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

DOCTORAL RESEARCH

My doctoral research focuses on the conservation planning for shorebirds in California, coupling economic optimization models with species distribution models to search for avian biodiversity conservation solutions. With a future oriented approach, the conservation solutions will be good today and 100 years from now with minimum trade-offs with human land use and water use management under climate change. My research produced measurement and mapping of habitat suitability and importance with the application of remote sensing data, Ebird data, and economic optimization for land use projections.

EXPERTISE

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

FELLOWSHIP

- ES Bobcat Summer Fellowship twice, **2021 & 2023**
- ES Professional Development Fellowship, **2022**
- Bakersfield College Faculty Diversification Teaching Fellow-NSF-Funded, **2022- 2023**

PROFESSIONAL EXPERIENCE

University of California, Merced | Merced, CA **Jan 2021 – Present**
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 and Prof Josue Medellion-Azuara

- 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

- Liying Li, Mustafa Dogan, Mahesh Maskey, José M. Rodriguez-Flores, Kellie Vache, Spencer Core, Martha Conklin, Sarah Null, Joshua Viers, Josue Medellin-Azuara, Optimized Water Allocation with Climate Change, Groundwater Overdraft Control, and Managed Environmental Water Use. Under Review.
- 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.

COMPLETED THESIS PAPERS

- Liying Li, Spencer Cole, José M. Rodriguez-Flores, Erin L. Hestir, Joshua Viers, Josue Medellin-Azuara, Martha Conklin. Shorebirds' Population Change Modeling with Climate Change for Mitigating the Trade-offs between Habitat Provisioning and Agricultural Land Use in the Central Valley, California. Completed for submission
- Liying Li, Erin L. Hestir, Joshua Viers, John Abatzoglou, José M. Rodriguez-Flores, Spencer Core, Josue Medellin-Azuara, Nature-based Solution to Carbon Sequestration, Water Challenges, and Avian Biodiversity Conservation with Spatial and Temporal Systematic Conservation Planning. Completed for submission

PRESENTATIONS

- 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)