Qing Li

Earth, Ocean and Atmospheric Sciences Thrust, Function Hub
The Hong Kong University of Science and Technology (Guangzhou)
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Education

2018 **Ph.D. Earth, Environmental and Planetary Sciences**,
Brown University, Providence, RI, USA
Advisor: B. Fox-Kemper
PhD thesis: *Langmuir Turbulence and Its Effects on Global Climate*

2013 **M. S. Meteorology**, Peking University, Beijing, China
Advisor: H. Yang
Master's thesis: *Numerical Simulations of a Fully Coupled Aqua-Planet: Mean Climate and Meridional Heat Transport*

2010 **B. S. Atmospheric Sciences**, Peking University, Beijing, China
Senior thesis advisor: H. Yang
Senior thesis: *Lagrangian Analysis on the Circulation in the Pacific Ocean*

2010 **B. S. Double Major in Economics**, Peking University, Beijing, China

Research Interests

Ocean boundary layer turbulence, Ocean surface waves, Numerical modeling, Climate sciences

Professional Appointments

2021.08 - **Assistant Professor**, The Hong Kong University of Science and Technology (Guangzhou) (HKUST(GZ))
Earth, Ocean and Atmospheric Sciences Thrust, Function Hub

2021.08 - 2023.06 **Affiliate Assistant Professor**, The Hong Kong University of Science and Technology
Dept. of Ocean Science, School of Science

2018.08 - 2021.05 **Postdoctoral Research Associate**, Los Alamos National Laboratory (LANL)
Fluid Dynamics and Solid Mechanics, Theoretical Division

2013.08 - 2018.05 **Research Assistant**, Brown University
Dept. of Earth, Environmental and Planetary Sciences
The Institute at Brown for Environment and Society (IBES)

2010.09 - 2013.07 **Research Assistant**, Peking University
Dept. of Atmospheric and Oceanic Sciences, School of Physics

Awards and Grants

2024.01 - 2028.12 **Research Grant:** Hong Kong Research Grants Council Areas of Excellence Scheme. J. Gan et al., *Study of the regional earth system for sustainable development under climate change in the Greater Bay Area*, HKD 87.147m, Co-I

2023.01 - 2025.12 **Research Grant:** Young Scientists Fund of National Natural Science Foundation of China. Q. Li, *Langmuir turbulence in a diurnal cycle and its effects on turbulent mixing of momentum and tracers in the upper ocean*, CNY 300k, PI

2022.04 - 2025.03	**Research Grant:** Center for Ocean Research in Hong Kong and Macau Project 2022. Q. Li, *Modeling the Ocean Boundary Layer Turbulent Mixing: From Open Oceans to Coastal Oceans*, HKD 400k, PI
2022.04 - 2024.03	**Research Grant:** Center for Ocean Research in Hong Kong and Macau Project 2022. X. Shi and Q. Li, *Impact of Wave-State Dependent Sea-Surface Flux on the Regional Climate of East Asia in Climate System Simulations*, HKD 400k, Co-I
2019.08	**Travel Support:** Visit to National Center for Atmospheric Research, Boulder, CO, USA, Full support from NCAR
2018.10 - 2020.09	**Computing Grant:** Institutional Computing at LANL. Q. Li and L. Van Roekel, *Better Understanding of the Air-Sea Fluxes Using Atmosphere-Ocean Coupled Large Eddy Simulation*, 7 Mcpuhr. + 40.9 TB storage
2018.10	**Travel Support:** Physical Oceanography Dissertation Symposium (PODS) X, Kailua-Kona, HI, USA, Full support from PODS
2016.09	**Travel Support:** CLIVAR Open Science Conference, Qingdao, Shandong, China, Full support from UCAR
2016.05	**Travel Support:** Liège Colloquium on Submesoscale Processes: Mechanisms, Implications and new Frontiers, Liège, Belgium, USD 1.5k from WHOI
2015.09 - 2016.08	**Fellowship:** IBES Graduate Student Fellowship at Brown University
2014.10	**Travel Support:** Institute for Mathematics and its Applications (IMA) Workshop on Impact of Waves Along Coastlines, Minneapolis, MN, USA, Full support from IMA
2014.08	**Travel Support:** The Community Earth System Model Tutorial, Boulder, CO, USA, Full support from NCAR
2013.09 - 2014.08	**Fellowship:** First-Year Graduate Student Fellowship at Brown University

Teaching Experience

At HKUST(GZ)

2025 Spring	**Lecturer**, *EOAS5002: Atmosphere-Ocean Dynamics*
2024 Fall	**Lecturer**, *EOAS5000: Introduction to Oceanography*, co-lectured with Q. Ji and L. Yu
2024 Spring	**Lecturer**, *EOAS5002: Atmosphere-Ocean Dynamics*
	Lecturer, *UFUG1106: Honors Calculus II*
	Lecturer, *UFUG1103: Calculus II*, co-lectured with G. Zhang and W. Wang
	Guest Lecturer, *FUNH6800: Function Hub Seminar*
2023 Fall	**Lecturer**, *EOAS5000: Introduction to Oceanography*, co-lectured with Q. Ji and L. Yu
	Guest Lecturer, *FUNH6770: Professional Development for Function Hub*
2023 Spring	**Lecturer**, *EOAS5002: Atmosphere-Ocean Dynamics*
	Lecturer, *EOAS5004: Earth System Modeling*, co-lectured with Q. Yang and L. Yu
	Guest Lecturer, *FUNH5000: Introduction to Function Hub for Sustainable Future*
2022 Fall	**Guest Lecturer**, *EOAS6000B: Global Carbon Cycle and Climate Change*
	Guest Lecturer, *FUNH6800: Function Hub Seminar*
	Guest Lecturer, *FUNH6770: Professional Development for Function Hub*
2022 Spring	**Guest Lecturer**, *FUNH5000: Introduction to Function Hub for Sustainable Future*
2021 Fall	**Lecturer**, *EOAS6000A: Ocean Circulation, Carbon Cycle, Ecosystems, and Changing Climate*, co-lectured with Q. Ji and L. Yu
	Guest Lecturer, *FUNH6770: Professional Development for Function Hub*

Elsewhere

2020 Summer	**Student Mentor**, Los Alamos National Laboratory
	Parallel Computing Summer Research Internship with L. Van Roekel and M. Turner
2017 Spring	**Guest Lecturer**, Brown University
	Ocean Circulation and Climate under B. Fox-Kemper
2016 Fall	**Guest Lecturer**, Brown University
	Mathematical Methods of Fluid and Solid Geophysics and Geology under B. Fox-Kemper

2016 **Sheridan Teaching Certificate I**, Brown University

Academic Advising

Postdoc Scientists Mentor:	Yaoru Pan (with B. Fox-Kemper, 2022-2023)
PhD Students Prime Advisor:	Yunzhuo Zhang (2024-), Xinghao Jiang (2023-), Shihao Zou (2023-), Wentao Pan (2022-), Zheng Wei (2022-)
PhD Students Co-advisor:	Hanshu Wang (with J. Chi, 2023-), Yaning Wang (with Z. Liu, 2023-), Zhouxiao Liu (with L. Yu, 2022-), Zhuowei Xu (with L. Yu, 2022-)
PhD Thesis Examiner:	Weicong Cheng (advisor: J. Gan, 2024)
MPhil Students Advisor:	Yankun Liu (2023-), Cheng Jin (2023-2024)

Service to HKUST(GZ)

2023.04 - 2024.08	**PG Coordinator:** Earth, Ocean and Atmospheric Sciences (EOAS) Thrust
2023.04 - 2024.08	**Liaison:** Red Bird MPhil (RBM) Program liaison at EOAS
2021.09 - 2024.08	**Chair:** Postgraduate (PG) Program Committee at EOAS
2021.09 -	**Member:** PG Program Committee at EOAS
2021.10 - 2022.07	**Member:** RBM Selection and Interview Committee

Service to the Profession and Academic Literature

2024.06 **Discussion Leader:** Gordon Research Conference on Ocean Mixing: Understanding the Role of Ocean Mixing Across Scales on Climate, Ecosystems and Ocean Solutions to Societal Problems, South Hadley, MA, USA

2020.02 **Session Co-Chair:** with Ivan Savelyev, Gregory Wagner and Leah Johnson, Ocean Sciences Meeting, AGU/ASLO/TOS, San Diego, CA, USA. *Session: Turbulent mixing of the ocean surface boundary layer: Observation, Simulation, and Parameterization*

2018.05 **Session Chair:** KITP Conference on Frontiers in Oceanic, Atmospheric, and Cryospheric Boundary Layers, Santa Barbara, CA, USA. *Session: Interdisciplinary*

2015.08 **Student Volunteer:** Abstract sorting for 68th Annual Division of Fluid Dynamics Meeting, APS, Boston, MA, USA

Reviewer: National Science Foundation, National Natural Science Foundation of China, Acta Oceanologica Sinica, Deep-Sea Research Part I: Oceanographic Research Papers, Geophysical Research Letters, Geoscientific Model Development, Journal of Advances in Modeling Earth Systems, Journal of Atmospheric and Oceanic Technology, Journal of Climate, Journal of Computational Physics, Journal of Geophysical Research: Atmospheres, Journal of Geophysical Research: Oceans, Journal of Physical Oceanography, Journal of Turbulence, Marine Geodesy, Nature Climate Change, Ocean Dynamics, Ocean Modelling, Science Advances

Member: American Geophysical Union, American Meteorological Society

Publications

[A.1] X. Fan, B. Fox-Kemper, N. Suzuki, Q. **Li**, P. Marchesiello, F. Auclair, P. P. Sullivan, P. S. Hall, Comparison of the Coastal and Regional Ocean COmmunity Model (CROCO) and NCAR-LES in non-hydrostatic simulations, Geoscientific Model Development 17 (2024) 4095–4113. doi:10.5194/gmd-17-4095-2024.

[A.2] A. Garanaik, F. Pereira, K. Smith, R. Robey, Q. **Li**, B. Pearson, L. Van Roekel, A new hybrid mass-flux/high-order turbulence closure for ocean vertical mixing, Journal of Advances in Modeling Earth Systems 16 (2024) e2023MS003846. doi:10.1029/2023MS003846.

[A.3] L. Johnson, B. Fox-Kemper, Q. **Li**, H. Pham, S. Sarkar, A finite-time ensemble method for mixed layer model comparison, Journal of Physical Oceanography 53 (2023) 2211–2230. doi:10.1175/JPO-D-22-0107.1.

[A.4] H. Pham, S. Sarkar, L. Johnson, B. Fox-Kemper, P. Sullivan, Q. **Li**, Multi-scale variability of turbulent mixing during a monsoon intraseasonal oscillation in the Bay of Bengal: an LES study, Journal of Geophysical Research - Oceans 128 (2023) e2022JC018959. doi:10.1029/2022JC018959.

[A.5] J.-C. Golaz, L. P. Van Roekel, X. Zheng, A. F. Roberts, J. D. Wolfe, W. Lin, A. M. Bradley, Q. Tang, M. E. Maltrud, R. M. Forsyth, C. Zhang, T. Zhou, K. Zhang, C. S. Zender, M. Wu, H. Wang, A. K. Turner, B. Singh, J. H. Richter, Y. Qin, M. R. Petersen, A. Mametjanov, P.-L. Ma, V. E. Larson, J. Krishna, N. D. Keen, N. Jeffery, E. C. Hunke, W. M. Hannah, O. Guba, B. M. Griffin, Y. Feng, D. Engwirda, A. V. Di Vittorio, C. Dang, L. M. Conlon, C.-C.-J. Chen, M. A. Brunke, G. Bisht, J. J. Benedict, X. S. Asay-Davis, Y. Zhang, X. Zeng, S. Xie, P. J. Wolfram, T. Vo, M. Veneziani, T. K. Tesfa, S. Sreepathi, A. G. Salinger, M. J. Prather, S. Mahajan, Q. **Li**, P. W. Jones, R. L. Jacob, J. E. J. R. Eyre, G. W. Huebler, X. Huang, B. R. Hillman, B. E. Harrop, J. G. Foucar, Y. Fang, D. S. Comeau, P. M. Caldwell, T. Bartoletti, K. Balaguru, M. A. Taylor, R. B. McCoy, L. R. Leung, D. C. Bader, The DOE E3SM model version 2: Overview of the physical model, Journal of Advances in Modeling Earth Systems 14 (2022) e2022MS003156. doi:10.1029/2022MS003156.

[A.6] C. Zhu, J. Zhang, Z. Liu, B. Otto-Bliesner, C. He, E. Brady, R. Tomas, Q. Wen, Q. **Li**, C. Zhu, S. Zhang, L. Wu, Antarctic warming during Heinrich Stadial 1 in a transient isotope-enabled deglacial simulation, Journal of Climate 35 (2022) 3753–3765. doi:10.1175/JCLI-D-22-0094.1.

[A.7] H. Wang, C. Dong, B. Fox-Kemper, Q. **Li**, Y. Yang, X. Chen, K. T. Lim Kam Sian, Parameterization of ocean surface wave-induced mixing using large eddy simulations (LES) II, Deep Sea Research Part II: Topical Studies in Oceanography 203 (2022) 105167. doi:10.1016/j.dsr2.2022.105167.

[A.8] X. Zheng, Q. **Li**, T. Zhou, Q. Tang, L. Van Roekel, J.-C. Golaz, Description of historical and future projection simulations by the global coupled E3SMv1.0 model as used in CMIP6, Geoscientific Model Development 15 (9) (2022) 3941–3967. doi:10.5194/gmd-15-3941-2022.

[A.9] P. Orenstein, B. Fox-Kemper, L. Johnson, Q. **Li**, A. Sane, Evaluating coupled climate model parameterizations via skill at reproducing the monsoon intraseasonal oscillation, Journal of Climate 35 (6) (2022) 1873–1884. doi:10.1175/JCLI-D-21-0337.1.

[A.10] Q. **Li**, J. Bruggeman, H. Burchard, K. Klingbeil, L. Umlauf, K. Bolding, Integrating CVMix into GOTM (v6.0): A consistent framework for testing, comparing, and applying ocean mixing schemes, Geoscientific Model Development 14 (7) (2021) 4261–4282. doi:10.5194/gmd-14-4261-2021.

[A.11] Q. **Li**, L. Van Roekel, Towards multiscale modeling of ocean surface turbulent mixing using coupled MPAS-Ocean v6.3 and PALM v5.0, Geoscientific Model Development 14 (4) (2021) 2011–2028. doi:10.5194/gmd-14-2011-2021.

[A.12] Q. **Li**, B. Fox-Kemper, Anisotropy of Langmuir turbulence and the Langmuir-enhanced mixed layer entrainment, Physical Review Fluids 5 (1) (2020) 013803. doi:10.1103/PhysRevFluids.5.013803.

[A.13] P. M. Caldwell, A. Mametjanov, Q. Tang, L. P. Van Roekel, J.-C. Golaz, W. Lin, D. C. Bader, N. D. Keen, Y. Feng, R. Jacob, M. E. Maltrud, A. F. Roberts, M. A. Taylor, M. Veneziani, H. Wang, J. D. Wolfe, K. Balaguru, P. Cameron-Smith, L. Dong, S. A. Klein, L. R. Leung, H.-Y. Li, Q. **Li**, X. Liu, R. B. Neale, M. Pinheiro, Y. Qian, P. A. Ullrich, S. Xie, Y. Yang, Y. Zhang, K. Zhang, T. Zhou, The DOE E3SM coupled model version 1: Description and results at high resolution, Journal of Advances in Modeling Earth Systems 11 (12) (2019) 4095–4146. doi:10.1029/2019MS001870.

[A.14] Q. **Li**, B. G. Reichl, B. Fox-Kemper, A. Adcroft, S. Belcher, G. Danabasoglu, A. Grant, S. M. Griffies, R. W. Hallberg, T. Hara, R. Harcourt, T. Kukulka, W. G. Large, J. C. McWilliams, B. Pearson, P. Sullivan, L. Van Roekel, P. Wang, Z. Zheng, Comparing ocean surface boundary vertical mixing schemes including Langmuir turbulence, Journal of Advances in Modeling Earth Systems 11 (11) (2019) 3545–3592. doi:10.1029/2019MS001810.

[A.15] B. G. Reichl, Q. **Li**, A parameterization with a constrained potential energy conversion rate of vertical mixing due to Langmuir turbulence, Journal of Physical Oceanography 49 (11) (2019) 2935–2959. doi:10.1175/JPO-D-18-0258.1.

[A.16] A. B. Villas Boas, F. Ardhuin, A. Ayet, M. A. Bourassa, B. Chapron, P. Brandt, B. D. Cornuelle, J. T. Farrar, M. R. Fewings, B. Fox-Kemper, S. T. Gille, C. Gommenginger, P. Heimbach, M. C. Hell, Q. **Li**, M. Mazloff, S. T. Merrifield, A. Mouche, M.-H. Rio, E. Rodriguez, J. D. Shutler, A. C. Subramanian, E. J. Terrill, M. Tsamados, C. Ubelmann, E. van Sebille, Integrated observations and modeling of global winds, currents, and waves: Requirements and challenges for the next decade, Frontiers in Marine Science 6 (2019) 425. doi:10.3389/fmars.2019.00425.

[A.17] Q. **Li**, B. Fox-Kemper, Assessing the effects of Langmuir turbulence on the entrainment buoyancy flux in the ocean surface boundary layer, Journal of Physical Oceanography 47 (12) (2017) 2863–2886. doi:10.1175/JPO-D-17-0085.1.

[A.18] Q. **Li**, B. Fox-Kemper, Ø. Breivik, A. Webb, Statistical models of global Langmuir mixing, Ocean Modelling 113 (2017) 95–114. doi:10.1016/j.ocemod.2017.03.016.

[A.19] Q. **Li**, A. Webb, B. Fox-Kemper, A. Craig, G. Danabasoglu, W. G. Large, M. Vertenstein, Langmuir mixing effects on global climate: WAVEWATCH III in CESM, Ocean Modelling 103 (2016) 145–160. doi:10.1016/j.ocemod.2015.07.020.

[A.20] H. Yang, K. Wang, H. Dai, Y. Wang, Q. **Li**, Wind effect on the Atlantic meridional overturning circulation via sea ice and vertical diffusion, Climate Dynamics 46 (11) (2016) 3387–3403. doi:10.1007/s00382-015-2774-z.

[A.21] H. Yang, Y. Zhao, Z. Liu, Q. **Li**, F. He, Q. Zhang, Heat transport compensation in atmosphere and ocean over the past 22,000 years, Scientific Reports 5 (2015) 16661. doi:10.1038/srep16661.

[A.22] H. Yang, Q. **Li**, K. Wang, Y. Sun, D. Sun, Decomposing the meridional heat transport in the climate system, Climate Dynamics 44 (9) (2015) 2751–2768. doi:10.1007/s00382-014-2380-5.

Publications In Progress

[M.1] L. Johnson, B. Fox-Kemper, **Q**. **Li**, H. Pham, S. Sarkar, A dynamical systems approach to mixed layer model comparison, Journal of Physical Oceanography, Submitted (2022).

[M.2] J.-C. Golaz, L. P. Van Roekel, X. Zheng, A. F. Roberts, J. D. Wolfe, W. Lin, A. M. Bradley, Q. Tang, M. E. Maltrud, R. M. Forsyth, C. Zhang, T. Zhou, K. Zhang, C. S. Zender, M. Wu, H. Wang, A. K. Turner, B. Singh, J. H. Richter, Y. Qin, M. R. Petersen, A. Mametjanov, P.-L. Ma, V. E. Larson, J. Krishna, N. D. Keen, N. Jeffery, E. C. Hunke, W. M. Hannah, O. Guba, B. M. Griffin, Y. Feng, D. Engwirda, A. V. Di Vittorio, C. Dang, L. M. Conlon, C.-C.-J. Chen, M. A. Brunke, G. Bisht, J. J. Benedict, X. S. Asay-Davis, Y. Zhang, X. Zeng, S. Xie, P. J. Wolfram, T. Vo, M. Veneziani, T. K. Tesfa, S. Sreepathi, A. G. Salinger, M. J. Prather, S. Mahajan, **Q**. **Li**, P. W. Jones, R. L. Jacob, J. E. J. R. Eyre, G. W. Huebler, X. Huang, B. R. Hillman, B. E. Harrop, J. G. Foucar, Y. Fang, D. S. Comeau, P. M. Caldwell, T. Bartoletti, K. Balaguru, M. A. Taylor, R. B. McCoy, L. R. Leung, D. C. Bader, The DOE E3SM model version 2: Overview of the physical model, Journal of Advances in Modeling Earth Systems, Submitted (2022).

[M.3] H. Pham, S. Sarkar, L. Johnson, B. Fox-Kemper, P. Sullivan, **Q**. **Li**, Multi-scale variability of turbulent mixing during a monsoon intraseasonal oscillation in the Bay of Bengal: an LES study, Journal of Geophysical Research - Oceans, Submitted (2022).

[M.4] C. Zhu, J. Zhang, Z. Liu, B. Otto-Bliesner, C. He, E. Brady, R. Tomas, Q. Wen, **Q**. **Li**, C. Zhu, S. Zhang, L. Wu, Antarctic warming during Heinrich Stadial 1 in a transient isotope-enabled deglacial simulation, Journal of Climate, Accepted (2022).

Conference Presentations

[P.1] Q. **Li**, Stabilizing wave-induced stratification and its effects on vertical mixing in ocean surface boundary layer, in: ICERM Hot Topics Workshop - Synthesizing Research On Ocean Surface Waves In The New Arctic, Providence, RI, USA, 2025, Talk (Invited).

[P.2] X. Jiang, Q. **Li**, Interaction between boundary layer turbulence and submesoscale mixed layer eddies and its influence on upper ocean stratification, in: European Geosciences Union (EGU) General Assembly, Vienna, Austria, 2025, Poster.

[P.3] S. Zou, Q. **Li**, Fuse the sar and swim observations to acquire global stokes drift estimations, in: European Geosciences Union (EGU) General Assembly, Vienna, Austria, 2025, Poster.

[P.4] J. Huang, M. Chamecki, Q. **Li**, B. Chen, The role of diurnal forcings on the merging of surface and bottom boundary layers in the coastal ocean and their implications on vertical mixing, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Poster.

[P.5] X. Jiang, Q. **Li**, Influence of boundary layer turbulence on submesoscale mixed layer eddy-induced restratification, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Poster.

[P.6] W. Pan, Q. **Li**, Transient response of Langmuir turbulence structure to abrupt changes in surface buoyancy forcing, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Poster.

[P.7] Z. Wei, Q. **Li**, B. Chen, A direct comparison of turbulent fluxes in ocean boundary layer vertical mixing parameterizations, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Poster.

[P.8] Z. Xu, L. Yu, Q. **Li**, Episodic phytoplankton blooms in the low-latitude North Atlantic: Causes and contributions to annual carbon sequestration, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Talk.

[P.9] S. Zou, Q. **Li**, A transformer based approach for fusing SAR and SWIM measurement to produce better-quality wave spectrum, in: 7th Xiamen Symposium on Marine Environmental Sciences, Xiamen, Fujian, China, 2025, Poster.

[P.10] W. Pan, Q. **Li**, Assessing the impact of transient forcing on Langmuir turbulence intensity and the resulting vertical mixing in the upper ocean, in: AGU Annual Meeting, Washington, D.C., USA, 2024, Poster.

[P.11] Z. Wei, Q. **Li**, B. Chen, Assessment of vertical mixing parameterizations in modelling merging surface and bottom boundary layers, in: AGU Annual Meeting, Washington, D.C., USA, 2024, Poster.

[P.12] Q. **Li**, Z. Wei, B. Chen, A direct assessment of Langmuir turbulence parameterizations in idealized merging boundary layers in coastal oceans, in: 3rd Hong Kong and Macau Ocean Forum & Areas of Excellence (AoE) Forum, Hong Kong, China, 2024, Talk.

[P.13] Q. **Li**, A hybrid mass-flux/high-order turbulence closure for ocean vertical mixing, in: 3rd Youth Forum on Marine Science, Shanghai, China, 2024, Talk.

[P.14] Q. **Li**, W. Pan, Transient response of Langmuir turbulence in a diurnal cycle, in: Asia Oceania Geosciences Society 21th Annual Meeting, Pyeongchang, Gangwon-do, South Korea, 2024, Poster.

[P.15] Q. **Li**, Z. Wei, B. Chen, Assessing the performance of Langmuir turbulence parameterizations in idealized merging boundary layers in coastal oceans, in: Ocean Sciences Meeting, AGU/ASLO/TOS, New Orleans, LA, USA, 2024, Poster.

[P.16] Q. **Li**, Z. Wei, B. Chen, Assessing the performance of Langmuir turbulence parameterizations in idealized estuarine-shelf environment, in: AGU Annual Meeting, AGU, San Francisco, CA, USA, 2023, Talk.

[P.17] Q. **Li**, Z. Wei, B. Chen, Towards a better parameterization of ocean turbulent mixing in the estuarine-shelf environment, in: Asia Oceania Geosciences Society 20th Annual Meeting, Singapore, 2023, Talk.

[P.18] W. Pan, Q. **Li**, Transient response of Langmuir turbulence to the changing forcings in a diurnal cycle, in: Asia Oceania Geosciences Society 20th Annual Meeting, Singapore, 2023, Poster.

[P.19] Z. Wei, Q. **Li**, B. Chen, Modeling the ocean boundary layer turbulent mixing in the transitioning regions between coastal and open oceans, in: Asia Oceania Geosciences Society 20th Annual Meeting, Singapore, 2023, Poster.

[P.20] Z. Xu, L. Yu, Q. **Li**, Impact of phytoplankton light absorption on upper ocean dynamics and carbon export production in the subpolar north atlantic: A modeling assessment, in: Asia Oceania Geosciences Society 20th Annual Meeting, Singapore, 2023, Poster.

[P.21] Q. **Li**, Z. Wei, B. Chen, Progress towards modeling the ocean boundary layer turbulence from open oceans to coastal oceans, in: 2nd Ocean Forum in Hong Kong and Macao, Hong Kong, China, 2023, Talk.

[P.22] Q. **Li**, How do we compare ocean mixed layer models?, in: 7th Youth Forum on Ocean Dynamics, Qingdao, China, 2023, Talk.

[P.23] Q. **Li**, Langmuir turbulence in a diurnal cycle, in: 6th Xiamen Symposium on Marine Environmental Sciences, Virtual Meeting Online, 2023, Talk (Invited).

[P.24] Q. **Li**, Modeling the ocean boundary layer turbulent mixing: From open oceans to coastal oceans, in: 1st Ocean Forum in Hong Kong and Macao, Macao, China, 2022, Talk.

[P.25] Q. **Li**, A comparison of recent Langmuir turbulence parameterizations, in: 9th Lihai Young Scientist Forum, Virtual Meeting Online, 2022, Talk.

[P.26] Q. **Li**, L. Van Roekel, S. Stevenson, Tropical instability waves in a warmer climate simulated in the Energy Exascale Earth System Model, in: 1st Youth Forum on Marine Science, Guangzhou, China, 2022, Talk.

[P.27] Q. **Li**, L. Van Roekel, S. Stevenson, Tropical instability waves in a warmer climate simulated in the Energy Exascale Earth System Model, in: Ocean Sciences Meeting, AGU/ASLO/TOS, Virtual Meeting Online, 2022, Talk.

[P.28] Q. **Li**, Modeling the turbulent mixing in coastal oceans, in: CORE Annual Research Symposium, Virtual Meeting Online, 2022, Talk.

[P.29] Q. **Li**, J. Bruggeman, H. Burchard, K. Klingbeil, L. Umlauf, K. Bolding, Integrating CVMix into GOTM: A consistent framework for testing, comparing, and applying ocean mixing schemes, in: 10th Warnemünde Turbulence Days (WTD) on Interfaces and turbulent boundary layers, Virtual Meeting Online, 2021, Talk.

[P.30] Q. **Li**, L. Van Roekel, Towards multi-scale modeling of ocean surface turbulent mixing using coupled MPAS-Ocean and PALM, in: 1st IAMES Conference, International Association of Meteorological Education and Sciences (IAMES), Virtual Meeting Online, 2021, Talk.

[P.31] Q. **Li**, An update on Langmuir mixing parameterizations in CESM2.2, in: CESM Ocean Model Working Group Meeting, NCAR, Virtual Meeting Online, 2021, Talk.

[P.32] Q. **Li**, L. Van Roekel, Towards multiscale modeling of ocean surface turbulent mixing using coupled MPAS-Ocean and PALM, in: Ocean Sciences Meeting, AGU/ASLO/TOS, San Diego, CA, USA, 2020, Poster.

[P.33] Q. **Li**, Modeling the ocean surface boundary layer vertical mixing by Langmuir turbulence, in: 9th Warnemünde Turbulence Days (WTD) on Ocean Mixing and its Efficiency, Putbus, Germany, 2019, Talk (Invited).

[P.34] Q. **Li**, L. Van Roekel, P. Caldwell, J.-C. Golaz, M. Maltrud, A. Mametjanov, Q. Tang, J. Wolfe, Labrador Sea air-sea fluxes, circulation, and sea-ice in High-Res and Low-Res E3SM, in: 22nd Conference on Atmospheric and Oceanic Fluid Dynamics, AMS, Portland, ME, USA, 2019, Poster.

[P.35] Q. **Li**, B. G. Reichl, B. Fox-Kemper, A. Adcroft, S. Belcher, G. Danabasoglu, A. Grant, S. M. Griffies, R. W. Hallberg, T. Hara, R. Harcourt, T. Kukulka, W. G. Large, J. C. McWilliams, B. Pearson, P. Sullivan, L. Van Roekel, P. Wang, Z. Zheng, Comparing ocean boundary vertical mixing schemes with Langmuir turbulence, in: AGU Annual Meeting, AGU, Washington, DC, USA, 2018, Talk.

[P.36] Q. **Li**, Langmuir turbulence and its effects on global climate, in: Physical Oceanography Dissertation Symposium X, Kailua-Kona, HI, USA, 2018, Talk.

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Underline indicates work done by group member

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