

Stanford



Newsha Ajami

Senior Research Engineer

Stanford Woods Institute for the Environment

 Curriculum Vitae available Online

Bio

BIO

Dr. Ajami is the director of Urban Water Policy with Stanford University's Water in the West program. A leading expert in sustainable water resource management, smart cities, and the water-energy-food nexus, she uses data science principles to study the human and policy dimensions of urban water and hydrologic systems. Her research throughout the years has been interdisciplinary and impact focused.

She is a two-term gubernatorial appointee to the Bay Area Regional Water Quality Control Board. She is a member of National Academies Board on Water Science and Technology. Dr. Ajami also serves on number of state-level and national advisory boards. Before joining Stanford, she worked as a senior research scholar at the Pacific Institute, and served as a Science and Technology fellow at the California State Senate's Natural Resources and Water Committee where she worked on various water and energy related legislation.

She has published many highly cited peer-reviewed articles, coauthored two books, and contributed opinion pieces to the New York Times, San Jose Mercury and the Sacramento Bee. Dr. Ajami received her Ph.D. in Civil and Environmental Engineering from the UC, Irvine, an M.S. in Hydrology and Water Resources from the University of Arizona, and a B.S. in Civil Engineering from Amir Kabir University of Technology in Tehran.

ACADEMIC APPOINTMENTS

- Sr Research Engineer, Stanford Woods Institute for the Environment
- Academic Research Staff, Stanford Woods Institute for the Environment
- Senior Research Associate, Water in the West

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Scientific Advisory Panel, National Research Council Owens Lake Study (2019 - 2019)
- Board Member, National Academies Board on Water Science and Technology (2018 - present)
- Science Advisory Committee Member, Delta Science Program (2018 - present)
- Advisory Board Member, Sustainable Silicon Valley (2016 - present)
- Board Member, San Francisco Bay Regional Water Quality Control Board (Gubernatorial Appointment) (2013 - present)

PROGRAM AFFILIATIONS

- Public Policy

Teaching

COURSES

2019-20

- Senior Practicum: PUBLPOL 200B (Win)

2018-19

- Senior Practicum: PUBLPOL 200C (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (NonAC)

Jose Bolorinos

Publications

PUBLICATIONS

- **Building to conserve: Quantifying the outdoor water savings of residential redevelopment in Denver, Colorado** *LANDSCAPE AND URBAN PLANNING*
Blount, K., Abdi, R., Panos, C. L., Ajami, N. K., Hogue, T. S.
2021; 214
- **Infrastructure and the Digital Economy: Reinventing Our Role in the Design, Financing, and Governance of Essential Services for Society** *JOURNAL OF ENVIRONMENTAL ENGINEERING*
Adriaens, P., Ajami, N.
2021; 147 (5)
- **Mining the gap in long-term residential water and electricity conservation** *ENVIRONMENTAL RESEARCH LETTERS*
Bolorinos, J., Rajagopal, R., Ajami, N. K.
2021; 16 (2)
- **Satellites to Sprinklers: Assessing the Role of Climate and Land Cover Change on Patterns of Urban Outdoor Water Use** *WATER RESOURCES RESEARCH*
Blount, K., Wolfand, J. M., Bell, C. D., Ajami, N. K., Hogue, T. S.
2021; 57 (1)
- **Diverse paradigms of residential development inform water use and drought-related conservation behavior** *ENVIRONMENTAL RESEARCH LETTERS*
Quesnel, K. J., Agrawal, S., Ajami, N. K.
2020; 15 (12)
- **Trade-offs across the water-energy-food nexus: A triple bottom line sustainability assessment of desalination for agriculture in the San quinton Valley, Mexico** *ENVIRONMENTAL SCIENCE & POLICY*
Smith, G., Block, L., Ajami, N., Pombo, A., Velasco-Aulcy, L.
2020; 114: 445–52
- **Consumption change detection for urban planning: monitoring and segmenting water customers during drought** *Water Resources Research*
Bolorinos, J., Ajami, N. K., Rajagopal, R.
2020; 56 (3)
- **Shifting landscapes: decoupled urban irrigation and greenness patterns during severe drought** *ENVIRONMENTAL RESEARCH LETTERS*
Quesnel, K. J., Ajami, N., Marx, A.
2019; 14 (6)
- **Goal-based water trading expands and diversifies supplies for enhanced resilience** *NATURE SUSTAINABILITY*
Gonzales, P., Ajami, N. K.
2019; 2 (2): 138–47
- **Large Landscape Urban Irrigation: A Data-Driven Approach to Evaluate Conservation Behavior** *WATER RESOURCES RESEARCH*
Quesnel, K. J., Ajami, N. K.
2019; 55 (1): 771–86
- **A case-study based framework for assessing the multi-sector performance of green infrastructure.** *Journal of environmental management*
Gordon, B. L., Quesnel, K. J., Abs, R., Ajami, N. K.

2018; 223: 371–84

- **Advancing Water Innovation through Public Benefit Funds: Examining California’s Electricity Public Goods Charge** *Journal American Water Works Association*
Quesnel, K. J., Ajami, N. K.
2018; 110 (2)
- **Recent innovations and trends in in-conduit hydropower technologies and their applications in water distribution systems** *Recent innovations and trends in in-conduit hydropower technologies and their applications in water distribution systems*
Sari, M., Badruzzaman, M., Cherchi, C., Swindle, M., Ajami, N. K., Jacangelo, J. G.
2018; 228: 416-428
- **Balancing marine ecosystem impact and freshwater consumption with water-use fees in California’s power markets: An evaluation of possibilities and trade-offs** *Balancing marine ecosystem impact and freshwater consumption with water-use fees in California’s power markets: An evaluation of possibilities and trade-offs*
Bolorinos, J., Yu, Y., Ajami, N. K., Rajagopal, R.
2018; 226 (C): 644-654
- **Evaluating Environmental Governance along Cross-Border Electricity Supply Chains with Policy-Informed Life Cycle Assessment: The California-Mexico Energy Exchange.** *Environmental science & technology*
Bolorinos, J. n., Ajami, N. K., Muñoz Meléndez, G. n., Jackson, R. B.
2018
- **A novel search algorithm for quantifying news media coverage as a measure of environmental issue salience** *Environmental Modelling & Software*
Roby, N. A., Gonzales, P., Quesnel, K. J., Ajami, N. K.
2018; 101: 249-255
- **An integrative regional resilience framework for the changing urban water paradigm** *SUSTAINABLE CITIES AND SOCIETY*
Gonzales, P., Ajami, N. K.
2017; 30: 128-138
- **A Framework for Building Efficient Environmental Permitting Processes** *SUSTAINABILITY*
Ulibarri, N., Cain, B. E., Ajami, N. K.
2017; 9 (2)
- **The changing water cycle: impacts of an evolving supply and demand landscape on urban water reliability in the Bay Area** *Wiley Interdisciplinary Reviews: Water*
Gonzales, P., Ajami, N.
2017; 4 (6): e1240
- **Social and Structural Patterns of Drought-Related Water Conservation and Rebound** *Water Resources Research*
Gonzales, P., Ajami, N.
2017; 53
- **Accelerating the Integration of Distributed Water Solutions: A Conceptual Financing Model from the Electricity Sector** *Environmental Management*
Quesnel, K. J., Ajami, N. K., Wyss, N.
2017; 60 (5): 867–881
- **Coordinating water conservation efforts through tradable credits: A proof of concept for drought response in the San Francisco Bay area** *Water Resources Research*
Gonzales, P., Ajami, N., Sun, Y.
2017; 53 (9): 7662–7677
- **Changes in water consumption linked to heavy news media coverage of extreme climatic events** *Science Advances*
Quesnel, K. J., Ajami, N. K.
2017; 3 (10): e1700784
- **Monthly water balance modeling: Probabilistic, possibilistic and hybrid methods for model combination and ensemble simulation** *JOURNAL OF HYDROLOGY*
Nasseri, M., Zahraie, B., Ajami, N. K., Solomatine, D. P.
2014; 511: 675-691

- **Complexity in microbial metabolic processes in soil nitrogen modeling: a case for model averaging** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Ajami, N. K., Gu, C.
2010; 24 (6): 831-844
- **Addressing snow model uncertainty for hydrologic prediction** *ADVANCES IN WATER RESOURCES*
Franz, K. J., Butcher, P., Ajami, N. K.
2010; 33 (8): 820-832
- **Reply to Comment by B. Renard et al. on "An integrated hydrologic Bayesian multimodel combination framework: Confronting input, parameter, and model structural uncertainty in hydrologic prediction"** *WATER RESOURCES RESEARCH*
Ajami, N. K., Duan, Q., Sorooshian, S.
2009; 45
- **Sustainable water resource management under hydrological uncertainty** *WATER RESOURCES RESEARCH*
Ajami, N. K., Hornberger, G. M., Sunding, D. L.
2008; 44 (11)
- **Multi-model ensemble hydrologic prediction using Bayesian model averaging** *ADVANCES IN WATER RESOURCES*
Duan, Q., Ajami, N. K., Gao, X., Sorooshian, S.
2007; 30 (5): 1371-1386
- **An integrated hydrologic Bayesian multimodel combination framework: Confronting input, parameter, and model structural uncertainty in hydrologic prediction** *WATER RESOURCES RESEARCH*
Ajami, N. K., Duan, Q., Sorooshian, S.
2007; 43 (1)
- **Multi-Model Combination Techniques for Hydrological Forecasting: Application to Distributed Model Intercomparison Project Results** *Journal of Hydrometeorology*
Ajami, N. K., Duan, Q., Gao, X., Sorooshian, S.
2006; 7 (4): 755-768
- **Hydrologic ensemble prediction experiment focuses on reliable forecasts** *EOS*
Franz, K., Ajami, N. K., Schaake, J., Buizza, R.
2005; 86 (25): 239
- **Overall distributed model intercomparison project results** *JOURNAL OF HYDROLOGY*
Reed, S., Koren, Smith, M., Zhang, Z., Moreda, F., Seo, D. J., DMIP Participants
2004; 298 (1-4): 27-60
- **Calibration Of A Semi Distributed Hydrologic Model For Streamflow Estimation Along A River System** *Journal of Hydrology*
Ajami, N. K., Gupta, H., Wagner, T., Sorooshian, S.
2004; 298 (1-4): 112-135
- **Reservoir operation optimization: A nonstructural solution for control of seepage from tar reservoir in Iran** *WATER INTERNATIONAL*
Karamouz, M., Zahraie, B., Khodatalab, N.
2003; 28 (1): 19-26