

Sandy Sum

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Academic appointment

2025 – 2027 UC President’s Postdoctoral Fellow, Department of Agricultural and Resource Economics, University of California, Davis

Education

2019 – 2025 Ph.D. in Environmental Science and Management,
Emphasis in Economics, University of California, Santa Barbara

2015 – 2016 M.A. in Economics, University of California, Santa Barbara

2010 – 2013 B.A. in Economics, National University of Singapore

Publication

Sum, S. “[Impact of Droughts on Served Drinking Water Disparities in California, 2007–2020](#)” **Am. J. Public Health**, August 2024.

Deshmukh, R., Weber, P., Deschenes, O., Hernandez-Cortes, D., Kordell, T., Mallow, C., Magin, T., Meng, M., Sum, S., Thivierge, V., Uppal, A., Lea, D., & Meng, K. “[Well setbacks limit California’s oil supply with larger health benefits and employment losses than excise and carbon taxes](#)” **Nature Energy**, Policy Brief, June 2023.

Deshmukh, R., Weber, P., Deschenes, O., Hernandez-Cortes, D., Kordell, T., Mallow, C., Magin, T., Meng, M., Sum, S., Thivierge, V., Uppal, A. & Meng, K. “[Equitable low-carbon transition pathways for California’s oil extraction](#)” **Nature Energy**, May 2023.

Working papers

Sum, S. and Zhang, S. “Who Gains from Drinking Water Regulation? Evidence from the 2006 Arsenic Rule and Infant Health” (Under review, 2025)

Sum, S., Andersen, L. S., Damania, R., Fahrländer, S. F., Rockström, J., Carleton, T., Fishman, R. “The Unequal Economic Risks of Global Terrestrial Moisture Recycling” (In prep, 2025)

Sum, S. “[Trading the Commons: Reallocative Impacts of Environmental Markets](#)” (In prep, 2025)

Proctor, J., Carleton, T., and Sum, S.⁺ “[Parameter recovery with remotely sensed variables](#)” (Revisions requested at **Journal of the Association of Environmental and Resource Economists**, 2025)

⁺ equal authorship; order randomized

Selected works in progress

“Farm Size and Climate Vulnerability”
(with Olivier Deschênes and Bryan Leonard)

“Parched Lands, Polluted Air: Respiratory Health Impacts of Agricultural Water Scarcity”
(with Katrina Jessoe)

Policy reports

“Enhancing equity while eliminating emissions in California’s supply of transportation fuels” (California EPA report with emLab, 2021)

“The Economics of Water: Valuing the Hydrological Cycle as a Global Common Good” (with the Global Commission on the Economics of Water, 2024)

Awards, fellowships, and grants

2024	Graduate Summer Research Fellowship , Property & Environmental Research Center (PERC)
2023	Bren Summer Research Fellowship , UCSB
2022	California Coastal Regional Equity Research Award* , UCSB Blum Center
2022	H. William Kuni Research Award* (with Anna Boser), UCSB Bren School
2022	Berkeley Summer School in Environmental and Energy Economics Diversity Fellow , UC Berkeley & Sloan Foundation
2022	Bren Summer Research Fellowship , UCSB Bren School
2021	Ph.D. student grant for equity research , UCSB Bren School
2021	Graduate Summer Fellowship Grant* , California Policy Lab

* indicates that grant amount is over \$10K

Presentations

2025	Big Sky Workshop on the Economics of Agriculture and the Environment, Montana State University & PERC; 8 th Social Cost of Water Pollution Workshop, Resources for the Future (RFF); The Economics of Groundwater Markets in California, ARE UC Davis; Groundwater Markets and Small Farms, California Institute of Water Resources, UC SAREP, and USDA Secure Water Future
2024	Environmental & Resource Economics Workshop, CU Boulder; Water Markets for Conservation Workshop, PERC; Summer Seminar Series, PERC; Summer Conference, Association of Environmental and Resource Economists (AERE); Interdisciplinary Ph.D. Workshop on Sustainable Development (IPWSD), Columbia University
2023	Engaging the World Panel on Health Equity, Chapman University; Ph.D. Research Symposium, UCSB Bren School; Occasional Workshop in Environmental and Resource Economics, UCSB
2022	The Workshop in Environmental Economics and Data Science (TWEEDS), University of Oregon; 5 th Social Cost of Water Pollution Workshop, Cornell Atkinson & US EPA; Berkeley/Sloan Summer School in Environmental and Energy Economics, UC Berkeley; Environmental Justice Symposium, UCSB Bren School; IPWSD, Columbia University
2021	Ph.D. Research Symposium, UCSB Bren School

Research positions

2023 – 2025	Graduate Associate , UCSB Broom Center for Demography
2024	Graduate Student Researcher , Green Water Economics, UCSB Environmental Markets Lab (emLab) <i>PI: Tamma Carleton & Ram Fishman</i>
2020 – 2021	Graduate Student Researcher , California EPA Carbon Neutrality Study, UCSB emLab
2016 – 2019	Research Analyst , Quantifying Sustainable Development, UC Berkeley Global Policy Lab (GPL) <i>PI: Solomon Hsiang</i>
2015 – 2016	Ecological Data Intern , National Center for Ecological Analysis and Synthesis

Teaching experience

Teaching Assistant, University of California, Santa Barbara

Spring 2025	Master's Capstone Project Course II (EDS 411B) <i>Prof. Carmen Galaz García</i>
Winter 2024	Master's Capstone Project Course I (EDS 411A) <i>Prof. Carmen Galaz García</i>
Spring 2022, 2023	Economics of Environmental Management (ESM 204) <i>Profs. Christopher Costello and Tamma Carleton</i>
Fall 2022, 2023	Statistics for Environmental Data Science (EDS 222) <i>Prof. Tamma Carleton</i>
Winter 2021	Environmental Economics (ECON 115) <i>Prof. Kyle Meng</i>
November 2023	Student Q&A Respondent , BREAD-IGC Virtual Ph.D. Course on Environmental Economics <i>Prof. Tamma Carleton</i>

Professional activities

2024	Referee , AERE Summer Conference, Agricultural Water Management, Nature Water
2023	Student Representative , Bren School Masters in Environmental Data Science Lecturer Search Committee
2022 – 2025	Student Representative , Economics and Environmental Science Student Group
2021 – 2022	Committee Member , The Bren School Ph.D. Research Symposium