Lijing Wang

CONTACT INFORMATION

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PROFESSIONAL EXPERIENCE

University of Connecticut

Assistant Professor, Department of Earth Sciences 2024/08 - Present

Lawrence Berkeley National Laboratory (LBNL)

Affiliate Faculty, Climate & Ecosystem Science Division 2024/08 - Present
Postdoctoral Fellow, Climate & Ecosystem Science Division 2023/04 - 2024/08

EDUCATION

Stanford University

Ph.D. in Geological Sciences 2017/09 - 2023/04
(Now Earth and Planetary Sciences)
Ph.D. minor in Computer Science 2021/09 - 2023/04
Dissertation title: *Integrating data and models for sustainable decision-making in hydrology*
Committee: Jef Caers (Primary advisor), Kate Maher, Tapan Mukerji, Peter Kitanidis, Mykel Kochenderfer

Peking University

B.S. in Space Physics and Applied Mathematics 2013/09 - 2017/07

BOOKS

[1] **L. Wang**, Z. Yin, J. Caers, Data Science for the Geosciences, *Cambridge University Press*, 2023

MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

[21] M. Field, E.J. MacKie, **L. Wang**, A. Muto, N. Shao, Improved Bathymetry Estimates Beneath Amundsen Sea Ice Shelves using a Markov Chain Monte Carlo Gravity Inversion (GravMCMC, version 1), *Geoscientific Model Development* (In Review)

[20] **L. Wang**, S. Warix, R. Callahan, P. Sullivan, K. Singha, Data-model integration to unravel critical zone dynamics: challenges, successes, and future directions, *WIREs Water* (In Review)

[19] **L. Wang**, Z. Xu, C. Wang, R. Thibaut, C. Ulrich, M. Sprenger, Y. Wu, E. King, H. Wainwright, R. W. H. Carroll, C. Beutler, K. H. Williams, B. Dafflon, The Role of Snowmelt and Subsurface Heterogeneity in Headwater Hydrology of a Mountainous Catchment in Colorado: A Model-Data Integration Approach, *Water Resources Research* (In Review)

JOURNAL PUBLICATIONS

[18] **L. Wang**, T. Babey, Z. Perzan, S. Pierce, M. Briggs, K. Boye, K. Maher, Quantifying Groundwater Response and Uncertainty in Beaver-influenced Mountain-

ous Floodplains using Machine Learning-based Model Calibration, *Water Resources Research*, 2025 (Accepted)

[**17**] Z. Yin, A. Miltenberger, M. Topinka, **L. Wang**, T. Mukerji, J. Caers, Quantifying model misrepresentation in geophysical inversion for critical mineral exploration, *IEEE Transactions on Geoscience and Remote Sensing*, 2025

[**16**] C. Scheidt, L. Mathieu, Z. Yin, **L. Wang**, J. Caers, Masked Autoregressive Flow for Geochemical Anomaly Detection with Application to Li–Cs–Ta Pegmatites Exploration of the Superior Craton, Canada, *Natural Resources Research*, 2025

[**15**] T. Babey, Z. Perzan, S. Pierce, D.B. Rodgers, **L. Wang**, R. Carroll, J.R. Bargar, K. Boye, K. Maher, Mountainous floodplain connectivity in response to hydrological transitions, *Water Resources Research*, 2024

[**14**] T. Kurihana, I. Mastilovic, **L. Wang**, A. Meray, S. Praveen, Z. Xu, M. Memarzadeh, A. Lavin, H. Wainwright, Identifying climate patterns using clustering autoencoder techniques, *Artificial Intelligence for the Earth Systems*, 2024

[**13**] X. Wei, Z. Yin, C. Scheidt, K. Darnell, **L. Wang**, J. Caers, Constructing priors for geophysical inversions constrained by surface and borehole geochemistry, *Surveys in Geophysics*, 2024

[**12**] A. Ayoub, H. Wainwright, **L. Wang**, G. Sansavini, An enhanced fourier neural operator surrogate for radioactive plume transport forecasting, *Stochastic Environmental Research and Risk Assessment*, 2024.

[**11**] A. Meray*, **L. Wang***, T. Kurihana, I. Mastilovic, S. Praveen, Z. Xu, M. Memarzadeh, A. Lavin, H. Wainwright, Physics-informed surrogate modeling for supporting climate resilience at groundwater contamination sites, *Computers & Geosciences*, 2024
* co-first authors

[**10**] **L. Wang**, L. Peeters, E.J. MacKie, Z. Yin, J. Caers, Unraveling the uncertainty of geological interfaces through data-knowledge-driven trend surface analysis, *Computers & Geosciences*, 2023

[**9**] E.J. MacKie, M. Field, **L. Wang**, Z. Yin, N. Schoedl, M. Hibbs, A. Zhang, GStatSim V1.0: a Python package for geostatistical interpolation and simulation, *Geoscientific Model Development*, 2023

[**8**] **L. Wang**, H. Kim, A. V. Christiansen, B. Hansen, T. N. Vilhelmsen, J. Caers, Statistical modeling of 3D redox architecture from non-colocated redox borehole and transient electromagnetic data, *Hydrogeology Journal (SI: Geostatistics and Hydrogeology)*, 2023

[**7**] **L. Wang**, F. Joncour, P. Barrallon, T. Harribey, L. Castanie, S. Yousfi, S. Guillon, Semi-supervised semantic segmentation for seismic interpretation, *Geophysics*, 2023

[6] T. Hall, C. Scheidt, **L. Wang**, Z. Yin, T. Mukerji, J. Caers, Sequential value of information for subsurface exploration drilling, *Natural Resources Research*, 2022

[5] **L. Wang**, P. Kitanidis, J. Caers, Hierarchical Bayesian inversion of global variables and large-scale spatial fields, *Water Resources Research*, 2022

[4] J. Caers, C. Scheidt, Z. Yin, **L. Wang**, T. Mukerji, K. House, Efficacy of information in mineral exploration drilling, *Natural Resources Research*, 2022

[3] A. Miltenberger, S. Uhlemann, T. Mukerji, K. Williams, B. Dafflon, **L. Wang**, H. Murakami-Wainwright, Probabilistic evaluation of geoscientific hypotheses with geophysical data: application to electrical resistivity imaging of a fractured bedrock zone, *Journal of Geophysical Research - Solid Earth*, 2021

[2] E. C. Johnston, F. Davenport, **L. Wang**, J. Caers, S. Muthukrishnan, M. Burke, N. S. Diffenbaugh, Quantifying the influence of precipitation intensity on landslide hazard in urbanized and non-urbanized areas, *Geophysical Research Letters*, 2021

[1] Q. Li, **L. Wang**, Z. Perzan, J. Caers, G. Brown, J. Bargar, K. Maher, Global sensitivity analysis of a reactive transport model for mineral scale formation during hydraulic fracturing, *Environmental Engineering Science*, 2021

Preprints

[1] A. Miltenberger, **L. Wang**, T. Mukerji, J. Caers, Formulating and solving the data-consistent geophysical inverse problem for subsurface modeling applications, EarthArXiv, 2023

Research Grants

[5] National Science Foundation, ACCESS Discover Project, Quantifying how groundwater modulates streamflow response to hydrologic extremes, Lijing Wang (PI), 750,000 Credits (1 credit $\approx$ 1 core hour)	2025 - 2028
[4] National Science Foundation, Collaborative Research, Water, Landscape, and Critical Zone Processes (WaLCZ): Quantifying how groundwater modulates streamflow response to hydrologic extremes, Sara Warix (PI), **Lijing Wang** (co-PI), Laura Rademacher (co-PI), $698,947 ($172,951 to UConn)	2025 - 2028
[3] CLAS Strategic Initiative for Multidisciplinary Research, UCHI′s Human-Centered AI Team, key faculty, $2,000	2025
[2] Baseflow resilience to climate disturbances in mountainous headwater streams, NERSC AY 2025 DOE Mission Science Allocation Award	2025
[1] Developing a benchmark hydrologic dataset and a fast AI surrogate model for assessing climate impacts on mountainous hillslopes, the National Artificial Intelligence Research Resource (NAIRR) Pilot awarded projects	2024