

Nusrat Molla

Dept. of Land, Air, and Water Resources
University of California, Davis

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Education

UC Davis

Ph.D. Hydrologic Sciences, Water Policy & Management Focus 2018–2023 (expected)

UC Berkeley

B.S. Civil and Environmental Engineering, Global Poverty & Practice Minor 2013–2017

Research Interests

- Dynamical systems modeling of social-ecological dynamics of natural resources management
- Mixed methods research combining participatory modeling and qualitative analysis
- Sustainability transitions in resource-based communities

Professional Experience

Graduate Student Researcher, Herman Lab 2018 – 2023 (expected)

Visiting Researcher, Helmholtz Institute for Functional Marine Biodiversity July – August 2022

Research Assistant, Gadgil Lab for Water and Energy Research January – May 2017

Summer Research Fellow, Nat. Institute of Standards & Technology May – August 2015

Research Assistant, UC Berkeley Quantitative Biosciences Laboratory August 2014 – May 2015

Teaching Experience

Teaching Assistant for ECI 273: Water Systems Engineering

Spring 2019

Publications

Peer-Reviewed Journal Articles.....

Molla, N., DeIonno, J., Gross, T., & Herman, J. (In Press). Governing change: A dynamical systems approach to understanding the stability of environmental governance. <https://doi.org/10.5194/esd-2022-16>

Srikrishnan, V., Lafferty, D., Wong, T., Lamontagne, J., Quinn, J., Sharma, S., **Molla, N.**, Herman, J., Sriver, R., Morris, J. & Lee, B. Uncertainty analysis in multi-sector systems: Considerations for risk analysis, projection, and planning for complex systems. <https://doi.org/10.1029/2021EF002644>

Molla, N., DeIonno, J. & Herman, J. Dynamics of resilience–equity interactions in resource-based communities. *Communications Earth & Environment* 2, 27 (2021). <https://doi.org/10.1038/s43247-021-00093-y>

Buckley, H. L., **Molla, N.**, Cherukumilli, K., Boden, K. S., & Gadgil, A. J. Addressing technical barriers for reliable, safe removal of fluoride from drinking water using minimally processed bauxite ores. *Development Engineering*, 3, (2018). <https://doi.org/10.1016/j.deveng.2018.06.002>

Papers In Preparation.....

Molla, N., Jaiswal, R., DeIonno, J., Gross, T., & Herman, J. Contested Flows: Modeling Influence and Narratives of Water Governance in the San Joaquin Valley.

Molla, N., Gross, T., & Herman, J. Regime-shifts and Tipping Points in Resource-Based Communities.

Presentations

**Presenter*

*Molla, Nusrat, DeIonno, John, Gross, Thilo, Herman, Jonathan. “Governing change: A dynamical systems approach to understanding the stability of environmental governance.” Oral presentation at Social Simulation Conference September 2022.

*Molla, Nusrat, Jaiswal, Ruchika Gross, Herman, Jonathan. “Narratives and Strategies for

Navigating Water Governance in the San Joaquin Valley.” Oral presentation at Duck Family Graduate Workshop on Environmental Politics and Governance May 2022.

*Molla, Nusrat, DeIonno, John, Gross, Thilo, Herman, Jonathan. “A Dynamical Systems Approach to the Stability of Complex Governance.” Oral presentation at International Association of the Commons Polycentricity Conference May 2021.

*Molla, Nusrat, DeIonno, John, Gross, Thilo, Herman, Jonathan. “A Generalized Modeling Approach to the Stability of Natural Resource Governance.” Oral e-lightning presentation at American Geophysical Union Fall Meeting 2020.

*Molla, Nusrat, DeIonno, John., and Herman, Jonathan. “Dynamics of resilience and equity in resource-based communities.” Oral presentation at American Geophysical Union Fall Meeting 2019.

*Molla, Nusrat. “Low Cost Fluoride Removal from Drinking Water: Evaluating the Effects of Co-Occurring Anions on Fluoride Adsorption.” Oral presentation at 25th Annual National Ronald E. McNair Scholars Symposium Plenary Session. July 30, 2017. Berkeley, CA

Awards, Honors, and Fellowships

Gates Millennium Scholarship 2013 – Present

UC Davis McNair Graduate Fellowship 2018 – 2019

UC Berkeley McNair Scholars 2016 – 2017

Global Poverty and Practice Fellowship 2016

UC Berkeley Honors Fall 2016, Spring 2017

UC Berkeley Dean’s List Spring 2017

Professional Activities and Service

Representative on College of Agriculture & Environmental Sciences Diversity, Equity, and Inclusion Committee

Mentor for UCD Minorities in Agriculture and Natural Resources

Mentor for Girls' Outdoor Adventure in Leadership and Science (GOALS)

Peer Mentor for Hydrologic Sciences Graduate Group

Reviewer for *Journal of Hydrology* and *Journal of Water Resources Planning and Management*

Member, American Geophysical Union

Member, International Association for the Study of the Commons