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: 789 citations in total; *h-index*: 12; *i10-index*: 12 (accessed on 21 July 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

Manuscript 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

RESEARCH GRANTS

Center for Ocean Research in Hong Kong and Macau (CORE), Research Grant, 2022-2023, Budget: HK$400,000

POME Norwegian-Canadian Exchange Program, PhD Mobility Grant, 2015, Budget: 5-months studentship and travelling fund

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

TEACHING

EOAS6000B Global Carbon Cycle and Climate Change (Fall 2022; co-teach with Qixing Ji)

EOAS6000A Ocean Circulation, Carbon cycle, Ecosystems, and Changing Climate (Fall 2021; co-teach with Qing Li and Qixing Ji)

Guest lectures in OCES5300 Chemical Oceanography, OCES4001 Ocean and Climate Change, and OCES3201 Biological Oceanography

TRAINING OF HIGHLY QUALIFIED PERSONNEL (HQP)

Advisor

Jinling Deng	PhD student, 2022/03 - present
Ye Liu	PhD student, 2022/07 - present

Co-advisor

Guangbo Li	PhD student, 2021/09 - present, co-advised with Qixing Ji

Member of Program Planning cum Thesis Supervision Committee (PPTSC)
(excluding students directly advised or co-advised by me)

Benjamin Fung	MPhil student, Internet of Things (IoF) Thrust, 2022/04 - present
Bo Huang	PhD student, Data Science and Analytics (DSA) Thrust, 2022/04 - present
Yulin Li	PhD student, Robotics Institute, 2022/04 - present
Ziwei Wu	PhD student, Computational Media and Arts (CMA) Thrust, 2022/04 - present
Zizhuo Xu	PhD student, Data Science and Analytics (DSA) Thrust, 2022/04 - present

SERVICE TO THE UNIVERSITY

Member Teaching Committee of the EOAS Thrust (2022/04 - Present)

Member Postgraduate Committee of the EOAS Thrust (2022/08 - Present)

Member Selection/Interview Committee of the HKUST(GZ) Red Bird MPhil Program (2021/10 - 2022/05)

OTHER ACADEMIC ACTIVITIES

Manuscript reviewer (22 reviews): Journal of Geophysical Research-Oceans, Journal of Geophysical Research-Biogeosciences, Biogeosciences, Ocean Modelling, Limnology and Oceanography, Progress in Oceanography, Estuarine, Coastal and Shelf Science, Environmental Research Letters, PLoS ONE, Frontiers of Earth Science, …

Proposal reviewer: USA NSF grant proposal (1 review)

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