y, Ikeuchi M, Sakamoto W, Tanaka A, Kusaba M “The non-Mendelian green cotyledon gene in soybean encodes a small subunit of photosystem II” Plant physiology, 173(4), pp2138-2147, 2017, Am Soc Plant Biol

11. Kumagai Y, Yoshizawa S, Nakajima Y, **Watanabe M**, Fukunaga T, Ogura Y, Hayashi T, Oshima K, Hattori M, Ikeuchi M, Kogure K, DeLong F. E, Iwasaki W “Solar-panel and parasol strategies shape the proteorhodopsin distribution pattern in marine Flavobacteriia” The ISME journal,　12(5), pp1329-1343, 2018, Nature Publishing Group

12. Hirose Y, Chihong S, **Watanabe M**, Yonekawa C, Murata K, Ikeuchi M, Eki T ”Diverse chromatic acclimation regulating phycoerythrocyanin and rod-shaped phycobilisome in cyanobacteria” Molecular plant, 12(5), pp715-725, 2019, Cell Press