

CHEUNG Shunyan's publication list

2025

1. **Cheung, S.***, Morando, M.⁺, Magasin, J., Cornejo-Castillo, F. M., Zehr, J. P., & Turk-Kubo, K. A.* (2025). *NifH* gene amplicon sequencing and metagenomic approaches are complementary in assessing diazotroph diversity. *ISME communications*, **5(1)**: ycaf038. (impact factor= 6.1, rank= 18/200)
2. Deng, L., Chen, J., Xu, Z., Lee, S. S., **Cheung, S.***, & Liu, H.* (2025). Global marine metagenomics reveals the functional diversity and ecological adaptations of diazotrophs across marine ecosystems. *Communications Earth & Environment*, **6(1)**: 933. (impact factor= 8.9, rank= 8/258)
3. Deng, L., Chen, J., Zehr, J., Liu, J., Zhang, X., **Cheung, S.***, & Liu, H.*(2025) A novel mechanism explaining the remarkable temperature dependence of marine unicellular nitrogen-fixing cyanobacteria. *Limnology and Oceanography Letters*, **10(3)**: 287-297. (impact factor=5, rank=5/65).
4. Morando, M., Magasin, J. D., **Cheung, S.**, Mills, M. M., Zehr, J. P., & Turk-Kubo, K. A. (2025). Global biogeography of N₂-fixing microbes: *nifH* amplicon database and analytics workflow. *Earth System Science Data*, **17(2)**:393-422. (impact factor= 11.6, rank= 5/258)

2024

5. Coale, T. H., Loconte, V., Turk-Kubo, K. A., Vanslebrouck, B., Mak, W. K. E., **Cheung, S.**, ... & Zehr, J. P. (2024) Nitrogen-fixing organelle in a marine alga. *Science*, **384(6692)**: 217-222. (impact factor=56.9, rank=2/73)
6. Deng, L., **Cheung, S.**, Liu, J., Chen, J., Chen, F., Zhang, X., & Liu, H. (2024) Nanoplastics impair growth and nitrogen fixation of marine nitrogen-fixing cyanobacteria. *Environmental Pollution*, **350**: 123960. (impact factor=8.9, rank=28/275)
7. Xia, X., **Cheung, S.**, Zhang, S., Lu, Y., Leung, S. K., Shi, Z., ... & Liu, H. (2024). *Noctiluca scintillans* bloom alters the composition and carbohydrate utilization of associated bacterial community and enriches potential pathogenic bacterium *Vibrio anguillarum*. *Water Research*, **249**: 120974. (impact factor=11.5, rank=1/128)
8. Zhang, X., Li, Y., Xu, Z., **Cheung, S.**, Jing, H., Xu, J., & Liu, H. (2024) Chromatic acclimating Synechococcus dominate in mesoscale eddies. *Journal of Geophysical Research: Oceans*, **129**: e2023JC020675. (impact factor=3.6, rank=9/63)

2023

9. Deng, L., **Cheung, S.***, Xu, Z., Liu, K., & Liu, H.* (2023) Microzooplankton grazing exerts a strong top-down control on unicellular cyanobacterial diazotrophs. *Journal of Geophysical Research: Biogeosciences*, **128(12)**: e2023JG007824. (impact factor=3.7, rank=62/202)
10. Lu, Y., **Cheung, S.**, Koh, X. P., Xia, X., Jing, H., Lee, P., ... & Liu, H. (2023). Active degradation-nitrification microbial assemblages in the hypoxic zone in a subtropical estuary. *Science of The Total Environment*, **904**: 166694. (impact factor=9.8, rank=26/275)
11. Liu, K., Nishioka, J., Chen, B., Suzuki, K., **Cheung, S.**, Lu, Y., Wu, H., and Liu, H. (2023) Role of nutrients and temperature in shaping distinct summer phytoplankton and microzooplankton population dynamics in the western North Pacific and Bering Sea. *Limnology and Oceanography*, **68**: 649-665. (impact factor=5.019, rank=4/66)

2022

12. **Cheung, S.***, Liu, K.⁺, Turk-Kubo, K., Nishioka, J., Suzuki, K., Landry, M., Zehr, J., Leung, S., Deng, L., and Liu, H. (2022) High biomass turnover rates of endosymbiotic nitrogen-fixing cyanobacteria in the western Bering Sea. *Limnology and Oceanography Letters*, **7(6)**: 501-509. (impact factor=8.507, rank=2/66)
13. Turk-Kubo, K., Gradoville, M., **Cheung, S.**, Cornejo-Castillo, F., Harding, K. J., Morando, M., Mills, M., and Zehr, J. (2022) Non-cyanobacterial diazotrophs: Global diversity, distribution,

ecophysiology, and activity in marine waters. *FEMS Microbiology Reviews*, <https://doi.org/10.1093/femsre/fuac046>. (impact factor=15.177, rank=12/137)

14. Xu, Z., **Cheung, S.**, Endo, H., Xia, X., Wu, W., Chen, B., Ho, N., Suzuki, K., Li, M., and Liu, H. (2022) Assembly processes and controlling factors in phytoplankton communities across the Pacific Ocean. *mSystems*, **7(1)**: e01203-21. (impact factor=7.328, rank=27/137)
15. Gu, B., Liu, J., **Cheung, S.**, Ho, N. H. E., Tan, Y., and Xia, X. (2022) Insights into Prokaryotic Community and Its Potential Functions in Nitrogen Metabolism in the Bay of Bengal, a Pronounced Oxygen Minimum Zone. *Microbiology Spectrum*, e00892-21. (impact factor=9.043, rank=20/137)
16. Zhang, X., **Cheung, S.**, Wang, J., Zhang, G., Wei, Y., Liu, H., Sun, J., and Liu, H. (2022) Highly diverse *Synechococcus* pigment types in the Eastern Indian Ocean. *Frontiers in Microbiology*, **13**:806390. (impact factor=6.064, rank=34/137)
17. Acevedo-Trejos, E., Cadier, M., Chakraborty, S., Chen, B., **Cheung, S.**, Grigoratou, M., ... and Prowe, F. (2022) Modelling approaches for capturing plankton diversity (MODIV), their societal applications and data needs. *Frontiers in Marine Science*, **9**: 975414. (impact factor=5.247, rank=6/133)
18. Liu, H., Zhou, P., **Cheung, S.**, LU, Y., Jing, H., and Liu, H. (2022) Distribution and oxidation rates of ammonia-oxidizing archaea influenced by the coastal upwelling off eastern Hainan Island. *Microorganisms*, **10(5)**: 952. (impact factor=4.926, rank=54/137)
19. Feng, M., Lin, S., Zhang, W., Wang, C., Liu, H., **Cheung, S.**, Li, H., Stukel, M, Irving, J., and Li, N. (2022) Micro-/Meso-Scale Distinction and Horizontal Migration of Tintinnid (Ciliophora: Tintinnida) Assemblages in Three Regions Around the North Pacific Ocean. *Frontiers in Marine Science*, **9**: 863549. (impact factor=5.247, rank=6/133)

2021

20. **Cheung, S.**, Zehr, J.P., Xia, X., Tsurumoto, C., Endo, H., Nakaoka, S., Mak, W., Suzuki, K., and Liu, H. (2021) Gamma4: a genetically versatile Gammaproteobacterial *nifH* phylotype that widely distributed in the North Pacific Ocean. *Environmental Microbiology*, **23**: 4246-4259. (impact factor=5.476, rank=42/137)
21. Cheung, Y., **Cheung, S.***, Mak, J., Liu, K., Xia, X., Yung, Y., Zhang, X., and Liu, H.* (2021) Distinct interaction effects of warming and anthropogenic input on diatoms and dinoflagellates in an urbanized estuarine ecosystem. *Global Change Biology*, **27**: 3463-3473. (impact factor=13.212, rank=1/65)
22. Deng, L. , **Cheung, S.***, Kang, C., Liu, K., Xia, X., and Liu, H.* (2021) Elevated temperature relieves phosphorus limitation of marine unicellular diazotrophic cyanobacteria. *Limnology and Oceanography*, **67**: 122-134. (impact factor=5.019, rank=4/66)

2020

23. **Cheung, S.**, Nitnai, R., Tsurumoto, C., Endo, H., Nakaoka, S., Cheah, W., Lorda, J., Xia, X., Liu, H., and Suzuki, K. (2020) Physical forcing controls the basin-scale occurrence of nitrogen-fixing organisms in the North Pacific Ocean. *Global Biogeochemical Cycles*, **34(9)**: e2019GB006452. (impact factor=6.500, rank=16/202)
24. Lu, Y. +, **Cheung, S.+**, Chen, L., Kao, S. J., Xia, X., Gan, J., Dai, M., and Liu, H. (2020). New insight to niche partitioning and ecological function of ammonia oxidizing archaea in subtropical estuarine ecosystem. *Biogeosciences*, **17**: 6017–6032. (impact factor=5.092, rank=34/202)
25. Deng, L.+ , **Cheung, S.+**, and Liu, H. (2020) Protistal grazers increase grazing on unicellular cyanobacteria diazotroph at night. *Frontiers in Marine Science*, **7**: 135. (impact factor=5.247, rank=6/133)
26. Xia, X., Lee, P., **Cheung, S.**, Lu, Y., Tan, Y., and Liu, H. (2020) Discovery of euryhaline phycoerythrobilin-containing *Synechococcus* and their mechanisms for adaptation to estuarine environments. *mSystems*, **5**: e00842-20. (impact factor=7.328, rank=27/137)

27. Zhang, S., Li, C., **Cheung, S.**, Sun, M., Song, S., Guo, W., Guo, C., Wu, G., and Liu, H. (2020) Snapshot of peptidomics of the red tide forming species *Noctiluca scintillans*. **Frontiers in Marine Science**, **7**:569807. (impact factor=5.247, rank= 6/133)
28. Zhang, S., Xia, X., Ke, Y., Song, S., Shen, Z., **Cheung, S.**, and Liu, H. (2020) Population dynamics and interactions of *Noctiluca scintillans* and *Mesodinium rubrum* during their successive blooms in a subtropical coastal water. **Science of the Total Environment**, **755**: 142349. (impact factor=10.754, rank= 26/279)
29. Rocke, E., **Cheung, S.**, Gebe, Z., Dames, N., Liu, H., and Moloney, C. (2020) Marine microbial community composition during the upwelling season in the Southern Benguela. **Frontiers in Marine Science**, **7**: 255. (impact factor=5.247, rank= 6/133)
30. Xia, X., Leung, S. K., **Cheung, S.**, Zhang, S., and Liu, H. (2020). Rare bacteria in seawater are dominant in the bacterial assemblage associated with the bloom-forming dinoflagellate *Noctiluca scintillans*. **Science of The Total Environment**, **711**: 135107. (impact factor=10.754, rank= 26/279)

2019

31. **Cheung, S.**, Suzuki, K., Xia, X., and Liu, H. (2019) Transportation of diazotroph community from the upstream to downstream of the Kuroshio. **Journal of Geophysical Research: Biogeosciences**, **124(9)**: 2680-2693. (impact factor=4.432, rank= 49/202)
32. **Cheung, S.**, Mak, W., Xia, X., Lu, Y., Cheung, Y., and Liu, H. (2019) Overlooked genetic diversity of ammonia oxidizing archaea lineages in the global oceans. **Journal of Geophysical Research: Biogeosciences**, **124(7)**: 1799-1811. (impact factor=4.432, rank= 49/202)
33. Xia, X., **Cheung, S.**, Endo, H., Suzuki, K., & Liu, H. (2019). Latitudinal and vertical variation of *Synechococcus* assemblage composition along 170° W transect from the South Pacific to the Arctic Ocean. **Microbial Ecology**, **77**: 333-342. (impact factor=4.192, rank= 12/113)
34. Tan, S., **Cheung, S.**, Ho, T. Y., and Liu, H. (2019). Metatranscriptomics of the bacterial community in response to atmospheric deposition in the Western North Pacific Ocean. **Marine Genomics**, **45**: 57-63. (impact factor=2.143, rank= 138/175)
35. Lu, Y., Xia, X., **Cheung, S.**, Jing, H., and Liu, H. (2019). Differential distribution and determinants of ammonia oxidizing archaea sublineages in the oxygen minimum zone off Costa Rica. **Microorganisms**, **7(10)**: 453. (impact factor=4.926, rank=54/137)