

# Mingzhou Shen

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## Education

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Ph.D. Energy, Environmental, and Food Economics, Pennsylvania State University	2025 (Expected)
M.S. Civil Engineering, Zhejiang University	Dec. 2019
B.E. Civil Engineering, Zhejiang University	Jun. 2016

## Research Interests

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Energy and Environmental Economics, Urban Economics, Labor Economics, Empirical Industrial Organization, Causal Inference

## Teaching Fields

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Microeconomics, Econometrics, Environmental and Resource Economics, Urban and Land Use Economics, Energy Economics, Geographic Information Systems, Applied Computational Economics, Empirical Industrial Organization

## Job Market Paper

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**Drought responses in the Western United States: Household location choice and housing market feedback.**

*Abstract:* The Western U.S. is grappling a paradoxical challenge: rapid population growth amidst increasingly severe droughts, resulting in a severe water crisis. This study uses a residential sorting model to analyze household location decisions and the welfare implications in response to drought risk from 2000 to 2020. A key innovation is the use of novel unmet water demand data that, for the first time, integrates the legal dimension of water allocation—water rights—with water availability. Our findings show that households require significant compensation to move to areas with greater water scarcity. On average, they expect a 0.06% increase in annual wages to tolerate an additional cubic meter of unmet water demand. Notably, households over 40 and homeowners demand even higher compensation. This welfare impact is primarily driven by the direct disutility of water shortages rather than by housing cost shocks. These insights can help guide policies addressing adaptation and equity concerns in the face of climate change.

## Publications

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### Journal Article in Economics

[1] Shen, M., Fisher-Vanden, K. and Wrenn, D. 2025. “Impacts of water-related building moratoria on California's housing crisis.” (forthcoming at *Land Economics*)  
<https://doi.org/10.3368/le.101.1.112023-0122R>

## Book

- [1] FAO and CAAS. 2021. Carbon neutral tea production in China – Three pilot case studies. *FAO*. (Contributor).  
<https://doi.org/10.4060/cb4580en>

## Journal Articles in Engineering (Published prior to my transition to Economics)

- [1] Yi, N., Shen, M., Erdely, D. and Cheng, H. 2020. “Stretchable gas sensors for detecting biomarkers from humans and exposed environments.” *TrAC Trends in Analytical Chemistry*, 133, 116085.  
<https://doi.org/10.1016/j.trac.2020.116085>
- [2] Lü, C., Zhang, Y., Zhang, H., Zhang, Z., Shen, M. and Chen, Y. 2019. “Generalized optimization method for energy conversion and storage efficiency of nanoscale flexible piezoelectric energy harvesters.” *Energy Conversion and Management*, 182, 34-40.  
<https://doi.org/10.1016/j.enconman.2018.12.058>
- [3] Zhang, H., Shen, M., Zhang, Y., Chen, Y. and Lü, C. 2018. “Identification of static loading conditions using piezoelectric sensor arrays.” *Journal of Applied Mechanics*, 85(1), 011008.  
<https://doi.org/10.1115/1.4038426>

## Working Papers and Work in Progress

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- [1] Shen, M. “How does drought shape land-use regulations? Evidence from the Wharton regulation survey.”
- [2] Ma, Z. and Shen, M. “The impact of non-GMO labeling on consumer demand for wine: Evidence from a choice experiment.”

## Presentations

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- 2024 AERE Summer Conference; WEAI Annual Conference; AAEA Annual Meeting; CU Environmental and Resource Economics Workshop; Penn State Water Conference; Penn State Energy and Environmental Economics and Policy Initiative Seminar
- 2023 AERE Summer Conference; WEAI Annual Conference; Cornell Northeast Workshop on Energy Policy and Environmental Economics
- 2022 Environmental Politics and Governance Conference

## Research Experience

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| Pennsylvania State University, Research Assistant for Karen Fisher-Vanden | 2021-Present |
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## Teaching Experience

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| CED 201: Introductory Environmental and Resource Economics. Douglas H. Wrenn.<br><i>Teaching Assistant and Guest Lecturer</i> | Spring 2024 |
| EMCH 210: Statics and Strength of Materials. Samia Suliman.<br><i>Teaching Assistant</i>                                      | Spring 2021 |
| EMCH 212: Dynamics. Christopher Kube.<br><i>Teaching Assistant</i>  | Fall 2020   |

## Professional Experience

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Intern, Food and Agriculture Organization of the United Nations Feb. 2019-Nov. 2019

- o Contributed to a carbon-neutral tea project in collaboration with the German Federal Ministry for Economic Cooperation and Development and the Chinese Academy of Agricultural Sciences, assisting in the transfer of tea planting technology to Kenya.
- o Supported a rural community project in Honduras focused on enhancing farmers' climate resilience.

## Scholarships and Awards

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Graduate Student Travel Award, Pennsylvania State University	2024
Longenecker Award, Pennsylvania State University	2020
Outstanding Graduates, Zhejiang University	2016
Corporate Scholarships for Outstanding Students, Enterprises	2015/2017/2018

## Service

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Penn State Energy, Environmental, and Food Economics Graduate Student Association	2022-present
Penn State Water Council	2023-present
Penn State Alumni Association - Blue & White Society	2020-2023

## Skills

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Software: Python, R, MATLAB, Stata, ArcGIS, GAMS  
Languages: English (fluent), Mandarin (native)

## References

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**Dr. Karen Fisher-Vanden** (advisor)  
Distinguished Professor of Environmental and  
Resource Economics and Public Policy  
Pennsylvania State University  
kaf26@psu.edu

**Dr. Douglas H. Wrenn**  
Associate Professor of Environmental and  
Resource Economics  
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**Dr. Qin Fan**  
Professor of Economics  
California State University, Fresno  
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