

# Mostafa Khorsandi

## PhD Candidate in Water Sciences

Hydrology, Sociohydrology, Agrohydrology

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## Summary

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I am a water science and hydrology researcher fascinated by nature and its mathematical patterns. My focus is on water systems modeling and analysis. Besides, I am actively working on the modeling of water-related social, ecological systems (SES).

## Degrees

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- Ph.D.** 2019-09 – 2023-09  
Institut National de la Recherche Scientifique, Centre Eau Terre Environnement, Québec, Canada  
Water Science  
Supervisors: Andre St-Hilaire; Richard Arsenault
- M.Sc.** 2011-09 – 2013-06  
University of Tehran, Tehran, Iran  
Water Resource Engineering  
Supervisors: Omid Bozorg-Haddad
- B.Sc.** 2006-09 – 2011-02  
Isfahan University of Technology (IUT), Isfahan, Iran  
Water Engineering  
Supervisors: Esmail Landi

## Work Experience

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- Research Specialist** 2018-01 – 2019-07  
UNESCO-Regional Centre on Urban Water Management (RCUWM)
- Elite Militant** 2017-08 – 2018-10  
Iran Water Resources Management Company
- Guest Researcher** 2017-01 – 2017-07  
Wageningen University & Research
- Research Assistant** 2015-09 – 2016-06  
Water Resources Engineering, Agriculture, Tarbiat Modares University
- Teaching Assistant** 2014-09 – 2015-06  
Water Resources Engineering, Agriculture, Tarbiat Modares University
- Teaching Assistant** 2012-09 – 2013-01  
University of Tehran
- Industrial work assembly** 2008-06 – 2008-09

## Language Skills

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English (Fluent)

French (Intermediate)

Persian (Mother tongue)

## Core Skills

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- Hydrology
- Agrohydrology
- Sociohydrology
- Complex Systems Modelling
- System Dynamics
- RS/GIS
- Sustainability Studies
- Optimization
- Programming
- Machine Learning
- Analytical Skills
- Public Speaking

## Computer and programming skills

ArcSWAT (Advanced)  
SWAP (Advanced)  
CE-QUAL-W2 (Advanced)  
CEQUEAU (Advanced)

Vensim (Advanced)  
Lingo (Advanced)  
Google Earth Engine (Advanced)  
HEC-RAS 1D/2D (Intermediate)

AutoCAD 2D (Advanced)  
MATLAB (Advanced)  
R (Advanced)  
Visual Studio (Intermediate)

## Other computer and programming skills

- HEC-HMS
- HEC-GeoHMS
- Minitab
- WEAP
- SPSS
- Visual Basic
- Fortran
- EPANET
- Adobe Photoshop
- Visual Basic for Applications
- C++
- Data Mining

## Publications

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### Papers

- 1) **Khorsandi M**, St-Hilaire A, Arsenault R. Multisite calibration of a semi-distributed hydrologic and thermal model in a large Canadian watershed. *Hydrological Sciences Journal* 2022.
- 2) **Khorsandi M**, Homayouni S, van Oel P. The edge of the petri dish for a nation: Water resources carrying capacity assessment for Iran. *Science of The Total Environment* 2022; 817: 153038.
- 3) **Khorsandi M**. A Discussion on “Assessment of Water Resources Carrying Capacity of the River Basins Using the Simulation Approach and Index-Based Evaluation Method; Case Study: Zarrineh-Roud Basin”. *Iran-Water Resources Research* 2022; 17: 252-263.
- 4) Naghdi S, Bozorg-Haddad O, **Khorsandi M**, Chu X. Multi-objective optimization for allocation of surface water and groundwater resources. *Science of The Total Environment* 2021; 776: 146026.
- 5) Bahmani R, **Khorsandi M**. A discussion on “Extreme streamflow drought in Karkheh River Basin (Iran): probabilistic and regional analyses” by Reza Zamani et al. *Natural Hazards* 2015; 79: 661-666.
- 6) **Khorsandi M**, Haddad OB, Mariño MA. Application of Data-Driven and Optimization Methods in Identification of Location and Quantity of Pollutants. *Journal of Hazardous, Toxic, and Radioactive Waste* 2015; 19: 04014031.

- 7) Bahmani R, Radmanesh F, Eslamian S, **Khorsandi M**, Zamani R. Proper rainfall for peak flow estimation by integration of L-Moment method and a hydrologic model. International Research Journal of Applied and Basic Sciences 2013; 4: 2959-2967.
- 8) Bahmani R, Eslamian S, **Khorsandi M**, Hosseinipour EZ. Combination of L-Moments Method and Hydrological Model for Design Flood Hydrograph Determination. World Environmental and Water Resources Congress 2013: Showcasing the Future, 2013, pp. 3236-3246.

#### **Thesis**

- 1) **Khorsandi M.**, 2013. Pollution source location and magnitude identification in surface water by data mining method. University of Tehran.

#### **Reports**

- 2) **Khorsandi M.**, 2019. Renewable water resources assessment for Iran based on Ministry of Energy measurement stations. Ministry of Energy/Iran Water Resources Management Company, Tehran, Iran.

## **Memberships**

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- Canadian Water Resources Association (CWRA)
- Canadian Dam Association (CDA)
- Canadian Society for Hydrological Sciences (CSHS)
- Society of Canadian Aquatic Sciences (SCAS)

## **References**

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- 1) André St-Hilaire, [andre.st-hilaire@inrs.ca](mailto:andre.st-hilaire@inrs.ca)
- 2) Richard Arsenault, [richard.arsenault@etsmtl.ca](mailto:richard.arsenault@etsmtl.ca)
- 3) Pieter van Oel, [pieter.vanoel@wur.nl](mailto:pieter.vanoel@wur.nl)