

LIYING LI

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EDUCATION

Ph.D. in Environmental Science, University of California, Merced, California, CA, 2024

Master of Science in Project Management (Sustainability), Northwestern University, Evanston, IL, 2015

M.Sc. in Environmental Policy and Regulation, Department of Geography, London School of Economics, UK, 2012

Bachelor of Engineering in Environmental Engineering, Dalian University of Technology, Dalian, China, 2011

EXPERTISE

Machine-learning models

Data analysis in Python and R • Geospatial analysis in R and Python

Spatial and temporal explicit species abundance modeling • Remote-sensing data application • ArcGIS pro

Spatial statistics • Land use land cover processing and mapping • Economic optimization • DSSAT crop model

Scientific writing • Scientific graphic visualization (Adobe Illustrator) • Grant proposal writing

PROFESSIONAL EXPERIENCE

National Center of Ecological Analysis and Synthesis

University of California, Santa Barbara | Santa Barbara, CA

Aug 2024 – Present

Postdoctoral Researcher

- Working with working groups collaboratively research on Gulf of Mexico restoration and ecosystem conservation plans with climate change.
- Lead independent research project on coastal birds distribution across the Gulf of Mexico with climate change.
- Developing modeling frameworks and machine learning tools to handle remote-sensing and birds data in population composition and trends analysis

University of California, Merced | Merced, CA

Jan 2021 – Aug 2024

Graduate Research Assistant and teaching assistant

I was a fully funded GSR by NSF-USDA-Integrated food energy water studies for California's Central Valley. PI and direct supervisor: Prof. Martha Conklin, Prof. Josue Medellion-Azuara, and Prof. Joshua Viers

- I produced manuscripts and working papers regarding my doctoral research, which are now under review.
- Innovatively integrated a range of research methods that are highly interdisciplinary.
- Efficiently collaborated with researchers and stakeholders with diversified backgrounds
- Produced environmental policy-friendly science to maintain agriculture and ecosystem co-benefits.
- I successfully completed my teaching assignments in the Engineering Economics course twice.
- Successfully presented polished talks and posters at international conferences such as IGARSS and AGUs.

School of Environment, Tsinghua University | Beijing, China

Jan 2016 – Dec 2019

Associate Researcher

Conducting environmental economics and policy analysis research. Advisor: Prof. Miao Chang. Examples of my job include:

- Independently accomplished research on Investment Gap Analysis for Municipal Wastewater Treatment Facility Construction in China.
- Responsibly in charge of and completed book chapter editing of "Environmental Technology Development in China".
- Successfully completed policy analysis report on "Making Business Case of Environmental Protection Technologies" for the Environmental Protection Bureau.

School of Environment, Tsinghua University | Beijing, China

Oct 2012 – Aug 2013

Associate Researcher

I was in a role identical to junior research scientist in US, conducting environmental policy analysis research. Advisor: Prof. Tianzhu Zhang.

- Independently conducted research on Oil Spill Accidents in Rivers' First-response Procedures and the Policies to Facilitate Such Procedures.
- Collaboratively conducted research on Analyzing carbon dioxide emission drivers in Beijing using input-output economic tables (A Life-cycle analysis study)

PUBLICATIONS

- Yafei Wang, Hongyan Zhao, Liying Li, Zhu Liu, Sai Liang, Carbon Dioxide Emission Drivers for a Typical Metropolis Using Input-output Structural Decomposition Analysis. *Energy Policy* 2013; 58: 312–8. Citation:205.
- Liying Li, Integrating Climate Change Impact in New Building Design Process: A Review of Building Life Cycle Carbon Emission Assessment Methodologies. *Cleaner Engineering and Technology* 2021; 5, 100286. Citation: 36.
- Xiaona Li, Shuo Chen, Liying Li, Xie Quan, Huimin Zhao, Electrochemically Enhanced Adsorption of Nonylphenol on Carbon Nanotubes: Kinetics and Isotherms Study. *Journal of Colloid and Interface Science* 415 (2014) 159-164. Citation: 34.
- Maskey, Mahesh L., Mustafa S. Dogan, Angel Santiago Fernandez-Bou, Liying Li, Alexander Guzman, Wyatt Arnold, Erfan Goharian, Jay R. Lund, and Josue Medellin-Azuara. "Managing Aquifer Recharge to Overcome Overdraft in the Lower American River, California, USA." *Water* 14, no. 6 (2022): 966. Citation: 8.
- Liying Li, The Governance of Low-Carbon Transitions in a Multilevel Perspective Framework: How Does the Concept of 'System Transformation' Work? *Energy Research Journal*. 2020, Vol. 11: 45-53. Citation: 3
- Liying Li. Assessing Climate Change Impacts and Adaptation Options of Rain-Fed Agriculture in Africa with Integrated Modelling Framework. In *Geo-Extreme* 2021, pp. 203-212. Citation:1.

WORKING PAPERS/PRESENTATIONS

- **Liying Li**. Multi-benefit Conservation Planning for Balancing the Competing Land and Water Use for Human and Biodiversity Conservation. AGU 2024. <https://lily6966.github.io/papers/agu2024.pdf>
- **Liying Li**, Mustafa S. Dogan, Mahesh Maskey, José M. Rodriguez-Flores, Kellie Vache, Spencer Cole, Sarah E. Null, Joshua Viers, Mohammad Safeeq, Josue Medellin-Azuara, Martha Conklin. Hydro-Economically Optimized Water Allocation with Climate Change, Managed Groundwater Recharge, and Prioritized Wetland Deliveries to Moderate Human-Nature Water Use Conflicts. Preprint SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5059879. 2024.
- **Liying Li**, Spencer Cole, José M. Rodriguez-Flores, Erin Hestir, Joshua Viers, Josue Medellin-Azuara, Martha Conklin, Thomas Harmon. Synergies between agricultural production and shorebird conservation with climate change in the Central Valley, California, with optimized water allocation and multi-benefit land use. Working paper https://lily6966.github.io/papers/SDM_manuscript.pdf
- Liying Li, Josue Medellin-Azuara, Integrated modeling framework for shorebird population changes under land-use and climate changes using remote-sensed and citizen science data for Central Valley farmlands in California. AGU fall meeting 2023. Oral presentation
- Liying Li, Spencer Cole, Erin L. Hestir, Josue Medellin-Azuara, Identifying the priority areas for non-breeding shorebird habitat provisioning from agricultural land: conserving water, biodiversity, and agriculture. International Geoscience and Remote Sensing Symposium 2023. Oral presentation

- Liying Li, J Medellin-Azuara, Co-benefits of Managed Aquifer Recharge in California: Integrated Assessment of Climate and Land Use Change Impacts on Agriculture with Spatial Explicit Ecosystem Service Analysis. AGU Fall Meeting 2021, Poster
- Chen Qing, Chang Miao, Liying Li, and Peikun Guo, Analysis of the Investment Need for Municipal Wastewater Treatment Facility Construction in China During the 13th Five-Year Plan Period. ICSI 2016 Conference, Poster.

PROFESSIONAL MEMBERSHIP

- American Geophysical Union (AGU)
- American Association for the Advancement of Science (AAAS)
- Ecological Society of America (ESA)
- Geological Society of America (GSA)

FELLOWSHIP

- Gulf of Mexico Initiative Postdoctoral Fellow
- ES Bobcat Summer Fellowship, **2021 & 2023**
- ES Professional Development Fellowship, **2022**
- Bakersfield College Faculty Diversification Teaching Fellow-NSF-Funded, **2022- 2023**