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Research Interests

Biophysics and biochemistry of aquatic photosynthesis, water quality, phytoplankton ecology and primary productivity.

Current foci are: improving quantification of phytoplankton using *in vivo* fluorescence by the proposed bio-optics and photo-physiology integrated model; understanding the phytoplankton distribution patterns using chlorophyll fluorescence technique plus carbon-based P-E curve measurement by learning their light utilization traits/strategies; understanding the coupling between physics and biology in the ocean using remote sensing data by the model of primary production.

Educational Background

<i>Degree</i>	<i>Institution</i>	<i>Field</i>	<i>Year</i>
B. S.	Xiamen University	Marine Science	2007
Ph. D.	Xiamen University	Environmental Science	2015

Professional Background

Visiting Research Student, Plymouth Marine Laboratory, UK. (ISECA: Information System on the Eutrophication of our Coastal Areas)	2013
Assistant Research Scientist, State Key Laboratory of Marine Environmental Science, Xiamen University, China. (CHOICEC-II: Carbon Cycling in the South China Seas - processes, mechanisms, and global significances)	2015-2016
MEL Outstanding Postdoctoral Fellowship, State Key Laboratory of Marine Environmental Science, Xiamen University, China. (MACRO: Marine Carbon Sequestration – Multiscale Regulation and Response to Global Change)	2016-2018
Co-Chief Scientist, KK1702 cruise – R/V <i>Tan Kah Kee</i> .	2017
Visiting Scholar, University of Massachusetts Boston.	2018

National Research Council Postdoctoral Research Associate,
NOAA Fisheries Milford Laboratory. (Improving
Quantification of Phytoplankton Using In Vivo Fluorescence) 2018-present

Awards

CSC scholarship (2012)

Grants

Natural Science Foundation of China – FLEK: sun-induced chlorophyll **FL**uorescence estimate photoadaptation parameter (**EK**) in the South China Sea (2018)
China Postdoctoral Science Foundation – Study on primary production in the South China Sea by using the photosynthetic parameters of master phytoplankton group (2017-2018)

Peer-Reviewed Publications

Selected:

1. **Xie YY**, Wang L, Liu X, Li X, Wang Y, Huang BQ (2018) Contrasting response of intertidal microphytobenthos and phytoplankton biomass and taxonomic composition to the nutrient load in the Jiulong River Estuary. *Phycological Research*, in press.
2. Wang FP, **Xie YY**, Wu WX, Sun P, Wang L, Huang BQ (2018) Picoeukaryotic diversity and activity in the northwestern Pacific Ocean based on DNA and RNA high-throughput sequencing. *Frontiers in Microbiology*, accepted.
3. **Xie YY**, Laws EA, Yang L, Huang BQ (2018) Diel patterns of variable fluorescence and carbon fixation of picocyanobacteria *Prochlorococcus*-dominated phytoplankton in the South China Sea basin. *Frontiers in Microbiology*, 9: 1589.
4. **Xie YY**, Huang BQ, Lin LZ, Laws EA, Wang L, Shang SL, Zhang TL, Dai MH (2015) Photosynthetic parameters in the northern South China Sea in relation to phytoplankton community structure. *Journal of Geophysical Research-Oceans* 120: 4187-4204
5. **Xie YY**, Tilstone GH, Widdicombe C, Woodward EMS, Harris C, Barnes MK (2015) Effect of increases in temperature and nutrients on phytoplankton community structure and photosynthesis in the western English Channel. *Marine Ecology Progress Series* 519: 61-73
6. Tilstone GH, **Xie YY**, Robinson C, Serret P, Raitos DE, Powell T, Aranguren-Gassis M, Garcia-Martin EE, Kitidis V (2015) Satellite estimates of net community production indicate predominance of net autotrophy in the Atlantic Ocean. *Remote Sensing of Environment* 164: 254-269.

All:

7. Chen SL, Hu CM, Barnes BB, **Xie YY**, Lin G, Qiu ZF (2018) Improving ocean color data coverage through machine learning. *Remote Sensing of Environment*, accepted.
8. Li T, Bai Y, He XQ, **Xie YY**, Chen XY, Gong F, Pan DL (2018) Satellite - Based Estimation of Particulate Organic Carbon Export in the Northern South China Sea. *Journal of Geophysical Research-Oceans*, accepted.

9. Wang L, Huang BQ, Laws EA, Zhou KB, Liu X, **Xie YY** (2018) Anticyclonic eddy edge effects on phytoplankton communities and particle export in the northern South China Sea. *Journal of Geophysical Research-Oceans*, in press.
10. Xiao WP, Wang L, Laws EA, **Xie YY**, Chen JX, Liu X, Chen BZ, Huang BQ (2018), Realized niches explain spatial gradients in seasonal abundance of phytoplankton groups in the South China Sea, *Progress in Oceanography*, 162, 223-239.
11. Huang YB, Liu X, Laws EA, Chen BZ, Li Y, **Xie YY**, Wu YP, Gao KS, Huang BQ (2018), Effects of increasing atmospheric CO₂ on the marine phytoplankton and bacterial metabolism during a bloom: A coastal mesocosm study, *Science of The Total Environment*, 633, 618-629
12. Wang L, Huang BQ, Chiang KP, Liu X, Chen BZ, **Xie YY**, Xu YP, Hu J, Dai MH (2016), Physical-Biological Coupling in the Western South China Sea: The Response of Phytoplankton Community to a Mesoscale Cyclonic Eddy, *PLoS One*, 11(4), e0153735
13. Chen BZ, Huang BQ, **Xie YY**, Guo C, Song SQ, Li HB, Liu HB (2014) The bacterial abundance and production in the East China Sea: seasonal variations and relationships with the phytoplankton biomass and production. *Acta Oceanologica Sinica* 33:166-177
14. Guo WD, Yang LY, Hong HS, Stedmon CA, Wang FL, Xu J, **Xie YY** (2011) Assessing the dynamics of chromophoric dissolved organic matter in a subtropical estuary using parallel factor analysis. *Marine Chemistry* 124:125-133