Hong-Yi Li, PhD

Assistant Professor Dept. of Civil & Environ. Eng.

Curriculum Vitae

Education

Ph.D. in Hydrology and Water Resources, 2010

- Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, USA
- Dissertation Title: *"Diagnostic analysis of runoff partitioning at the catchment scale"*
- Advisor: Professor Murugesu Sivapalan

M.E. in Hydrology and Water Resources, 2003

- Department of Hydraulic Engineering, Tsinghua University, China
- Dissertation Title: *"Theoretical analysis and application of a distributed basin hydrological model based on hillslope flow unit"*
- Advisor: Professor Zhongjing Wang

B.E. in Hydraulic & Construction Engineering, 2000

- Department of Hydraulic Engineering, Tsinghua University, China
- Minor in Computer Science and Application

Professional Experience

2018/09~	Assistant Professor, University of Houston
2016/08~2018/08	Associate Professor (WOT), Montana State University, USA
2011/11~2016/07	Research Scientist, Pacific Northwest National Lab, USA
2010/07~2011/10	Research Associate, Pacific Northwest National Lab, USA
2005/08~2010/06	Research assistant, University of Illinois, USA
2003/08~2005/06	Senior Water Resources Engineer, Beijing Tepia Technology Ltd., China

Peer Reviewed Publications

(* indicating corresponding author, underline indicates postdocs or graduate students in Li's group, ***bold italics*** indicates visiting students/scholars in Li's Group)

72. Abeshu, G. W., **Li, H.-Y.***, Zhu, Z.*, Tan, Z., and Leung, L. R.: Median bed-material sediment particle size across rivers in the contiguous U.S., *Earth Syst. Sci. Data.* accepted, https://doi.org/10.5194/essd-2021-201, 2021.
71. **Li, H.-Y.***, Tan, Z., Ma, H., Zhu, Z., Abeshu, G. W., Zhu, S., Cohen, S., Zhou, T., Xu, D., and Leung, L. R.: A new large-scale suspended sediment model and its application over the United States, *Hydrol. Earth Syst. Sci.*, 26, 665–688, https://doi.org/10.5194/hess-26-665-2022, 2022.
70. Li, L., Qiao, J., Yu, G., Wang, L., **Li, H.-Y.**, Liao, C. and Zhu, Z.: Interpretable tree-based ensemble model for predicting beach water quality, Water Res., 2022, 211. https://doi.org/10.1016/j.watres.2022.118078.
69. Zhang, J.; Yang, Y.C.E.; **Li, H.-Y.**; Shittu, E. Examining the Food-Energy-Water-Environment Nexus in Transboundary River Basins through a Human Dimension Lens: Columbia River Basin. *J. Water Resour. Plan. Manag.* 2021, 147, 05021019.

68. Yao, Y., Tian, H., Pan, S., Najjar, R. G., Friedrichs, MAM, Bian, Z., **Li, H.-Y.**, and Hofmann, E. E. (2021), Riverine Carbon Cycling Over the Past Century in the Mid‐Atlantic Region of the United States, *Journal of Geophysical Research: Biogeosciences*, 126 (5), https://doi.org/10.1029/2020JG005968.
67. Chegini, T., **Li, H.-Y.** and Leung, R. L. (2021). HyRiver: Hydroclimate Data Retriever. Journal of Open Source Software, 6(66), 3175, https://doi.org/10.21105/joss.03175.
66. Abeshu, G. W., & **Li, H.-Y.*** (2021). Horton Index: Conceptual framework for exploring multi-scale links between catchment water balance and vegetation dynamics. *Water Res. Res.*, 57, e2020WR029343. https://doi.org/10.1029/2020WR029343.
65. Tan, Z., Leung, L. R., **Li, H.-Y.**, Tesfa, T., Zhu, Q., Yang, X., Liu, Y., and Huang, M. (2021) Increased extreme rains intensify erosional nitrogen and phosphorus fluxes to the northern Gulf of Mexico in recent decades, *Env. Res. Lett.*, 16, 054080. https://doi.org/10.1088/1748-9326/abf006.
64. Heal, K. V., Bartosova, A., Hipsey, M. R., Chen, X., Buytaert, W., **Li, H.-Y.**, McGrane, S. J., Gupta, A. B. and Gudennec, C. (2020), Water quality: the missing dimension of water in the water-energy-food nexus, *Hydro. Sci. J.*, https://doi.org/10.1080/02626667.2020.1859114.
63. Zhou, T., Leung, L. R., Leng, G., Voisin,N., **Li, H.-Y.**, Craig, A. P., et al. (2020).Global irrigation characteristics and effects simulated by fully coupled land surface, river, and water management models in E3SM. *Journal of Advances in Modeling Earth Systems*, 12, e2020MS002069. https://doi.org/10.1029/2020MS002069.
62. Burrows, S. M., Maltrud, M., Yang, X.,Zhu, Q., Jeffery, N., Shi, X., et al.(2020). The DOE E3SM v1.1biogeochemistry configuration: Description and simulated ecosystem-climate responses to historical changes in forcing. *Journal of Advances in Modeling Earth Systems*, 12, e2019MS001766. https://doi.org/10.1029/2019MS001766
61. Moges, E.; Demissie, Y.; **Li, H.-Y.** (2020), Uncertainty propagation in coupled hydrological models using winding stairs and null-space Monte Carlo methods, *J. of Hydro.*, https://doi.org/10.1016/j.jhydrol.2020.125341.
60. Du, T., Lee, H., Bui, D.D., Arhermer, B., **Li, H.-Y.**, Darby, S. E. and Kim, D. (2020), Streamflow prediction in "geopolitically ungauged" basins using satellite observations and regionalization at subcontinental scale, *J. of Hydro.*, https://doi.org/10.1016/j.jhydrol.2020.125016.
59. Tan, Z., Leung, L. R., **Li, H. Y.**, Tesfa, T., Zhu, Q., and Huang, M. (2020), A substantial role of soil erosion in the land carbon sink and its future changes, *Global Change Biol.*, 00, 1–14, https://doi.org/10.1111/gcb.14982, 2020.
58. Zhang, X., **Li, H.-Y.***, Leung, L. R., Liu, L., Hejazi, M. I., Forman, B. A., & Yigzaw, W. (2020). River regulation alleviates the impacts of climate change on U.S. thermoelectricity production. *JGR: Atmospheres*, 125, e2019JD031618. https://doi.org/10.1029/2019JD031618.
57. Caldwell, P. M., et al. (including H.-Y. Li) (2019). The DOE E3SM coupled model version 1: Description and results at high resolution. *Journal of Advances in Modeling Earth Systems*, 11(12), 4095-4146. http://dx.doi.org/10.1029/2019MS001870.
56. Lawrence, D. M et al. (including H.-Y. Li) (2019). The Community Land Model version 5: Description of new features, benchmarking, and impact of forcing uncertainty. *Journal of Advances in Modeling Earth Systems*, 11. https://doi.org/10.1029/2018MS001583
55. Mao, Y., Zhou, T., Leung, L. R., Tesfa, T. K., **Li, H.-Y**., Wang, K., … Getirana, A. (2019). Flood inundation generation mechanisms and their changes in 1953–2004 in global Major River basins. *Journal of Geophysical Research: Atmospheres*, 124(22), 11672– 11692. https://doi.org/10.1029/2019jd031381

54. Golaz, J.-C., et al. (including **H.-Y. Li** and G. Abeshu) (2019). The DOE E3SM coupled model version 1: Overview and evaluation at standard resolution. *Journal of Advances in Modeling Earth Systems*, 11. https://doi.org/10.1029/2018MS001603.
53. Mortuza, R., E. Moges, Y. Demissie, and **H.-Y. Li**, 2019. Historical and Future Drought Risk in Bangladesh using Bivariate Regional Frequency Analysis, *Theoretical and Applied Climatology*, 135(3-4), 855-871, DOI: 10.1007/s00704-018-2407-7
52. Yigzaw, W., **Li, H.-Y.***, Fang, X., Leung, L. R., Voisin, N., Hejazi, M. I., & Demissie, Y. (2019). A multilayer reservoir thermal stratification module for earth system models. *Journal of Advances in Modeling Earth Systems*, *11*, 3265–3283. https://doi.org/10.1029/2019MS001632.
51. C Li, H Lu, LR Leung, K Yang, **HY Li**, W Wang, M Han, Y Chen (2019). Improving land surface temperature simulation in CoLM over the Tibetan Plateau through fractional vegetation cover derived from a remotely sensed clumping index and model, *Journal of Geophysical Research: Atmospheres*, https://doi.org/10.1029/2018JD028640.
50. X Zhang, **HY Li***, ZD Deng, LR Leung, JR Skalski, SJ Cooke (2019), On the variable effects of climate change on Pacific salmon, *Ecological Modelling* 397, 95-106, https://doi.org/10.1016/j.ecolmodel.2019.02.002.
49. Covino, T., Golden, H. E., **Li, H.-Y**., & Tang, J. (2018). Aquatic carbon-nutrient dynamics as emergent properties of hydrological, biogeochemical, and ecological interactions: Scientific advances. *Water Res. Res.*, 54, 7138–7142. https://doi.org/10.1029/2018WR023588
48. W Yigzaw, **HY Li***, Y Demissie, MI Hejazi, LR Leung, N Voisin, R Payn, 2018. A New Global Storage-Area-Depth Dataset for Modeling Reservoirs in Land Surface and Earth System Models, *Water Res. Res.*, https://doi.org/10.1029/2017WR022040
47. ***M Gao***, **HY Li***, D Liu, J Tang, X Chen, X Chen, G Blöschl, LR Leung, 2018. Identifying the Dominant Controls on Macropore Flow Velocity in Soils: A Meta-analysis, *Journal of Hydrology*, 567 (2018) 590-604, https://doi.org/10.1016/j.jhydrol.2018.10.044
46. AV Veettil, G Konapala, AK Mishra, **HY Li**, 2018. Sensitivity of drought resilience-vulnerability-exposure to hydrologic ratios in contiguous United States, *Journal of hydrology* 564, 294-306, https://doi.org/10.1016/j.jhydrol.2018.07.015
45. Z Tan, LR Leung, **HY Li**, T Tesfa, 2018. Modeling Sediment Yield in Land Surface and Earth System Models: Model Comparison, Development, and Evaluation, *Journal of Advances in Modeling Earth Systems*, 10, 2192–2213. https://doi.org/10.1029/2017MS001270
44. Y Liu, M Hejazi, **H Li**, X Zhang, G Leng, 2018, A hydrological emulator for global applications–HE v1. 0.0, Geoscientific Model Development 11 (3), 1077-1092
43. ***Wan, W.***, J. Zhao, **H-Y. Li***, A. Mishra, M. Hejazi, H. Lu, Y. Demissie, and H. Wang, 2018. A Holistic View of Water Management Impacts on Future Droughts: A Global Multi-Model Analysis, Journal of Geophysical Research-Atmospheres, DOI: 10.1029/2017JD027825.
42. Zhang, X., **H. Li***, Z. Deng, C. Ringler, Y. Gao, M. I. Hejazi and L. R. Leung (2018). Impacts of Climate Change, Policy and Water-Energy-Food Nexus on Hydropower Development, *Renewable Energy*, 116, 827-834, https://doi.org/10.1016/j.renene.2017.10.030
41. Tan Z., L. Leung, **H. Li**, T.K. Tesfa, M. Vanmaercke, J. Poesen, and X. Zhang, et al. 2017. "A global data analysis for representing sediment and particulate organic carbon yield in Earth System Models." *Water Res. Res.*, 53, no. 12:10674-10700. doi:10.1002/2017WR020806
40. ***Wan, W.***, Zhao, J., **Li, H.-Y.***, Mishra, A., Ruby Leung, L., Hejazi, M., W. Wang, H. Lu, (2017). Hydrological drought in the anthropocene: Impacts of local water extraction and reservoir regulation in the U.S.. *JGR: Atmospheres*, 122. https://doi.org/10.1002/2017JD026899

39. ***Wang, W.***, **Li, H.-Y.***, Leung, L. R., Yigzaw, W., Zhao, J., Lu, H., Deng, Z., Demisie, Y., & Bl€oschl, G. (2017). Nonlinear filtering effects of reservoirs on flood frequency curves at the regional scale. *Water Res. Res.*, 53. https://doi.org/10.1002/2017WR020871
38. ***Wang, W.***, Lu, H., Ruby Leung, L., **Li, H.**, Zhao, J., Tian, F., Yang, K., & Sothea, K. (2017). Dam construction in Lancang-Mekong River Basin could mitigate future flood risk from warming-induced intensified rainfall. *Geo. Res. Let.*, 44. https://doi.org/10.1002/2017GL075037
37. Liu, L, M. Hejazi, **H Li**, B. Forman, and X. Zhang (2017), Vulnerability of US thermoelectric power generation to climate change when incorporating state-level environmental regulations, *Nature Energy*, 17109 (2017), doi:10.1038/nenergy.2017.109
36. Ye, S, **H Li***, L. Ruby Leung, J Guo, Q Ran, Y Demissie, and M Sivapalan (2017), Understanding Flood Seasonality and Its Temporal Shifts within the Contiguous United States, *J. Hydromet.*, https://doi.org/10.1175/JHM-D-16-0207.1
35. Voisin, N, M. Hejazi, L. Ruby Leung, L. Liu, M. Huang, **H Li**, and T. Tesfa (2017), Effects of Spatially Distributed Sector Water Management on the Redistribution of Water Resources in an Integrated Water Model, *Water Res, Res.*, 53, 4253–4270, doi: 10.1002/2016WR019767
34. Luo, X, **H Li**, L. Ruby Leung, T. K. Tesfa, A. Getirana, F. Papa, and L. L. Hess (2017), Modeling surface water dynamics in the Amazon Basin using MOSART-Inundation v1.0: impacts of geomorphological parameters and river flow representation, *Geoscientific Model Development*, 10(1233-1259), doi:10.5194/gmd-10-1233-2017
33. Moges EM, Y Demissie, and **H Li** (2016), Hierarchical mixture of experts and diagnostic modeling approach to reduce hydrologic model structural uncertainty, *Water Res. Res.*, 52(4), doi: 10.1002/2015WR018266
32. ***Li, S***, L Xiong, **H Li**, LYR Leung, and Y Demissie (2016), Attributing runoff changes to climate variability and human activities: Uncertainty analysis using four monthly water balance models, *Stochastic Environmental Research and Risk Assessment*, 30:251, doi: 10.1007/s00477-015-1083-8
31. McMillan, H et al. (including H. Li) (2016), Panta Rhei 2013–2015: global perspectives on hydrology, society and change, *Hydrological Sciences Journal*, 61:7, 1174-1191, DOI: 10.1080/02626667.2016.1159308
30. Ye, S, **H Li***, S Li, LYR Leung, Y Demissie, Q Ran, and G Blschl **(**2015), Vegetation regulation on streamflow intra-annual variability by adaption to climate variations, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL066396.
29. **Li, H.-Y.***, L. Ruby Leung, T. Tesfa, N. Voisin, M. Hejazi, L. Liu, Y. Liu, J. Rice, H. Wu, and X. Yang (2015), Modeling stream temperature in the Anthropocene: An earth system modeling approach, *J. Adv. Model. Earth Syst.*, 7, doi:10.1002/2015MS000471.
28. Hejazi MI, (including H. Li) (2015), 21st century US emissions mitigation increases water stress more than the climate change it is mitigating, *Proceedings of National Academy of Science*, 112(34): 10635–10640, doi: 10.1073/pnas.1421675112
27. Zhou, Y, MI Hejazi, SJ Smith, JA Edmonds, **H Li**, LE Clarke, KV Calvin, and AM Thomson (2015), A Comprehensive View of Global Potential for Hydro-generated Electricity, *Energy and Environmental Science*, 8(9):2622-2633, DOI: 10.1039/C5EE00888C
26. Yang, X, C Liu, Y Fang, R Hinkle, **H Li**, VL Bailey, and B Bond-Lamberty (2015), Simulations of Ecosystem Hydrological Processes Using a Unified Multi-Scale Model, *Ecological Modelling*, 296:93-101. doi:10.1016/j.ecolmodel.2014.10.032
25. **Li, H.***, L. R. Leung, A Getirana, M Huang, H Wu, Y Xu, J Guo and N Voisin (2015), Evaluating Global Streamflow Simulations by a Physically-based Routing Model Coupled with the Community Land Model, *J. of Hydromet.*, 16(2):948-971, doi: 10.1175/JHM-D-14-0079.1

24. Fang, Y, C Liu, M Huang, **H Li**, and LYR Leung (2015), Steady state estimation of soil organic carbon using satellite-derived canopy leaf area index, *Journal of Advances in Modeling Earth Systems*, 6(4):1049-1064, doi: 10.1002/2014MS000331.
23. Kraucunas, I. et al. (including H. Li) (2015), Investigating the nexus of climate, energy, water, and land at decision-relevant scales: the Platform for Regional Integrated Modeling and Analysis (PRIMA), *Climate Change*, 1-16, doi:10.1007/s10584-014-1064-9
22. Augusto CV Getirana et al. (including **H.-Y. Li**) (2014), Water balance in the Amazon basin from a land surface model ensemble, Journal of Hydrometeorology 15 (6), 2586-2614. https://doi.org/10.1175/JHM-D-14-0068.1.
21. **Li, H***, M Sivapalan, F Tian, and C Harman (2014), Functional approach to exploring climatic and landscape controls of runoff generation. 1. Behavioral constraints on runoff volume, *Water Res. Res.*, 50(12):9300-9322, doi: 10.1002/2014WR016307.
20. **Li, H***, and M Sivapalan (2014), Functional approach to exploring climatic and landscape controls on runoff generation. 2. Timing of runoff storm response, *Water Resour. Res.*, 50(12):9323-9342, doi: 10.1002/2014WR016308.
19. Ye, S, **H Li**, M Huang, M Ali, G Leng, LYR Leung, S Wang, and M Sivapalan (2014), Regionalization of subsurface stormflow parameters of hydrologic models: Derivation from regional analysis of streamflow recession curves, *J. of Hydrology*, 519, 670-682.
18. Ali, M, S Ye, **H Li**, M Huang, LYR Leung, A Fiori, and M Sivapalan (2014), Regionalization of subsurface stormflow parameters of hydrologic models: Up-scaling from physically based numerical simulations at hillslope scale, *J. of Hydrology*, 519, 683-698.
17. Tesfa, T. K., **H. Li***, L. R. Leung, M. Huang, Y. Ke, Y. Sun and Y. Liu (2014), A subbasin-based framework to represent land surface processes in an earth system model, *Geosci. Model Dev.*,7 (3), 947-963, 2014
16. ***Guo, J.***, **H. Li***, L. R. Leung, S. Guo, P. Liu, and M. Sivapalan (2014), Links between flood frequency and annual water balance behaviors: A basis for similarity and regionalization, *Water Res. Res.*, 50, doi:10.1002/2013WR014374.
15. Wu, H., R. F. Adler, Y. Tian, G. J. Huffman, **H. Li** and J. Wang (2014), Real-time global flood estimation using satellite-based precipitation and a coupled land surface and routing model, *Water Res. Res.*, 50(3):2693–2717, doi:10.1002/2013WR014710 (AGU *EOS* featured article, 2015 Editor's Choice Award).
14. Tesfa, T. K., L. R. Leung, M. Huang, **H. Li**, N. Voisin and M. Wigmosta (2014), Scalability of grid-and subbasin-based land surface modeling approaches for hydrologic simulations, *J. Geog. Res. Atmosphere*, DOI: 10.1002/2013JD020493
13. Fang, Y., M. Huang, C. Liu, **H. Li**, and L. R. Leung (2013), A generic biogeochemical module for Earth system models: Next Generation BioGeoChemical Module (NGBGC), version 1.0, *Geosci. Model Dev.*, 6, no. 6 (2013): 1977-1988.
12. Voisin, N, MI Hejazi, L Liu, TK Tesfa, **H Li**, M Huang, Y Liu, and LYR Leung (2013), One-way coupling of an integrated assessment model and a water resources model: evaluation and implications of future changes over the U.S. Midwest, *Hydro. and Earth Sys. Sci.*, doi:10.5194/hess-17-4555-2013, 2013.
11. Voisin, N, **H Li**, DL Ward, M Huang, MS Wigmosta, and LYR Leung (2013), On an improved sub-regional water resources management representation for integration into earth system models, *Hydro. and Earth Sys. Sci.*, 17(9):3605-3622. doi:10.5194/hess-17-3605-2013
10. **Li, H.***, M. S. Wigmosta, H. Wu, M. Huang, Y. Ke, A. M. Coleman, and L. R. Leung (2013), A physically based runoff routing model for land surface and earth system models, *J. of Hydromet.*, 14(3):808-828. doi:10.1175/JHM-D-12-015.1
9. Ke, Y., LYR Leung, M Huang, and **H Li** (2013), Enhancing the Representation of Subgrid Land Surface Characteristics in Land Surface Models, *Geosci. Model Dev.*, 6:1609-1622. doi:10.5194/gmd-6-1609-2013

8. Ke, Y., LYR Leung, M Huang, AM Coleman, **H Li**, and MS Wigmosta (2012), Development of High Resolution Land Surface Parameters for the Community Land Model. *Geosci. Model Dev.*, 5(6):1341-1362. doi:10.5194/gmd-5-1341-2012
7. Wu, H., J. S. Kimball, **H. Li**, M. Huang, L. R. Leung, and R. F. Adler (2012), A New Global River Network Database for Macroscale Hydrologic modeling, *Water Res. Res.*, 48:W09701. doi:10.1029/2012WR012313
6. Ye, S., C. Tim, M. Sivapalan, N. Basu, S. Rao, **H. Li**, and S. Wang (2012), Dissolved Nutrient Removal Dynamics in River Networks: A Modeling Investigation of Transient Flow and Scale Effects, *Water Res. Res.*, 48:doi:10.1029/2011WR010508
5. **Li, H.***, M. Sivapalan and F. Tian (2012), Comparative diagnostic analysis of runoff generation processes in Oklahoma DMIP2 basins: The Blue River and the Illinois River, *J. of Hydrology*, 418/419, 90-109.
4. Tian, F., **H. Li** and M. Sivapalan (2012), Model diagnostic analysis of seasonal switching of runoff generation mechanisms in the Blue River basin, Oklahoma, *J. of Hydrology*, 418/419, 136-149.
3. **Li, H.**, M. Huang*, M. S. Wigmosta, Y. Ke, A. M. Coleman and L.Y. R. Leung (2011), Evaluating runoff simulations from the Community Land Model 4.0 using observations from flux towers and a mountainous watershed, *J. Geo. Res. Atmosphere*, 116, D24, doi:10.1029/2011JD016276
2. **Li, H.*** and M. Sivapalan (2011), Effect of Spatial Heterogeneity of Runoff Generation Mechanisms on the Scaling Behavior of Event Runoff Responses in a Natural River Basin, *Water Res. Res.*, 47: W00H08. doi: 10.1029/2010WR009712.
1. **Li, H.***, M. Sivapalan, F. Tian and D. Liu (2010), Water and nutrient balances in a large tile-drained agricultural catchment: a distributed modeling study, *Hydro. and Earth Sys. Sci.*, 14:2259-2275. doi:10.5194/hess-14-2259-2010.

Honors and Awards

- Editor's Choice Award (co-author), Water Resources Research, 2015
- Exceptional Contribution Award, 2015, Energy and Environment Directorate, Pacific Northwest National Lab
- Outstanding performance award, 2011, 2012, Energy and Environment Directorate, Pacific Northwest National Lab

Professional Affiliations

- American Geophysical Union
- American Society of Civil Engineering
- European Geophysical Union
- International Association of Hydrological Sciences

Advising

Undergraduate Students advised in research activities

Matthew Shakerian (2019-2020, University of Houston)
Ge Hua (2019-2020, University of Houston)
Elizabeth Walker (2019, University of Houston)
Jake Martin (2017, Montana State University)
Kimberlie Massie (2016, Montana State University)
Xin Mao (2015, visiting from Tsinghua University)

Graduate Students

- **Major advisor:**
  Lingbo Li (PhD, University of Houston, 2021~)
  Gokul Nair (PhD, University of Houston, 2021~)
  Aitor Jimenez (PhD, University of Houston, 2021~)
  Mostafa Fahadian (PhD, University of Houston, 2021)
  Ge Hua (PhD, University of Houston, 2020~)
  Yuanqi Hong (PhD, University of Houston, 2020~)
  Ksenia Gerasimova (PhD, University of Houston, 2020~)
  Taher Chegini (PhD, University of Houston, 2018~)
  Guta Abeshu (PhD, University of Houston, 2017~)
  Fasil Worku (MS, 2018-2019, University of Houston)
- **Graduate committee member**
  Francisco Haces-Garcia (PhD), University of Houston, USA, 2021~
  Zewei Ma (PhD), University of Illinois at Urbana-Champaign, USA, 2020~
  Xiao Yu (PhD), University of Houston, USA, 2020~
  Alec Vila (MS), University of Houston, USA, 2020
  Drews Sims (MS), University of Houston, USA, 2020~2021
  Hanna Broadus (MS), University of Houston, USA, 2019~2020
  Chi-Huang Chang (PhD), University of Houston, USA, 2019~
  Anudeep Maddi (PhD), University of Houston, USA, defended April 2020
  Edom Moges (PhD), Washington State University, USA, 2018
- **Host/supervisor for visiting graduate students**
  Jiali Guo (2013, Wuhan University, China), Yubin Xu (2013, Beijing University, China), Shuai Li (2014, Wuhan University, China), Wei Wang (2015-2016, Tsinghua University), Wenhua Wan (2016-2017, Tsinghua University), Yuan Zhuang (2016-2017)

Postdoctoral associates

- Md Monir Hassain (UH, 2020~2021)
- Misako Hatono (UH, visiting), 2019~2020
- Chen Yang (UH, visiting), 2019
- Senlin Zhu (UH), 2019~2020
- Wondmagegn Yigzaw (UH/MSU), 2016~2020
- Xiao Zhang (PNNL), 2014-2016
- Sheng Ye (PNNL), 2013-2014
- Zeli Tan (PNNL, Ruby Leung as primary advisor), 2015-2016
- Xiangyu Luo (PNNL, Ruby Leung as primary advisor), 2014-2016

Courses Taught

- Global Climate: Physical Models (UH, 3 credits)
- Undergraduate Hydrology (UH, 3 credits)
- Watershed Hydrology & Modeling (UH, 3 credits)
- Watershed analysis (MSU, 3 credits)
- Quantitative Methods for Environmental Modeling (MSU, 3 credits)

Grants

At U of Houston

- Sloan Foundation via Houston Advanced Research Center, "PYTHIAS DECISION FRAMEWORK", (My portion $100, 935; **co-PI** at UH; 2021-2023)
- DOE via Pacific Northwest National Lab, "INCORPORATING MAN-MADE RESERVOIRS AND NATURAL LAKES IN XANTHOS", (Amount $145, 950; **Single PI**; 2021-2023)
- DOE via Pacific Northwest National Lab, "Integrated Coastal Modeling", (Amount $299,418; **Single PI**; 2020-2023)
- DOE via Lawrence Livermore National Lab, "DEVELOPMENT OF A NEW LAKE PARAMETERIZATION FOR THE ENERGY EXASCALE EARTH SYSTEM MODEL (E3SM)", (Amount $483,410; **Single PI**; 2019-2022)
- Houston Advanced Research Center, "ENERGY SCENARIO PLANNING WITH PHYSICAL CLIMATE RISK ANALYTICS". (Amount $12,500; **Single PI**; 2019-2020)
- NSF, "INFEWS: US-China – Quantify complex adaptive FEW systems with coupled agent-based modeling framework" (My portion $131, 982; **Co-PI** with PI Ethan Yang from Lehigh University; 2018-2022)
- USGS via Montana Water Center, "Deciphering the combined effects of artificial and natural water storage structures on late-season flows" (Amount $15,000; **PI**; 2016-2018)
- DOE via Pacific Northwest National Lab, "Developing a new reservoir water temperature module within the IMMM framework" (Amount $74,044; **Single PI**; 2018-2019)

Before U of Houston

- DOE via Pacific Northwest National Lab, "Developing a new reservoir water temperature module within the IMMM framework" (Amount $230,134; **Single PI**; 2016-2018)
- DOE via Pacific Northwest National Lab, "Adding MOSART-sediment and MOSART-BGC into ACME" (Amount $135,462; **Single PI**; 2016-2018)
- DOE via Pacific Northwest National Lab, "Enhancing the Representation of River Dynamics in GCAM Hydrology" (Amount $54,915; **Single PI**; 2016-2017)
- DOE project, "Accelerated Climate Modeling for Energy", 2014-2017, Co-I.
- DOE project, "Next Generation Ecosystem Experiments – Tropics", 2015-2018, Co-I.
- DOE Science Focus Area project, "Integrating Human and Earth System Dynamics", 2016-2018, key personnel.
- DOE Science Focus Area project, "High Resolution Climate Modeling and Water Cycle Variability and Extremes", 2013-2015, Co-I.
- PNNL Lab Directed Research and Development project, "Developing the Next Generation Biogeochemical Module for Earth System Models", 2013-2015, Co-I
- PNNL Lab Directed Research and Development project, "Integration of Water in iRESM", 2013-2014, Co-I
- DOE project, "Developing a Regional Integrated Assessment Model Framework", 2010-2015, key personnel
- PNNL Lab initiative, "Platform for Regional Integrated Modeling and Analysis", 2010-2015, key personnel

Professional Services

- Associate Editor, AGU *Water Resources Research*, 2021~
- Associate Editor, ASCE *Journal of Hydrologic Engineering*, 2021~
- Vice President, IAHS International Commission of Water Quality, 2019~
- Associate Editor, *Stochastic Environmental Research & Risk Assessment* (Springer), 2016~2021

- Proposer, special issue on "Emergent aquatic carbon-nutrient dynamics as products of hydrological, biogeochemical, and ecological interactions" at *Water Resour. Res.*, 2015-2017
- Co-organizer (with Dr. Chongxuan Liu), international workshop on "Hydro-Biogeochemical Processes: Mechanisms, Coupling and Impact", Oct. 27-29, 2015, Wuhan China
- Chair, IAHS working group on "Changing biogeochemistry of aquatic systems in the Anthropocene", 2014-2016
- Lead guest editor, special issue on "Catchment Co-evolution: Space-Time Patterns and Functional Controls" at *Hydro. and Earth Sys. Sci.*, 2014-2015
- Session chair, AGU fall meeting, 2013, 2014, 2019, 2020
- Referee, Water Resources Research, Journal of Geophysical Research, Journal of Hydrometeorology, Journal of Hydrology, Hydrology and Earth System Science, Hydrologic Science Journal, Journal of Hydrologic Engineering, Advances in Atmospheric Sciences, British Journal of Environmental and Climate Change, PLOS ONE, Stochastic Environmental Research and Risk Assessment, Journal of American Water Resources Association**,** Journal of Applied Meteorology and Climatology
- Proposal reviewer, NASA-MAPS, NASA-NEWS, NASA-USDA Managed Landscapes, USDA-NIFA, Indiana Water Resources Center

Invited Talks

- 2021, FALL 2021 INTERDISCIPLINARY LECTURE SERIES "Science and Engineering for Sustainability", TEXAS A&M UNIVERSITY
- 2019, Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign
- 2019, IUGG General Assembly, Montreal, QC, Canada
- 2019, Department of Environmental Engineering, Texas A&M University – Kingsville, USA
- 2017, AGU fall meeting, New Orland, Louisiana, USA
- 2017, Department of Civil, Structural and Environmental Engineering, University at Buffalo, SUNY
- 2017, Department of Earth System Science, Tsinghua University, China
- 2015, Department of Civil and Environmental Engineering, Washington State University