

Curriculum Vitae

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EDUCATION

1983 B.S. Shandong College of Oceanology, China (Marine Biology)
1994 M.S. University of Hawaii at Manoa (Oceanography)
1997 Ph.D. University of Hawaii (Oceanography)

PROFESSIONAL EXPERIENCE

1983-1991 Assistant and Associate Researcher, 2nd Institute of Oceanography, SOA China
1991-1997 Research & Teaching Assistant, Dept. of Oceanography, Univ. of Hawaii at Manoa
1997-1999 Postdoctoral Research Fellow, Marine Science Institute, Univ. of Texas at Austin
1999-2000 JSPS Special Research Fellow, Nagoya University, Japan
2000-2005 Senior Research Associate, Louisiana Universities Marine Consortium
2004-2005 Assistant Professor, Institute of Oceanography, National Taiwan University
2005-2010 Assistant Professor, Hong Kong University of Science and Technology
2010-2015 Associate Professor, HKUST
2015- Professor, HKUST

RESEARCH INTERESTS

Microbial community structures and functions
Phytoplankton physiology and ecology
Microbial food web dynamics and trophic interactions.
Estuarine and coastal ecosystems.

TEACHING EXPERIENCE

Current: *OCES2001* Survey of Ocean Science, *OCES3130* Marine Biology, *OCES3201* Biological Oceanography, *ENVS5116* Environmental Impact and Risk Assessment
Past: Introductory Oceanography, Marine Microbial Ecology, Ecotoxicology, Microbiology, Dynamics of Marine Ecosystems, Biostatistics, Biodiversity

RESEARCH PROJECTS (LAST 5 YEARS)

- Provision of service on water quality monitoring at fish culture zones (AFCD 2010-)
- Geographic and temporal variations in the phylogenetic diversity of the marine cyanobacteria *Synechococcus* in estuarine and coastal waters of Hong Kong (RGC 2014-2016)
- Carbon Cycle in the South China Sea: budget, controls & global implications (Major national science research program of China 2015 – 2019)
- Stoichiometric dynamics of carbon and nitrogen in two major hypoxia zones of Chinese coastal water (NSFC/RGC 2016-2019)

- Microbial food web dynamics in hypoxic coastal waters: Effects of hypoxia on biodiversity, ecological function and physiological condition of protistan grazers (RGC 2017-2020)
- Diagnosis and prognosis of intensifying eutrophication, hypoxia and ecosystem consequences around Hong Kong waters: coupled physical-biogeochemical-pollution studies (Theme-based Research Scheme 2017-2021)
- Microzooplankton grazing on unicellular cyanobacterial diazotroph (UCD) (RGC 2018-2020)
- Provision of Consultancy Study on Development of Supplementary Criteria to Improve Water Quality Assessment on Impacts of Nutrient Enrichment (EPD 2018-2020)
- The effect of warming on the growth and metabolism of auto-, hetero- and mixotrophic marine protists (RGC 2019-2021)
- Response and adaptation of marine microbial communities to environmental stresses in a warming ocean (Southern Marine Science & Engineering Guangdong Laboratory (Guangzhou) 2020-2022)

SHIP TIME

1. Participated in about 15 scientific cruises in China between 1983 and 1990, ranging from coastal to oceanic with cruise length from 2 weeks to 2 months.
 2. R/V Yoko Maru, (Japan) 1987 and 1991, Kuroshio in the East China Sea
 3. Participated 14 HOT (Hawaii Ocean Time-series) cruises between 1991 and 1996.
 4. French JGOFS' FLUPAC cruise in equatorial Pacific on board l'Atalante, Sept. – Oct., 1994.
 5. US JGOFS Arabian Sea Process Study, Nov. – Dec., 1995, R/V Thompson.
 6. 4 short cruises in Laguna Madre, Texas, on board R/V Longhorn in 1998.
 7. R/V Hakuho Maru (Japan), North Pacific and Bering Sea, June – July, 1999.
 8. R/V Pelican, Gulf of Mexico, October 2000.
 9. R/V Alpha Helix, April, May and July 2001, US-GLOBEC, Gulf of Alaska.
 10. R/V Ocean Research 3 (Taiwan), October 2001, South China Sea
 11. R/V Pelican, Gulf of Mexico, March, April and October 2002.
 12. R/V Alpha Helix, April-May 2003, US-GLOBEC, Gulf of Alaska.
 13. R/V Pelican, Gulf of Mexico, April 24 – May 3, and August 9-12, 2004
 14. R/V Ocean Research 1 (Taiwan), December 2004 (3 days), East China Sea
 15. R/V Professor Khromov (Russia), August 13 – Sept. 14, 2006, Sea of Okhotsk
 16. R/V Pelican, Gulf of Mexico, 15-20 August 2010
 17. R/V Tansei Maru (Japan), western North Pacific, 7 – 12 May 2011
 18. R/V Tansei Maru (Japan), Tokara strait, East China Sea, 16-24 November 2012
 19. R/V Professor Multanovskiy (Russia), 2 June – 8 July, 2014, Sea of Okhotsk
- Total sea time more than 104 weeks.**

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Geophysical Union

American Society of Limnology and Oceanography, **ASLO Fellow**

STUDENTS AND POSTDOCTORAL FELLOWS TRAINED (AS OF SEPT 2017)

Current: Postdoc: 2; PhD students: 12; MPhil students: 4; MSc project: 0; UG FYP: 1
Past: Postdoc: 5; PhD completed: 9; MPhil completed: 10; MSc project: 22; UG FYP: 27
Member of supervisory committees for >40 PG students

SYNERGISTIC ACTIVITIES

Editor: *Journal of Oceanography* (2012-2018)
Associate Editor: *Frontiers in Marine Science* (2014-)
Associate Editor: *Frontiers in Microbiology* (since 2016)
Associate Editor: *Estuaries and Coasts* (since 2019)
Editorial Board Member: *Scientific Reports* (since 2014)
Editorial Board Member: *Journal of Plankton Research* (Since 2008)
Editorial Board Member: *PLoS One* (Since 2018)

Guest Editor, “Upwelling Ecosystem in the Southern Taiwan Strait”. *Continental Shelf Research* 31(6S), May 2011
Guest Editor, “Biogeochemical and physical processes in the Sea of Okhotsk and the linkages to the Pacific Ocean”, *Progress in Oceanography* 126 (2014)
Guest Editor, “Biogeochemistry and ecosystems in the western north Pacific continental margins under climate change and anthropogenic forcing” *Biogeosciences* (2014)
Guest Editor, “The Oceanography of the Northern South China Sea Shelf-sea (NoSoCS) and Adjacent Waters” *Deep-Sea Research II* 117 (2015)
Guest Editor, “River-estuary-coast continuum: biogeochemistry and ecological response to increasing human and climatic changes” *Estuarine, Coastal and Shelf Science* Volume 166, Part B, Pages 143-240 (2015)
Guest Editor, “Biogeochemistry and ecology and their coupling with physical dynamics in the South China Sea: processes and global implications” *Progress in Oceanography* (current)

Review manuscripts for following journals (an incomplete list): *Acta Oecologica, Aquatic Microbial Ecology, Biogeosciences, Bulletin of Marine Science, Comptes Rendus Biologies, Continental Shelf Research, Deep Sea Research I, Deep Sea Research II, Ecosystems, Estuaries and Coasts, Estuarine, Coastal and Shelf Science, FEMS Microbiology Ecology, Fishery Oceanography, Frontiers in Marine Science, Frontiers in Microbiology, G³, Hydrobiologia, Indian Journal of Marine Science, The ISME Journal, Journal of Geophysical Research, Journal of Oceanography, Journal of Phycology, Journal of Plankton Research, Limnology and Oceanography, Marine and Freshwater Research, Marine Biology, Marine Chemistry, Marine Ecology, Marine Ecology Progress Series, Marine Environmental Research, Marine Pollution Bulletin, Oceanography, Plant Physiology and Biochemistry, PLoS One, Progress in Oceanography, TAOS.*

Review proposals for NSF (bio-ocean), NOAA (ECO HAB), NSFC, and Hong Kong RGC.
Member, The Society of Hong Kong Scholars

Chair, Gordon Research Conference, Marine Molecular Ecology (2015)

Director, Croucher Summer Course, Climate Change and Marine Ecosystems (2013, 2015, 2017, 2019, 2021 (postponed))
Co-Director, CAS-HKUST Sanya Joint Laboratory of Marine Science Research (2020 -)

Winner, Frontiers Community Support Fund (2017)

Member, Red Tide Expert Advisory Group (RTEAG), Hong Kong Government
Member, Dumping at Sea Appeal Board Panel, Hong Kong Government

PUBLICATIONS

Total Journal paper 209. Web of Science citation 4320. The h-index is 37.

Google Scholar Citations: [9HwTkSsAAAAJ](#) [Citations: 5608, h-index: 42, i10-index: 111]

PEER-REVIEWED PAPERS IN LAST 5 YEARS (* - Corresponding Author)

Yuan, X., Zhou, W., Huang, H., Yuan, T., Li, X., Yue, W., Gao, Y., Liu, S., Pan, G., **Liu, H.**, Yin, K., Harrison, P.J. (2016) Bacterial influence on chromophoric dissolved organic matter in coastal waters of the northern South China Sea. *Aquat. Microb. Ecol.* 76: 207-217

Freibott, A., Taylor, A. G., Selph, K. E., **Liu, H.**, Zhang, W., Landry, M.R. (2016) Biomass and composition of protistan grazers and heterotrophic bacteria in the Costa Rica Dome during summer 2010. *J. Plankton Res.* 38(2): 230–243

Cheung, S.Y., Xia, X., Guo, C., **Liu H.*** (2016) Diazotroph community structure in the deep oxygen minimum zone of the Costa Rica Dome. *J. Plankton. Res.* 38(2): 380–391

Ng, W. H. A., **Liu, H.*** (2016) Diel periodicity of grazing by heterotrophic nanoflagellate influenced by prey cell properties and intrinsic grazing rhythm. *J. Plankton Res.* 38(3): 636-651

Rocke, E., Jing, H., Xia, X., **Liu, H.*** (2016) Effects of hypoxia on the phylogenetic composition and species distribution of protists in a subtropical harbour. *Microbial Ecol.* 72(1), 96-105
DOI: 10.1007/s00248-016-0751-7

Jing, H., Rocke, E., Kong, L., Xia, X., **Liu*, H.**, Landry, M.R. (2016) Protist communities in a marine oxygen minimum zone off Costa Rica by 454 pyrosequencing. *Biogeosciences Discuss*

Chen, T.-Y., Tai, J.-H., Ko, C.-Y., Hsieh, C.-H., Chen, C.-C., Jiao, N., **Liu, H.-B.**, Shiah, F.-K. (2016) Nutrient pulses driven by internal solitary waves enhance heterotrophic bacterial growth in the South China Sea. *Environ. Microbiol.* DOI: 10.1111/1462-2920.13273

Zhang, S., **Liu, H.***, Guo, C., Harrison, P.J. (2016) Differential grazing and growth of *Noctiluca scintillans* on monospecific and mixed diets. *Mar. Ecol. Prog. Ser.* 549: 27-40

Liu, H., Chen, M., Zhu, F., Harrison, P.J. (2016) Effect of diatom silica content on copepod grazing, growth and reproduction. *Front. Mar. Sci.* 3: 89. doi: 10.3389/fmars.2016.00089

Liu, H., Wu, C.-J. (2016) Effect of the silica content of diatom prey on the production, decomposition and sinking of fecal pellets of the copepod *Calanus sinicus*. *Biogeosciences*, 13, 4767–4775, www.biogeosciences.net/13/4767/2016/ doi:10.5194/bg-13-4767-2016

Jing, H., Cheung, S., Zhou, Z., Wu, C., Nagarajan S. **Liu, H.*** (2016) Spatial variations of the methanogenic communities in the sediments of tropical mangroves. *PLOS One* 11(9): e0161065. doi:10.1371/journal.pone.0161065

Guo, C., Xia, X., Pitta, P., Herut, B., Rahav, E., Berman-Frank, I., Giannakourou, A., Tsiola, A., Tsagaraki, T. M., **Liu, H.*** (2016) Shifts in microbial community structure and activity in the ultra-oligotrophic Eastern Mediterranean Sea driven by Saharan dust and European aerosol deposition. *Front. Mar.Sci.*3:170. doi: 10.3389/fmars.2016.00170

Rahav, E., Cheung S.-Y., Guo, C., **Liu, H.**, Tsagaraki, T.M., Giannakourou, A., Tsiola, A., Psarra, S., Lagaria, A., Mulholland, M.R., Stathopoulou, E., Paraskevi, P., Herut, B., Berman-Frank, I.(2016) Evaluating the impact of atmospheric depositions on springtime dinitrogen fixation in the Cretan Sea (Eastern Mediterranean) – A mesocosm approach. *Front. Mar. Sci.* 3:180. doi: 10.3389/fmars.2016.00180

Herut, B., Rahav, E., Tsagaraki, T. M., Giannakourou, A., Tsiola, A., Psarra, S., Lagaria, A., Papageorgiou, N., Mihalopoulos, N., Theodosi, C.N., Stathopoulou, E., Scoullou, M., Krom, M.D., Stockdale, A., Shi, Z., Berman-Frank, I., Meador, T. B., Tanaka, T., Cheung, S.-Y., Violaki, K., Guo C., **Liu, H.**, Pitta, P. (2016) The potential impact of Saharan dust and polluted aerosols on microbial populations in the East Mediterranean Sea, an overview of a mesocosm experimental approach. *Front. Mar. Sci.*

Xia, X., Partensky, F., Garczarek, L., Suzuki, K., Guo, C., Cheung, S. Y., **Liu, H.*** (2017) Phylogeography and pigment type diversity of *Synechococcus* cyanobacteria in surface waters of the northwestern Pacific Ocean. *Environ. Microbiol.* 19:142-158. doi:10.1111/1462-2920.13541

Zhang, S., Chan, K. Y. K., Shen, Z., Cheung, S., Landry, M. R., **Liu, H.*** (2017) A cryptic marine ciliate feeds on progametes of *Noctiluca scintillans*. *Protist* 168: 1-11 DOI 10.1016/j.protis.2016.08.005

E. Fouilland, A. Trottet, C. Alves-de-Souza, D. Bonnet, T. Bouvier, M. Bouvy, S. Boyer, L. Guillou, E. Hatey, H. Jing, C. Leboulanger, E. Le Floc'h, **H. Liu**, S. Mas, B. Mostajir, J. Nouguié, D. Pecqueur, E. Rochelle-Newall, C. Roques, C. Salles, M.-G. Tournoud, C. Vasseur, F. Vidussi (2017) Significant change in marine plankton structure and carbon production after the addition of river water in a mesocosm experiment. *Microb. Ecol.* DOI 10.1007/s00248-017-0962-6

Xu, Z., Song, X., Wang, M., Liu, Q., Jiang, Y., Shao, H., **Liu, H.**, Shi, K., Yu, Y. (2017) Community patterns and temporal variation of picoeukaryotes in response to changes in the Yellow Sea Warm Current. *J. Oceanogr.* DOI 10.1007/s10872-017-0425-1

Chen, M., **Liu, H.***, Chen, B. (2017) Seasonal variability of mesozooplankton feeding rates on phytoplankton in subtropical coastal and estuarine waters. *Front. Mar. Sci.* 4: 186. doi: 10.3389/fmars.2017.00186

Zhang, S., Harrison, P.J., Song, S., Chen, M., Kung, H. S., Lau, W. K., Guo, C., Wu, C.-J., Xu, J., **Liu, H.*** (2017) Population dynamics of *Noctiluca scintillans* during a bloom in a semi-enclosed bay in Hong Kong. *Mar. Pollut. Bullet.* 121: 238-248 DOI: 10.1016/j.marpolbul.2017.06.025

Ng, W. H. A., **Liu, H.***, Zhang, S. (2017) Diel variation of grazing of the dinoflagellate *Lepidodinium* sp. and ciliate *Euplotes crassus* on algal prey – The effect of prey cell properties. *J. Plankton Res.* 39:450-462. doi: [10.1093/plankt/fbx020](https://doi.org/10.1093/plankt/fbx020)

Liu, H., Tan, S., Xu, J., Guo, W., Xia, X., Cheung, S.Y. (2017) Interactive regulations by viruses and dissolved organic matter on the bacterial community. *Limnol. Oceanogr.* 62: S364–S380. doi: 10.1002/lno.10612

Zhang, S., **Liu, H.***, Ke, Y., Li, B. (2017) Effect of diatom silica content on protozoan grazing. *Front. Mar. Sci.* 4: doi: 10.3389/fmars.2017.00202

Jing, H.* , Cheung, S., Xia, X., Suzuki, K., Nishioka, J., **Liu, H.*** (2017) Geographic Distribution of Ammonia-Oxidizing Archaea along the Kuril Islands in the Western Subarctic Pacific. *Front. Microbiol.* 8:1247. doi: 10.3389/fmicb.2017.01247

Zhang, S., **Liu, H.***, Glibert, P.M., Guo, C., Ke, Y. (2017) Effects of prey of different nutrient quality on elemental nutrient budgets in *Noctiluca scintillans*. *Sci. Rep.* 7: 7622 | DOI:10.1038/s41598-017-05991-w

Xia, X., **Liu, H.***, Choi, D., Noh, J.H. (2017) Variation of *Synechococcus* pigment genetic diversity along two turbidity gradients in the China seas. *Microbial. Ecol.* 75(1): 10-21. DOI 10.1007/s00248-017-1021-z

Xia X, Guo W, Tan S and **Liu H.*** (2017) *Synechococcus* Assemblages across the Salinity Gradient in a Salt Wedge Estuary. *Front. Microbiol.* 8:1254. doi: 10.3389/fmicb.2017.01254

Xia, X., Guo, W., **Liu, H.*** (2017) Basin scale variation on the composition and diversity of Archaea in Pacific Ocean. *Front. Microbiol.* 8:2057. doi: 10.3389/fmicb.2017.02057

Tan, S., **Liu, H.*** (2017) Unravel the hidden protistan diversity: application of blocking primers to suppress PCR amplification of metazoan DNA. *Appl Microbiol Biotechnol* <https://doi.org/10.1007/s00253-017-8565-1>

Cheung, S., Suzuki, K., Saito, H., Umezawa, Y., Xia, X., **Liu, H.*** (2017) Diazotroph Community Structure and Distribution in the Kuroshio Current along the Tokara Strait. *PLoS ONE* 12(10): e0186875. <https://doi.org/10.1371/journal.pone.0186875>

Kataoka, T., Suzuki, K., Irino, T., Yamamoto, M., Higashi, S., **Liu, H.** (2017) Phylogenetic diversity and distribution of bacterial and archaeal amoA genes in the East China Sea during spring. *Archives of Microbiology.* <https://doi.org/10.1007/s00203-017-1442-6>

Pan, X., Wong, G. T. F., Ho, T.-Y., Tai, J.-H., **Liu, H.**, Liu, J., Shiah, F.-K. (2018) Remote sensing of surface [nitrite+nitrate] in river-influenced shelf-seas: The northern South China Sea Shelf-sea. *Remote Sensing of Environment* 210: 1 – 11 <https://doi.org/10.1016/j.rse.2018.03.012>

Tsai, A.-Y., Gong, G.-C., **Liu, H.** (2018) Seasonal variations in virioplankton and picoplankton in semi-enclosed and open coastal waters. *Terr. Atmos. Ocean. Sci.*, 29(4) 1-8, doi: 10.3319/TAO.2018.01.31.01

Li, Y., Jing, H., Xia, X., Cheung, S., Suzuki, K., **Liu, H.*** (2018) Metagenomic insights into the microbial community and nutrient cycling in the western subarctic Pacific Ocean. *Front. Microbiol.* 9:623. doi: 10.3389/fmicb.2018.00623

- Chen, M., Kim, D.Y., **Liu, H.**, Kang, C.K. (2018) Variability of copepod trophic levels and feeding selectivity based on stable isotope analysis in Gwangyang Bay off the southern coast of Korea. *Biogeosciences* 15, 2055–2073, 2018. <https://doi.org/10.5194/bg-15-2055-2018>
- Shen, Z., Liu, W., Zhang, S., Yi, Z., Liu, H.* (2018) Taxonomy, morphology and phylogeny of a new oligotrich ciliate – *Omegastrombidium hongkongense* n. sp. (Protozoa: Ciliophora) from Clear Water Bay, Hong Kong. *J. Ocean Univ. China* 17 (4): 890-896
<https://doi.org/10.1007/s11802-018-3483-0>
- Xu, Z., Wang, M., Wu, W., Li, Y., Liu, Q., Han, Y., Jiang, Y., Shao, H., McMinn, A., **Liu, H.*** (2018) Vertical distribution of microbial eukaryotes from surface to the hadal zone of the Mariana Trench. *Front. Microbiol.* 9:2023. doi: 10.3389/fmicb.2018.02023
- Wu, W., **Liu, H.*** (2018) Disentangling protist communities identified from DNA and RNA surveys in the Pearl River-South China Sea Continuum during the wet and dry seasons. *Molecular Ecology*. 27:4627-4640. DOI: 10.1111/mec.14867
- Jing H., Zhang Y., Li Y., Zhu W., **Liu H.*** (2018) Spatial variability of picoeukaryotic communities in Mariana Trench. *Scientific Reports* 8:15357 | DOI:10.1038/s41598-018-33790-4
- Jing H, Zhu W, **Liu H**, Zheng L and Zhang Y (2018) Particle-attached and Free-living archaeal communities in the benthic boundary layer of the Mariana Trench. *Front. Microbiol.* 9:2821. doi: 10.3389/fmicb.2018.02821
- Lu, Z., Gan, J., Dai, M., **Liu, H.**, Zhao, X. (2018). Joint effects of extrinsic biophysical fluxes and intrinsic hydrodynamics on the formation of hypoxia west off the Pearl River estuary. *Journal of Geophysical Research: Oceans*, 123, 6241–6259. <https://doi.org/10.1029/2018JC014199>
- Wu, W., Cui Guo, C., Pitta, P., **Liu, H.*** (2018) Response of active picoeukaryotes to the deposition of Saharan dust and European aerosols in the Eastern Mediterranean Sea. *Aquatic Microbial Ecology* 82:31-42, doi.org/10.3354/ame01881
- 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. *Microb. Ecol.* 77:333-342. DOI: 10.1007/s00248-018-1308-8
- Li, X., Xu, J., Shi, Z., Xu, D., Li, R., Li, Q., **Liu, H.** (2019) Regulation of protist grazing on bacterioplankton by hydrological conditions in coastal waters. *Estuarine, Coastal and Shelf Science*. doi: <https://doi.org/10.1016/j.ecss.2018.11.013>.
- Zhang, W., Ding, W., Li, Y.-X., Tam, C., Bougouffa, S., Wang, R., Pei, B., Chiang, H., Leung, P., Lu, Y., Sun, J., Fu, H., Bajic, V. B., **Liu, H.**, Webster, N. S., Qian, P-Y (2019) Marine biofilms constitute a bank of hidden microbial diversity and functional potential. *Nature Communication*. 10:517 | <https://doi.org/10.1038/s41467-019-08463-z> | www.nature.com/naturecommunications
- Liu, K., Chen, B., Zhang, S., Sato, M., Shi, Z., **Liu, H.*** (2019) Marine phytoplankton in subtropical coastal waters showing lower thermal sensitivity than microzooplankton. *Limnol. Oceanogr.* 64(3): 1103-1119. doi: 10.1002/lno.11101

- Tan, S., Cheung, S.-Y., Ho, T.-Y., **Liu, H.*** (2019) Metatranscriptomics of the prokaryotic community in response to atmospheric deposition in the Western North Pacific Ocean. *Marine Genomics* 45: 57-63
- Li Y., Zou D., S.-J. Kao, Li M.*, **Liu H.*** (2019) Genomic adaptation to eutrophication of ammonia-oxidizing archaea in the Pearl River estuary. *Environ. Microbiol.* doi:10.1111/1462-2920.14613
- Li Y., Zheng, L., Zhang Y., **Liu H.***, Jing, H.* (2019) Comparing microbial metabolism in pristine and contaminated tropical and subtropical mangrove sediments using a metagenomic approach. *Scientific Report* 9:5739 | <https://doi.org/10.1038/s41598-019-42260-4>
- Shi, Z., Liu, K., Zhang, S., Xu, H., **Liu, H.*** (2019) Spatial distributions of mesozooplankton biomass, community composition and grazing impact in association with hypoxia in the Pearl River Estuary. *Estuar. Coast. Shelf Sci.* 225: 106237. <https://doi.org/10.1016/j.ecss.2019.05.019>
- Cheung, S., Mak, E. W. K., Xia, X., Lu, Y., Cheung, Y., **Liu, H.*** (2019) Overlooked genetic diversity of ammonia oxidizing archaea lineages in the global oceans. *JGR Biogeoscience* DOI:10.1029/2018JG004636
- Cheung, S., Suzuki, K., Xia, X., **Liu, H.*** (2019) Transportation of diazotroph community from the upstream to downstream of the Kuroshio. *JGR Biogeoscience*. DOI:10.1029/2018JG004960
- Li, Y., Yan, N., Wong T. Y., Wang W.-X.,* **Liu, H.*** (2019) Interaction of antibacterial silver nanoparticles and microbiota-dependent holobiont revealed by metatranscriptomic analysis. *Environmental Science: Nano*, **6**, 3242 – 3255 DOI: 10.1039/C9EN00587K
- Lu, Y., Xia, X., Cheung S., Jing, H., **Liu, H.*** (2019) Differential distribution and determinants of ammonia oxidizing archaea sublineages in the oxygen minimum zone off Costa Rica. *Microorganisms* 7: 453; doi:10.3390/microorganisms7100453
- Xia, X., Leung, S.K., Cheung, S., Zhang, S., **Liu, H.*** (2019) Rare Bacteria in Seawater are Dominant in the Bacterial Assemblage Associated with the Bloom-forming Dinoflagellate *Noctiluca scintillans*. *Science of total Environment* v. 711, November 2019, 135107
- Zhao, Y., Liu, J., Uthaipan, K., Song, X., Xu, Y., He, B., **Liu, H.**, Gan, J., Dai, M. (2020) Dynamics of inorganic carbon and pH in a large subtropical continental shelf system: Interaction between eutrophication, hypoxia and ocean acidification. *Limnol. Oceanogr.* DOI: 10.1002/lno.11393
- Zou D, Pan J, Liu Z, Zhang C, **Liu H*** and Li M* (2020) The distribution of Bathyarchaeota in surface sediments of the Pearl River Estuary along salinity gradient. *Front. Microbiol.* 11:285. doi: 10.3389/fmicb.2020.00285
- Li, X., Lu, C., Zhang, Y., Zhao, H., Wang, J., **Liu, H.**, Yin, K. (2020) Low dissolved oxygen in the Pearl River estuary in summer: Long-term spatio-temporal patterns, trends, and regulating factors. *Mar. Poll. Bull.* 151: 110814.
- Deng, L., Cheung, S., **Liu, H.*** (2020) Protistal grazers increase grazing on unicellular cyanobacteria diazotroph at night. *Front. Mar. Sci.* 7:135. doi: 10.3389/fmars.2020.00135

Xu, Z., Li, Y., Lu, Y., Li, Y., Yuan, Z., Dai, M., **Liu, H.*** (2020) Impacts of the Zhe-Min Coastal Current on the biogeographic pattern of microbial eukaryotic communities. Prog. Oceanogr. <https://doi.org/10.1016/j.pocean.2020.102309>

Li, Y., Jing, H., Kao, S.-J., Zhang, W., **Liu H.*** (2020) Metabolic response of prokaryotic microbes to sporadic hypoxia in a eutrophic subtropical estuary. Mar. Poll. Bull. 154:111064

Jiang, T., Guo, C., Wang, M., Wang, M., You, S., Liu, Y., Zhang, X., **Liu, H.**, Jiang, Y., Shao, H., Liang, Y., McMinn, A. (2020) Isolation and complete genome sequence of a novel cyanophage, S-B05, infecting an estuarine *Synechococcus* strain: insights into environmental adaptation. *Arch Virol* (2020). <https://doi.org/10.1007/s00705-020-04595-6>

Zou, D., Wan, R., Han, L., Xu, M., Liu, Y., **Liu, H.**, Kao, S.-J, Li, M. (2020) Genomic characteristics of a novel species of ammonia-oxidizing archaea from the Jiulong River estuary. *Appl. Environ. Microbiol.*

Liu, K., Chen, B., Huang, B., Zheng, L., Su, S., Chen, M., **Liu, H.*** (2020) What controls microzooplankton biomass and herbivory across marginal seas of China? *Limnol. Oceanogr.* doi: 10.1002/lno.11588

Zou, D., **Liu, H.**, Li, M. (2020) Community, distribution, and ecological roles of estuarine Archaea. *Frontiers in Microbiology*. DOI: 10.3389/fmicb.2020.02060

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RECENT CONFERENCE PRESENTATIONS (LAST 5 YEARS)

Diazotrophs in West Philippine Sea under influence of mesoscale eddies. International Symposium on Microbial Ecology 2016, Montréal, Canada, 22 Aug, 2016

Effect of temperature on growth and mortality of two distinct *Synechococcus* communities of Hong Kong coastal waters. ISME meeting, Montreal, 8/22/2016

Temperature sensitivities of phytoplankton growth rates at two contrasting sites in Hong Kong coastal waters. Asia Oceania Geosciences Society 13th Annual Meeting, Beijing, July 31-August 5, 2016

Bottom-up and top-down regulation of *Noctiluca scintillans*, ICES/PICES 6th Zooplankton Production Symposium, 9-13 May 2016, Bergen, Norway, Invited speaker

Population dynamics of *Noctiluca scintillans* during a bloom in a semi-enclosed bay in Hong Kong. The 8th International Conference on Marine Pollution and Ecotoxicology. Hong Kong. June 2016 (Poster Presentation).

Elemental stoichiometry and nutrient excretion of *Noctiluca scintillans* in response to prey of different quality. Ocean Biogeochemistry "Gordon Research Conference". Hong Kong. June 2016 (Poster Presentation)

Potential nitrous oxide yield of AOA vs. AOB and utilization of carbon and nitrogen in the ammonia oxidizing process in the Pearl River Estuary, 2016 AGU Fall Meeting

Geographical niche differentiation of *Synechococcus* communities in the western Pacific marginal seas, Japan Oceanographic Society Meeting, September 12-14, 2016, Kagoshima, Japan (invited speaker)

Geographical niche differentiation of *Synechococcus* communities in the western Pacific marginal seas. JAMSTEC-ZMT Workshop – Plankton biodiversity, dynamic ecophysiology, and ecosystem function, 15-17 February 2017, Bremen Germany

Phylogenetic diversity and pigment type of *Synechococcus* in the western Pacific marginal seas Institute of Oceanology, CAS, 20 March 2017 (Invited)

Highly diverse unicellular cyanobacterial diazotrophs in the Kuroshio Current and the North Pacific Ocean. 11th Cross-Strait Symposium on Marine Science. 22 August 2017, Tai-an, China (Plenary speech)

Microbial eukaryotic communities in the deep oceans, Invited speaker at AoShan Forum – “Deep Ocean Ecosystems: Biological Process in Extreme Environments”, Qingdao National Laboratory for Marine Science and Technology, Aoshan, Qingdao, China, 29-30 August, 2017

Effect of eutrophication and coastal hypoxia on microbial food webs. (invited speaker) Second Symposium on Key Processes and Resources of the Coastal Ecosystems. Nansha, Guangzhou 22-24 December 2017

Bottom-up and top-down regulation of *Noctiluca scintillans*. Symposium on Harmful Algal Blooms and Hypoxia in a Changing Ocean. Hangzhou, China, 25-26 May 2018. Invited

Basin-scale and Seasonal Dynamics of Diazotrophic Populations in the North Pacific Ocean. 2018 ASLO Summer Meeting, Victoria, Canada, 11-15 June 2018

Hypoxia and ecosystem consequences around Hong Kong waters: A theme-based research scheme project on the Eutrophication. The 5th Conference on Earth System Science. 2-4 July 2018, Shanghai China, Invited

Highly diverse unicellular cyanobacterial diazotrophs in the Kuroshio and the North Pacific Ocean. **Invited speaker** at 2018 Marine Science Forum of University of CAS for the Celebration of 60 Years Anniversary of the Establishment of the South China Sea Institute of Oceanology. 10 December 2018. Guangzhou, China

Warming exacerbate top-down control on marine phytoplankton by microzooplankton in subtropical coastal waters. Third Symposium on Key Processes and Resources of the Coastal Ecosystems. Guangzhou Huadu, 22 December 2018 (invited)

Characteristics of ecosystem and food web dynamics in hypoxia off PRE: Cause and response. Symposium on Ocean Circulation, Ecosystem, Hypoxia and Consequences (OCEAN_HK) 2019. Hong Kong, June 13-14, 2019

Thermal adaptation compensates thermal sensitivity of phytoplankton growth in subtropical coastal waters. Forth Symposium on Key Processes and Resources of the Coastal Ecosystems. Guangzhou Qingyuan 21 December 2019 (invited), also in 中国科学院海南热带海洋生物实验站建站 40 周年暨 2019 年学术年会。 5 January 2020

What Controls Microzooplankton Biomass and Herbivory Across Marginal Seas of China? Ocean Science Meeting, San Diego, 16-21 February 2020

Is temperature sensitivity of cyanobacteria suppressed by resource supply in the oligotrophic Western Pacific Ocean? Ocean Science Meeting, San Diego, 16-21 February 2020