LIUQIAN YU

Earth, Ocean and Atmospheric Sciences Thrust, The Hong Kong University of Science and Technology (GZ)
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Google Scholar ResearchGate: https://www.researchgate.net/profile/Liuqian_Yu

ACADEMIC WORK EXPERIENCE

2021/07- **Assistant Professor**, Earth, Ocean and Atmospheric Sciences Thrust,
The Hong Kong University of Science and Technology (GZ), Guang Zhou, China

2021/07- **Affiliate Assistant Professor**, Department of Ocean Science,
The Hong Kong University of Science and Technology, Hong Kong, China

2020/07-2021/06 **Research Assistant Professor**, Department of Ocean Science,
The Hong Kong University of Science and Technology, Hong Kong, China

2019/02-2020/06 **Postdoctoral Fellow**, Department of Mathematics,
The Hong Kong University of Science and Technology, Hong Kong, China
Advisor: Dr. Jianping Gan

2015/08-2015/12 **Exchange Scholar**, Nansen Environmental and Remote Sensing Center, Norway
Advisor: Dr. Laurent Bertino

2011/07-2011/11 **Research Assistant**, School of Environmental Science and Engineering,
Sun Yat-sen University, China

EDUCATION

2012 - 2018 **PhD** in Biological Oceanography, Dalhousie University, Canada
Thesis: "*Improved prediction of the effects of anthropogenic stressors in the Gulf of Mexico through regional-scale numerical modelling and data assimilation*"
Advisor: Dr. Katja Fennel

2007 - 2011 **BSc** in Environmental Science, Sun Yat-sen University, China

PEER-REVIEWED PUBLICATIONS

Google Scholar profile: https://scholar.google.com.hk/citations?user=AxZDDc0AAAAJ&hl=en
Publication Metrics: 764 citations in total; *h-index*: 12; *i10-index*: 12 (accessed on 11 May 2022)

1. **Yu, L.,** Gan, J. (2022) Reversing impact of phytoplankton phosphorus limitation on coastal hypoxia due to interacting changes in surface production and shoreward bottom oxygen influx. *Water Research*, 212 (118094) https://doi.org/10.1016/j.watres.2022.118094
2. Lu, Z., **Yu, L.** & Gan, J. External and Internal Forcings for Hypoxia Formation in an Urban Harbour

in Hong Kong. *Frontiers Mar Sci* **9**, 858715 (2022).

3. **Yu, L.,** Gan, J. (2021) Mitigation of Eutrophication and Hypoxia through Oyster Aquaculture: An Ecosystem Model Evaluation off the Pearl River Estuary. *Environmental Science & Technology*, 55, 8:5506-5514. https://doi.org/10.1021/acs.est.0c06616
4. Li, D., Gan, J., Hui, C., **Yu, L.,** Liu, Z., Lu, Z., Kao, S., and Dai, M. (2021) Spatiotemporal Development and Dissipation of Hypoxia Induced by Variable Wind-Driven Shelf Circulation off the Pearl River Estuary: Observational and Modeling Studies. *Journal of Geophysical Research: Oceans*, 126. https://doi.org/10.1029/2020JC016700
5. Wang, B., Fennel, K., and Yu, L. (2021) Can assimilation of satellite observations improve subsurface biological properties in a numerical model? A case study for the Gulf of Mexico. Ocean Science, 17, 1141-1156. https://doi.org/10.5194/os-2021-35 https://doi.org/10.5194/os-17-1141-2021
6. **Yu, L.,** Gan, J., Dai, M., Hui, R. C., Lu, Z., Li, D. (2020) Modeling the role of riverine organic matter in hypoxia formation within the coastal transition zone off the Pearl River Estuary. *Limnology & Oceanography*, 66, 2021: 452-468. https://doi.org/10.1002/lno.11616
7. Li, D., Gan, J., Hui, R., Liu, Z., **Yu, L.,** Lu, Z., and Dai, M. (2020) Vortex and biogeochemical dynamics for the hypoxia formation within the coastal transition zone off the Pearl River Estuary. *Journal of Geophysical Research-Oceans*, 125(8): 1-16 https://doi.org/10.1029/2020JC016178
8. Wang, B., Fennel, K., **Yu, L.**, and Gordon, C. (2020) Assessing the value of biogeochemical Argo profiles versus ocean colour observations for biogeochemical model optimization in the Gulf of Mexico, *Biogeosciences*, 17: 4059-4074 https://doi.org/10.5194/bg-17-4059-2020
9. Hu, C., Chen, X., **Yu, L.**, Xu, D., Jiao, N. (2020) Elevated contribution of low nucleic acid prokaryotes and viral Lysis to the prokaryotic community along the nutrient gradient from an estuary to open ocean transect. *Frontiers in Microbiology,* 11:612053. https://doi.org/10.3389/fmicb.2020.612053
10. **Yu, L.,** Fennel, K., Wang, B., Laurent, A., Thompson, K. and Shay, L. (2019) Evaluation of nonidentical versus identical twin approaches for observation impact assessments: An ensemble-Kalman-filter-based ocean assimilation application for the Gulf of Mexico. *Ocean Science*, 15(6): 1801-1814 https://doi.org/10.5194/os-15-1801-2019
11. **Yu, L.,** Fennel, K., Bertino, L., Gharamti, M.E., and Thompson, K. (2018) Insights on multivariate updates of physical and biogeochemical ocean variables using an Ensemble Kalman Filter and an idealized model of upwelling. *Ocean Modelling*, 126: 13-28 https://doi.org/10.1016/j.ocemod.2018.04.005
12. Wang, B., Hu, J., Li, S., **Yu, L.**, and Huang, J. (2018) Impacts of anthropogenic inputs on the hypoxia and oxygen dynamics in the Pearl River Estuary, *Biogeosciences*, 15: 6105-6125 https://doi.org/10.5194/bg-15-6105-2018
13. Zhang, H., Cheng, W., Chen, Y., **Yu, L.,** and Gong, W. (2018) Controls on the interannual variability of hypoxia in a subtropical embayment and its adjacent waters in the Guangdong coastal upwelling system, northern South China Sea. *Ocean Dynamics*, 68(8): 923-938 https://doi.org/10.1007/s10236-018-1168-2
14. Fennel, K., Laurent, A., Hetland, R., Justić, D., Ko, D. S., Lehrter, J., Murrell, M., Wang, L., **Yu, L.,** and Zhang, W. (2016) Effects of model physics on hypoxia simulations for the northern Gulf of Mexico: A model intercomparison. *Journal of Geophysical Research-Oceans*, 121(8): 5731-5750

https://doi.org/10.1002/2015JC011577

15. Yang, X., **Yu, L.,** Chen, Z., and Xu, M. (2016) Bioavailability of polycyclic aromatic hydrocarbons and their potential application in eco-risk assessment and source apportionment in urban river sediment. *Scientific Report,* 6, 23134 doi: 10.1038/srep23134
16. **Yu, L.,** Fennel, K. and Laurent, A. (2015) A modeling study of physical controls on hypoxia generation in the Northern Gulf of Mexico. *Journal of Geophysical Research-Oceans*, 120(7): 5019-5039 https://doi.org/10.1002/2014JC010634
17. **Yu, L.,** Fennel, K., Laurent, A., Murrell, M. C., and Lehrter, J. C. (2015) Numerical analysis of the primary processes controlling oxygen dynamics on the Louisiana shelf, *Biogeosciences*, 12(7): 2063-2076 https://doi.org/10.1071/SR14075
18. Ouyang L., Tang Q., **Yu, L.,** and Zhang, R. (2014) Effects of amendment of different biochars on soil enzyme activities related to carbon mineralization. *Soil Research*, 52(7): 706-716 https://doi.org/10.1071/SR14075
19. Ouyang L., **Yu, L.,** and Zhang, R. (2014) Effects of amendment of different biochars on soil carbon mineralization and sequestration. *Soil Research*, 52(1): 46-54 https://doi.org/10.1071/SR13186
20. **Yu, L.,** Tang, J., Zhang, R., Wu, Q., and Gong, M. (2013) Effects of biochar application on soil methane emission at different soil moisture levels. *Biology and Fertility of Soils*, 49(2): 119-128 https://doi.org/10.1007/s00374-012-0703-4
21. Ouyang, L., Wang, F., Tang, J., **Yu, L.,** and Zhang, R. (2013) Effects of biochar amendment on soil aggregates and hydraulic properties. *Journal of soil science and plant nutrition*, 13(4): 991-1002 http://dx.doi.org/10.4067/S0718-95162013005000078

Manuscripts in preparation

1. **Yu, L.** and Fennel, K.: Can oxygen drawdown data estimate the fate of deep-water hydrocarbon plume after the DwH disaster? An EnKF-based data-assimilative modelling study

AWARDS

2017	Chinese Government Award for Outstanding Self Finance Students Abroad
2014-2018	Nova Scotia Graduate Scholarship, Canada
2009	National Scholarship from Ministry of Education of China

OTHER ACADEMIC ACTIVITIES

Manuscript reviewer (18 reviews): Journal of Geophysical Research (8 reviews), Biogeosciences (3 reviews), Ocean Modelling (2 reviews), Limnology and Oceanography (1 review), Progress in Oceanography (1 review), Estuarine, Coastal and Shelf Science (1 review), PLoS ONE (1 review), Frontiers of Earth Science (1 review)

Proposal reviewer: USA NSF grant proposal (1 review)

Teaching: EOAS600A Ocean circulation, C cycle, and Marine Ecosystems in Changing Climate (Fall 2021; co-teach with Qing Li and Qixing Ji)

Membership: GOADE OceanView Marine Ecosystem Analysis and Prediction Task Team (Oct 2020 - Present)