Nasrin Alamdari, Ph.D.
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Education

- **Ph.D.**: Virginia Tech, Biological Systems Engineering (Watershed Science & Engineering), 2018.
- **M.Sc.**: Tennessee Tech, Civil and Environmental Engineering (Water Resources), 2014.
- **B.Sc.**: University of Tabriz, Civil Engineering, (Water Resources), 2009.

Academic Appointments

- 2020-Present: Assistant Professor, Civil and Environmental Engineering, Florida State University
- 2018-2020: Postdoctoral Research Scholar, Civil and Environmental Engineering, Colorado School of Mines.
- 2015-2018: Graduate Research Assistant, Biological Systems Engineering, Virginia Tech.

Research Interests

Watershed hydrology, stormwater management, harmful algal bloom prediction and mitigation, artificial intelligence and deep learning, sustainable and resilient water systems, natural and nature-based solutions, and impact of nonstationary stressors— climate and land use change on hydrology and biogeochemistry.

Research Proposals ($2.4M)

- National Science Foundation, RAPID: Short- and mid-term dynamics of water and sediment quality after Hurricane Idalia in the Apalachicola Bay, Role: **CO-PI,** $200,000, 2023-2025 (Funded).
- Florida Department of Agriculture and Consumer Services, Mapping Agricultural Sustainability: Remote Sensing for BMP Suitability Assessment in Florida, Role: **CO-PI,** $400,000, 2025-2029 (Funded).
- National Science Foundation, Understanding the interactions of terrestrial and freshwater systems for developing a data-driven decision-making framework to sustainably manage Algal Blooms in freshwaters, **Role: PI.** $416,615, 2022-2026 (Funded).
- Environmental Protection Agency, Prediction and Mitigation of Harmful Algal Blooms in Biscayne Bay using Advanced Numerical Methods. **Role: PI.** $251,055, 2022-2026 (Funded).
- Florida Department of Environmental Protection, Development of a Statewide Decision Support Tool to Control Nutrients in Urban Communities using Stormwater Management Practices, **Role: PI.** $266,473, 2021-2025 (Funded).
- Florida Department of Environmental Protection, Development of statewide tool to predict Cyanobacteria in freshwater lakes, **Role: PI.** $338,800, 2022-2024 (Funded).
- Florida Department of Environmental Protection, Development of Green Infrastructure monetary tool to assess the value of a green asset or a proposed green investment across the State, **Role: PI.** $160,000, 2023-2027 (Funded).
- Tampa Bay Estuary Program, Evaluating the role of green infrastructure for mitigating short- and long-term impacts of climate change and sea level rise in Old Tampa Bay. **Role: PI.** $98,800, 2023-2027 (Funded).
- Everglades Foundation, Projecting Climate Variables Using the Recent Socioeconomic Pathways—Coupled Model Intercomparison Project Phase 6 (CMIP6), **Role: PI.** $25,000, 2022 (Funded)

- Oak Ridge Associated Universities, How does the water flow? Teaching stormwater management and detailing the socio-economic and environmental benefits of green infrastructure to underserved communities and city stakeholders in Florida, **Role: Co-PI.** $45,000, 2022 (Funded).
- Florida Department of Environmental Protection, Development of Non-Point Source Pollution and Green Infrastructure Education Curriculum for High School Teachers and Students across Florida, **Role: PI**. $44,843, 2022-2025 (Funded).
- CRC First Year Assistant Professor, Green vs. Gray Infrastructure: Enhancing sustainable communities with green infrastructure planning, **Role: PI**, 2021, $20,000 (Funded).

Publications

Refereed Journals (Published or in Press):

1. Beheshtimaal, A**., Alamdari, N**., Wang, B., Kamali, M., & Salehi, M. (2024). Understanding the Dynamics of Microplastics Transport in Urban Stormwater Runoff: Implications for Pollution Control and Management. *Environmental Pollution*, 124302.
2. Yan, Z., & **Alamdari, N**. (2024). Integrating temporal decomposition and data-driven approaches for predicting coastal harmful algal blooms. *Journal of Environmental Management*, *364*, 121463.
3. Rahimi, L., Hoque, M., Ahmadisharaf, E., **Alamdari, N**., Misra, V., Maran, A. C., ... & Talchabhadel, R. (2024). Future climate projections for South Florida: Improving the accuracy of air temperature and precipitation extremes with a hybrid statistical bias correction technique. *Earth's Future*, *12*(8), e2024EF004531.
4. Shojaeezadeh, S. A., Al-Wardy, M., Nikoo, M. R., Mooselu, M. G., Talebbeydokhti, N., **Alamdari, N**., & Gandomi, A. H. (2024). Historical Hazard Assessment of Climate and Land Use–Land Cover Effects on Soil Erosion Using Remote Sensing: Case Study of Oman. *Remote Sensing*, *16*(16), 2976.
5. Bahrami, M., Talebbeydokhti, N., Rakhshandehroo, G., Nikoo, M. R., & **Alamdari, N**. (2024). Integrated Multisource Data Assimilation and NSGA-II Multiobjective Optimization Framework for Streamflow Simulations. *Journal of Hydrologic Engineering*, *29*(6), 04024040.
6. Hoque, S. M., Kamanmalek, S., & **Alamdari, N.** (2024). Large-Scale Geospatial Analysis of Suitable Siting for Green Stormwater Infrastructure: An Open-Source Tool for Promoting Sustainability and Environmental Justice in Urban Communities. *Journal of Environmental Engineering*, *150*(12), 04024059.
7. Mayou L, **Alamdari N**, Ahmadisharaf E, Kamali M (2024). Impacts of future climate and land use/land cover change on urban runoff using high-resolution hydrologic modeling. *Journal of Environmental Management.*
8. Shojaeezadeh S, Al-Wardy M, Nikoo MR, Mooselu MG, Alizadeh MR, Adamowski JF, Moradkhani H, **Alamdari N,** Gandomi AH (2024). Soil erosion in the United States: Present and future (2020–2050). *Catena*
9. Kamanmalek S, **Alamdari N** (2024), Empowering Holistic Watershed Management: A Justice-Based Decision Support Tool Integrating Stormwater Best Management Practices in Nutrient Removal and Environmental Equity in Florida. *Ecological Informatics*.
10. Yan Z, **Alamdari N**, Kamanmalek S, Nikoo MR (2024). Key factors affecting harmful algal blooms in coastal waters: A systematic review. *Journal of Environmental Engineering.*
11. Nouri M, **Alamdari N (**2024**)**, Removal of Contaminants in Stormwater by Subsurface Flow Wetlands: A Review with Focus on Nutrients, Heavy Metals, and PFAS. *Journal of Environmental Engineering.*
12. Yan Z, **Alamdari N**, Kamanmalek S (2024), Predicting Coastal Harmful Algal Blooms Using Integrated Data-driven Analysis of Environmental Factors. *Science of the Total Environment*
13. Kamali M, **Alamdari N**, Salehi Esfandarani M, Salehi Esfandarani (2023), Effects of rainfall

characteristics on runoff quality parameters within an industrial sector in Tennessee, USA. *Contaminant Hydrology*

14. Majnooni P, Nikoo MR, Nematollahi B, **Alamdari N**, Fooladi M, Gandomi AH (2023). Long-term Precipitation Prediction in Different Climate Divisions of California. *Hydrological Science.*

15. Jafari M, Nikoo MR, Bozorg-Haddad O, **Alamdari N**, Farmani R, Gandomi AH (2023). A robust clustering-based multi-objective model for optimal instruction of pipes replacement based on machine learnings approach. *Urban water*.

16. Vosoughi F, Nikoo MR, Rakhshandehroo G, **Alamdari N**, Gandomi AH, Al-Wardy M (2022). The application of Bayesian model averaging based on artificial intelligent models in estimating multiphase shock flood waves. *Neural Computing and Applications*

17. Shadmani A, Nikoo MR, Al-Raoush RI, **Alamdari N**, Gandomi AH (2022). The Optimal Configuration of Wave Energy Conversions Respective to the Nearshore Wave Energy Potential. *Energies*

18. **Alamdari N,** Hogue TS (2022). Evaluating stormwater control measure effects on net infiltration rate using a high spatial resolution surface model in the Los Angeles Region. *Journal of Cleaner Production.*

19. Zakizade F, Moghaddamnia Ali, **Alamdari N**. (2022). Efficient Urban Runoff Quantity and Quality Modelling Using SWMM Model and Field Data in An Urban Watershed of Tehran Metropolis. *Journal of Sustainability.*

20. **Alamdari N**, Sample DJ, Easton Z, Clagette, P (2022). Evaluating the combined effects of climate change and land use change on water quantity and quality in an urban watershed. *Journal of Cleaner Production.*

21. **Alamdari N,** Hogue, TS (2022). Assessing the effects of climate change on urban watersheds: a review and call for future research. *Journal of Environmental Reviews*

22. Salman R, Nikoo MR, Shojaeezadeh S, Hatami P, Sadeq M, Adamowski J**, Alamdari N** (2021). A novel Bayesian maximum entropy-based approach for optimal design of water quality monitoring networks in rivers. *Journal of Hydrology.*

23. Ahmadisharaf E, **Alamdari N**, Tajrishy M, Ghanbari S (2021). Modeling the cost-effectiveness of urban stormwater control measures in Darakeh Catchment, Tehran. *Journal of Sustainable Water In the Built Environment.*

24. **Alamdari N**, Sample DJ, Ross A, Easton Z (2020) Evaluating treatment performance of retention ponds in an urban watershed under a changing climate. *Estuaries and Coasts.*

25. **Alamdari N**, Sample DJ (2019) A multiobjective simulation-optimization tool for assisting in urban watershed restoration planning. *Journal of Cleaner Production* 213, 251-61.

26. Yazdi MN, Sample DJ, Scott D, Owen JS, Ketabchy M, **Alamdari N** (2019) Water quality characterization of storm and irrigation runoff from a container nursery. *Science of the Total Environment* 667, 166-178.

27. **Alamdari N**, Sample DJ, Liu J, Ross A (2018) Assessing climate change impacts on the reliability of rainwater harvesting systems. *Resources, Conservation and Recycling* 132, 178-189.

28. **Alamdari N**, Sample DJ, Liu J, Ross A (2018) Water supply and runoff capture reliability curves for hypothetical rainwater harvesting systems for locations across the US for historical and projected climate conditions. *Data in brief* 18, 441-447.

29. **Alamdari N,** Sample DJ, Steinberg P, Ross AC, Easton ZM (2017) Assessing the effects of climate change on water quantity and quality in an urban watershed using a calibrated stormwater model. *Water* 9(7), 464.

30. Giuffria JM, Bosch DJ, Taylor DB, **Alamdari N** (2017) Costs of water quality goals under climate change in urbanizing watersheds: Difficult Run, Virginia. *Journal of Water Resources Planning and Management* 143(9), 04017055.

31. Ahmadisharaf E, Tajrishy M, **Alamdari N** (2016) Integrating flood hazard into site selection of detention basins using spatial multi-criteria decision-making. *Journal of Environmental Planning and*

Management 59(8), 1397-1417.

Refereed Journals (in Press):

1. Hoque M, Kamanmalek S, **Alamdari N**. Large-Scale Geospatial Analysis of Suitable Siting for Green Stormwater Infrastructure: An Open-Source Tool for Promoting Sustainability and Environmental Justice in Urban Communities. *Journal of Environmental Engineering.*
2. Bahrami M, Talebbeydokhti N, Rakhshandehroo G, Nikoo MR, **Alamdari N.** Integrated multi-source data assimilation and NSGA-II multi objective optimization framework for streamflow simulation. *Journal of Hydrology.*

Books:

- Alamdari A, **Alamdari N** (2016) MATLAB: Complete practical reference. 9th Ed., Negarandeye Danesh Publication, 736 p, Tehran, Iran.

Book Chapters:

- Choubin B, Rahmati O, Soleimani F, Alilou H, Moradi E, **Alamdari N** (2019) Regional groundwater potential analysis using classification and regression trees. In: *Spatial modeling in GIS and R for earth and environmental sciences*. Editors: Pourghasemi HR, Gokceoglu C. 485-498. Elsevier.

Conference Proceedings:

- **Alamdari N** (2016) Development of a robust automated tool for calibrating a SWMM watershed model. In: *Proceedings of the World Environmental and Water Resources Congress*. Pathak SP, Reinhart D (Eds.), West Palm Beach, FL.
- Abrishamchi A, Dashti M, **Alamdari N**, Salavitabar A (2011) A GIS- Google Earth based approach to estimating the flood damage function in large river basins. In: *Proceedings of the World Environmental and Water Resources Congress*. Bighley RE, Killgore MW (Eds.), Palm Springs, CA.

Technical Reports:

- Sample DJ, **Alamdari N**, Johnson R (2015) Watershed 15 (Lake Ridge): Preliminary water quality analysis. City of Virginia Beach, 12 p, Virginia Beach, VA.
- Sample DJ, **Alamdari N**, Johnson R (2015) Evaluation of the water quality performance of a wet pond at the Princess Anne Sports Complex. City of Virginia Beach, 35 p, Virginia Beach, VA.
- Sample DJ, Robinson D, **Alamdari N**, Johnson R (2015) Master plan for Watershed 15 (Lake Ridge). City of Virginia Beach, 78 p, Virginia Beach, VA.
- George D, Kalyanapu AJ, Clarks Y, **Alamdari N** (2014) Developing watershed quality index (WQI) tool in GIS. Tennessee Department of Environment and Conservation, Crossville, TN.
- **Alamdari N**, Salavitabar A (2010) Drought prediction in northern basins of Iran. Mahab Ghodss Consulting Engineers, 127 p, Tehran, Iran. (In Persian)

Awards and Honors

- **VLWA Scholarship Award**, $3,000, Virginia Lakes and Watersheds Association, July 2018.
- **IAAP's Scholarship Award**, Iranian American Academics and Professionals, June 2018.
- **Outstanding Doctoral Student Award**, College of Agricultural and Life Science, Virginia Tech, March 2018.
- **Outstanding Doctoral Student Award**, Department of Biological Systems Engineering, Virginia Tech, March 2018.
- **Mid-Atlantic Coastal Storms Fellowship**, $40,000, Virginia Institute of Marine Science, Virginia Sea Grant, Aug 2016-Aug 2017.
- **Pratt Fellowship**, $1,000, Virginia Tech, Jan 2015-May 2015.

Presentations

Invited Presentations:

- Sustainable urban stormwater management in the face of nonstationarity. School of Sustainable Engineering and the Built Environment, Arizona State University, Tempe, AZ, November 2021.
- Toward sustainable urban stormwater management under environmental changes. Department of Civil Engineering, Kansas State University, Manhattan, CO, September 2019.
- Green infrastructure: planning for sustainable and resilient urban environment. Department of Environmental Science, University of Wisconsin-Green Bay, Green Bay, WI, September 2019.
- Modeling the impact of gradual sea level rise on the stormwater systems in coastal Virginia. Virginia Institute of Marine Science, Norfolk, VA, April 2018.

Media Coverage:

- Community April 2017. Idea Stations. Researcher develops models to help urban areas plan for increased pollution of Chesapeake Bay.
- WTXL ABC 27. Over $300,000 going into FSU research tool to predict harmful algae blooms in freshwater lakes.

Research Supervision/Mentoring

• Sara Kamanmalek	Florida State University	Postdoctoral Researcher
• Mohana Debnath	Florida State University	PhD Research Supervisor
• Mushfiqul Hoque	Florida State University	PhD Research Supervisor
• Mitra Nasr Azadani	Florida State University	PhD Research Supervisor
Zhengxiao Yan	Florida State University	PhD esearch Supervisor
• Syed Usama Imtiaz	Florida State University	PhD esearch Supervisor
• Ali Salou	Florida State University	PhD Research Supervisor
• Jesse yeboah	Florida State University	PhD Research Supervisor
• Mohammad Sadeq Ahmadi	Florida State University	MSc Research Supervisor (Graduated)
• Parnian Abdi	Florida State University	MSc Research Supervisor (Graduated)

Teaching Experience

- **Instructor,** *Engineering Hydrology*, Undergraduate Level, Civil and Environmental Engineering Department, Florida State University, Spring 2021, 2022, 2023, 2024.
- **Instructor,** *Urban Stormwater Runoff*, graduate Level, Civil and Environmental Engineering Department, Florida State University, Fall 2021, 2023, 2024.
- **Instructor,** *Engineering Hydrology*, Undergraduate Level, Civil and Environmental Engineering Department, Florida State University, Spring 2021.
- **Instructor,** *Fluid Mechanics*, Undergraduate Level, Civil and Environmental Engineering Department, Colorado School of Mines, Spring 2020.
- **Instructor,** *Climate Change and Urban Resilience*, Graduate Level, Civil and Environmental Engineering Department, Colorado School of Mines, Fall 2019. (Grade: 4/4)

Service Experience

- Leon County Science Advisory Committee
- Leon County Water Resources Committee
- **Reviewer:** Scientific Report, Water Resources Research, Earth's Future, Journal of Environmental Management, Journal of Cleaner Production, Resources, Conservation and Recycling, Science of the Total Environment, Stochastic Environmental Research and Risk Assessment, Journal of Hydrology,

Journal of Hydrologic Engineering.

- **Reviewer:** NSF Hydrological Science Program Proposal
- **Panelist:** NSF, NASA
- **Session Chair**, 2021 AGU Fall Meeting, Advances in Urban Hydrology.
- **Session Chair**, 2019 and 2020 AGU Fall Meeting, Nonstationary Impacts on Urban Hydrology: Water, Energy, and Society.
- **Elected Member**, ASCE-EWRI Urban Water Resources Research Council, 2015-Present.
- **Elected Member**, AGU Catchment Hydrology Technical Committee, 2019-Present.
- **Member** of ASCE, AWWA, AWRA and AGU (2013-Present