

## LIUQIAN YU

Earth, Ocean and Atmospheric Sciences Thrust, The Hong Kong University of Science and Technology (GZ)  
Guangzhou, China      Email: [liuqianyu@ust.hk](mailto:liuqianyu@ust.hk)      ORCID: <https://orcid.org/0000-0002-5492-8213>  
[Google Scholar](#)      ResearchGate: [https://www.researchgate.net/profile/Liuqian\\_Yu](https://www.researchgate.net/profile/Liuqian_Yu)

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## 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: 646 citations in total; *h-index*: 10; *i10-index*: 10 (accessed on 10 Sept 2021)

1. **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>
2. 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>

3. 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>
4. **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>
5. 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>
6. 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>
7. 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>
8. **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>
9. **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>
10. 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>
11. 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>
12. 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>
13. 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](https://doi.org/10.1038/srep23134)
14. **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>

15. **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>
16. 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>
17. 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>
18. **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>
19. 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 Gan, J.: P limitation impact on coastal hypoxia reverses with weakening limitation strength: a case study off the Pearl River Estuary
2. **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**

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| 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)

**Grant:** POME Norwegian-Canadian exchange program PhD Mobility Grant (2015)

**Teaching:** Guest lecturer on “Biogeochemical Modelling” for graduate level course “Chemical Oceanography”, The Hong Kong University of Science and Technology (Fall 2020)

**Fieldwork:** Bermuda Atlantic Time-series Study (BATS) research cruise (2014)

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