

Mahdi Bahrami



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Key qualifications

- ❖ Solid experience with geospatial analysis, remote sensing and map production (ArcGIS, QGIS)
- ❖ Developed and applied risk-maps to predict maintenance needs of blue-green infrastructure for Trondheim
- ❖ Solid experience in programming (python, MATLAB)
- ❖ Experience in hydraulic models (SWMM, HEC-RAS)
- ❖ Experience in the use and application of Norwegian standards in projects
- ❖ Experience in coordinating projects between multiple stakeholders
- ❖ Fast learner (also a self-learner), with good communication skills in English and presently learning Norwegian (B2 Level)

Work Experience

09/2022 – Now

Researcher, NTNU, Trondheim, Norway (three years), **Expected end date: 27/11/2025**

PhD candidate working on developing asset management methods for blue-green infrastructure

- Focus on performance assessment of blue-green infrastructure through key performance indicators
- Proposed frameworks for indicator interpretation and monitoring the performance of blue-green infrastructure
- Extensive study of causes of failure in bioswale, bioretention and green roof systems through fault tree analysis
- Developed a methodology for creating hotspot maps aimed at risk-based maintenance and inspection planning of blue-green infrastructure in Trondheim

09.2024 – 12.2024

Project coordinator, NTNU, Trondheim, Norway (three months)

Project on performance evaluation of roadside drainage systems (between NTNU, Norconsult and Statens Vegvesen)

- Coordinated communication between NTNU, Norconsult and Statens Vegvesen
- Testing the performance of road drainage systems in Norway for runoff collection
- Designing the lab setup for hydraulic experiments on drainage performance evaluation
- Conducting the lab tests, coordinating the meetings for progress reports
- Analysis and writing the final report of the project

Additional Work Experience

06/2020 – 08/2022	Project supervisor , Mashad Regional Water Company, Mashad, Iran Project Title: General study of river and catchment delineation and restoration in Neyshabour province of Iran ○ Reviewed and evaluated consultancy reports, providing feedback and requesting improvements ○ Checked and verified HEC-RAS hydraulic models and results to ensure accuracy and reliability ○ Coordinated communication between the consultancy team and the regional water company to keep the project on track ○ Ensured final deliverables met technical standards and aligned with project goals
06/2019 – 06/2020	Researcher , Water and Environment Research Institute (WERI), Ferdowsi University of Mashad, Mashad Iran ○ Developed a python program for assessing groundwater level changes ○ Teaching workshops on python programming and QGIS
09/2017 – 09/2018	Researcher , University of Tehran, Tehran, Iran Projects involved: ○ Optimal site-selection of green infrastructure for stormwater management (Case study: District 6 of Tehran Municipality) ○ Assessing groundwater recharge through a combination of green infrastructures and drywells (Case study: District 6 of Tehran Municipality)

Education

2022 – 2025	PhD Candidate in Water and Wastewater Engineering , NTNU, Trondheim, Norway
2015 – 2018	M.Sc. in Water Resources Engineering , University of Tehran, Tehran, Iran
2010 – 2015	B.Sc. in Agricultural Water Engineering , Ferdowsi University of Mashhad, Mashhad, Iran

Skills and Interests

Computer:	Good knowledge in: Python scripting, ArcGIS and QGIS, MS Office Knowledge of: EPA-SWMM, HEC-RAS, AutoCAD
Languages:	Norwegian (B2) - Passed levels 1-3 at NTNU (45ECTs with a passing grade of B in all levels) English (proficient), Persian (native)

Related courses

In B.Sc.:	Water Distribution Systems Design, Pumps, Hydraulics, Hydrology
In M.Sc.:	Risk and Uncertainty Analysis, Water Quality, Hydrometeorology, Statistics
In Ph.D.:	Urban Water Asset Management, Hydroinformatics for Smart Water Systems, Risk Based Decision Making in Civil Engineering, Applied statistics for PhD in Civil and Transport Engineering

Selected publications

- Buøen, L. H., **Bahrami**, M., Roghani, B., Tscheikner-Gratl, F., Rokstad, M. M. (2025). From Inspection to Maintenance: A Visual Guide for Assessing Green Roof Conditions. *Vann*, 3-2025.
https://issuu.com/norskvannforening/docs/vann_nr_3_2025
- Roghani, B., **Bahrami**, M., Cherqui, F., Tscheikner-Gratl, F., & Rokstad, M. M. (2025). Exploring key characteristics of performance indicators for green infrastructure assessment. *Science of The Total Environment*, 969, 178819. <https://doi.org/10.1016/j.scitotenv.2025.178819>
- **Bahrami**, M., Roghani, B., Tscheikner-Gratl, F., & Rokstad, M. M. (2024). A deep dive into green infrastructure failures using fault tree analysis. *Water Research*, 257, 121676.
<https://doi.org/10.1016/j.watres.2024.121676>
- **Bahrami**, M., Boogaard, F., Bosseler, B., Cherqui, F., van Duin, B., Funke, F., Goerke, M., Kelly-Hooper, F., Kleidorfer, M., Moglia, M., Muthanna, T. M., Oberascher, M., Tscheikner-Gratl, F., van der Valk, M., & van der Valk, F. (2024). Operation, maintenance and rehabilitation techniques.
https://doi.org/10.2166/9781789063059_0343
- Roghani, B., **Bahrami**, M., Tscheikner-Gratl, F., Cherqui, F., Muthanna, T. M., & Rokstad, M. M. (2024). A comparative analysis of international guidelines for green infrastructure performance assessment. *Blue-Green Systems*, 6(1), 133–152. <https://doi.org/10.2166/bgs.2024.049>
- **Bahrami**, M., Bozorg-Haddad, O., & Loáiciga, H. A. (2019). Optimizing stormwater low-impact development strategies in an urban watershed considering sensitivity and uncertainty. *Environmental monitoring and assessment*, 191(6), 1-14. DOI: 10.1007/s10661-019-7488-y
- Boroomandnia, A., Bozorg-Haddad, O., **Bahrami**, M., Goharian, E., Singh, V. P., & Loáiciga, H. A. (2021). Optimizing urban stormwater control strategies and assessing aquifer recharge through drywells in an urban watershed. *Hydrogeology Journal*, 1-20. DOI: 10.1007/s10040-021-02316-0

References

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