

CURRICULUM VITAE

Dr. Frédéric PARTENSKY

Born August 1st, 1960, in Lyon (France)

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Main research topics

Biology and ecology of marine phytoplankton; comparative genomics of marine cyanobacteria; Biogenesis and evolution of cyanobacterial light-harvesting complexes

Education

1989 PhD UPMC Paris, France (now: Sorbonne Université) in Biological Oceanography.

Award

2009 « Prix des Sciences de la Mer » (Ocean Science Prize). Attributed by the French Academy of Sciences.

Positions

Dec. 1989-Nov 90 Post-doc : Bedford Institute of Oceanography (Dartmouth, Canada), NSERC grant

Oct. 1990-2002 CNRS : Chargé de Recherches (research scientist)

Oct. 2002-on CNRS : Directeur de Recherches 2^{ème} puis 1^{ère} classe (senior scientist)

Teaching: about 12 h per year in microbial genomics

Habilitation à Diriger des Recherches (*habilitation to supervise researchers*)

2000 Title: "Biology and ecology of *Prochlorococcus*, a marine prokaryote of global importance", UPMC, Paris

PhD Students (Total: 8). Last 8 years:

2009-13 Florian Humily. PhD Biological oceanography. UPMC (co-superv. by L. Garczarek)

2011-14 Gregory Farrant. PhD Biological oceanography. UPMC (co-superv. by L. Garczarek)

2014-17 Théophile Grébert. PhD Organisms Physiology and Biology. SU (co-superv. D. Kehoe)

2018-on Mathilde Ferrieux. PhD Biological oceanography. SU (co-superv. by L. Garczarek)

Post-docs (Total: 4 between 1995 and 2008)

Participation to national and international programs (Total: 25) A selection:

2005-08 ANR PhycoSyn (blue sky program). Coordinator

2010-13 ANR Pelican (Microbial genomics program). Coordinator

2012-15 MicroB3 (European program FP7). Local coordinator.

2012-16 MaCumBA (European program FP7). Partner

2012-18 ANR SAMOSA (BioAdapt program). Partner

2018-20 ANR CINNAMON. Partner

Research management

2006-2012 Head of the « Marine phototrophic Prokaryotes » team (ranked A+ by AERES in 2008)

2011-2016 Vice-president of the « Conseil de l'Observatoire des Sciences de l'Univers de Rennes »

Since 2015 INEE corresponding agent of UMR7144 for Europe

Since 2019 Co-director of the GIS Biogenouest, a network of 35 technological platforms

Publications (*H point*=52, *Total* = 10,340 citations after Research Gate).**Articles in international peer-reviewed journals** (Total: 101). A selection:

- 2018 Partensky F., Mella-Flores D., Six C., Garczarek L., Czjzek M., Marie D., Kotabova E., Prasil O, Oxygen production rates of marine picocyanobacteria with different configurations of the oxygen evolution complex. **Photosynth Res** DOI: 10.1007/s11120-018-0539-3
- 2018 Partensky F., Six C., Ratin M., Garczarek L., Vaultot D., Probert I., Calteau A., Gourvil P., Marie D., Grébert T., Bouchier, Le Panse S., Gachenot M., Rodríguez F. & Garrido J.L. A novel species of the marine cyanobacterium *Acaryochloris* with a unique pigment content and lifestyle. **Scient Rep.** 8; 9152. doi: 10.1038/s41598-018-27542-7
- 2018 Grébert T., Doré H., Partensky F., Farrant G.K., Boss E., Picheral M., Guidi L., Pesant S., Scanlan D.J., Wincker P., Acinas S.G., Kehoe D.M. & Garczarek L. Light color acclimation is a key process in the global ocean distribution of *Synechococcus* cyanobacteria. **Proceed. Natl Acad Sci. USA.** 115(9): E2010-E2019
- 2017 Mahmoud RM., Sanfilippo J.E, Nguyen A.A., Strnat J.A., Partensky F., Garczarek L., El-Kassem N.A. Kehoe D.M. & Schluchter M. Adaptation to blue light in marine *Synechococcus* requires MpeU, an enzyme with similarity to phycoerythrobilin lyase isomerases. **Front Microbiol** 8:243. doi: 10.3389/fmicb.2017.00243
- 2017 Xia X., Partensky F., Garczarek L., Suzuki K., Guo C., Cheung SY & Liu H. Phylogeography and pigment type diversity of *Synechococcus* cyanobacteria in surface waters of the NW Pacific Ocean. **Env Microbiol** 19142-158
- 2017 Pittera J., Partensky F. & Six C. Adaptive thermostability of light-harvesting complexes in marine picocyanobacteria. **ISME J** 11, 1126124
- 2016 Farrant, G.K., Doré, H., Cornejo-Castillo F.M., Partensky F., Ratin M., Ostrowski M., Pitt F., Wincker P., Scanlan D.J., Iudicone D., Acinas S.G. & Garczarek L. Delineating ecologically significant taxonomic units from global patterns of marine picocyanobacteria. **Proceed. Natl Acad Sci. USA** 113(24):E3365-74.
- 2016 Sanfilippo JE, Nguyen AA, Karty JA, Shukla A, Schluchter WM, Garczarek L, Partensky F & Kehoe DM. Self-regulating genomic island encoding tandem regulators confers chromatic acclimation to marine *Synechococcus*. **Proceed. Natl Acad Sci. USA** 113(21):6077-6082.
- 2015 Farrant G.K., Hoebeke M., Partensky F., Andres G., Corre E. and L. Garczarek. WiseScaffolder: an algorithm for the semi-automatic scaffolding of Next Generation Sequencing data. **BMC Bioinformatics.** 16:281. DOI: 10.1186/s12859-015-0705-y
- 2014 Humily F, Marie D, Farrant G, Partensky F., Mazard S., Perennou M., Labadie K., Aury J.M., Wincker P., Nicolas-Ségui A., Scanlan, D. J. & Garczarek, L. Use of a targeted metagenomic approach to study the diversity of a genomic region involved in light harvesting in marine *Synechococcus*. **FEMS Microb Ecol** 88 2316249
- 2013 Breteau, A., Coste, F., Humily, F., Garczarek, L., Le Corguillé, G., Six, L., Ratin, M., Collin, O., Schluchter, W. and Partensky, F. (2013) CyanoLyase: a database of phycobilin lyase sequences, motifs and functions. **Nucl. Acids Res.** 41: D396-401
- 2013 Coelho S.M., Simon N., Ahmed S., Cock J.M & Partensky F. Ecological and evolutionary genomics of marine photosynthetic organisms. **Mol. Ecol.** 22: 867-907 doi: 10.1111/mec.12000.

Book chapters (Total: 5). including:

- 2016 Hess WR, Garczarek L, Pfreundt U & Partensky F. Chapter 3. Phototrophic microorganisms: The basis of the marine food web. In: The marine microbiome. Stal LJ and Cretoiu MS (eds.). Springer International Publishing Switzerland. pp 57-97. doi: 10.1007/978-3-319-33000-6_3

Communications in national or international congresses (Total: 102 incl. 17 invited)**Databases** (Total: 2)

- **Cyanorak** (<http://www.sb-roscoff.fr/cyanorak/>): database dedicated to the annotation and analyse of marine picocyanobacteria genomes. Scientific coordinators: L. Garczarek et F. Partensky
- **Cyanolyase** (<http://cyanolyase.genouest.org>) database of phycobilin lyases sequences (classification, function prediction, prédiction of strain pigmentation, bibliography, etc.). Scientific coordinator : F. Partensky

Outreach and diffusion to general public (Total: 25). A selection:

- 2018 Participation to the book « La génomique environnementale » La révolution du séquençage à haut débit. Chapitre 10, Section 10.1.3 **Distribution de *Synechococcus* dans les océans**. Faure D & Joly D. (Eds.). ISTE Editions, 133-135.

2017 Partensky F. & Garczarek L. **Chapitre 7. La couleur de l'eau.** In : *L'Océan à découvert. Partie II. Qu'est-ce que l'océan.* A. Euzen, F. Gaill, D. Lacroix & P. Cury (Eds). CNRS Editions. pp.62-63 (also in English).