Kamran Mohammadi

PhD, Hydraulic Structures
Assistant Professor
Department of Water Engineering
Campus of Agriculture and Natural Resources
Razi University

Tel: +98-9189977345
Email: k_mohammadi@razi.ac.ir
kamranmohammadi.km@gmail.com
Address: Razi University, Taq Bostan, Kermanshah
PO. Box: 6714414971

EDUCATION

2011 - 2016 ***Doctor of Philosophy (Ph.D.),*** Hydraulic Structures
School of Water and Environmental Engineering [Center of Excellence for Water Sciences]
Shahid Chamran University (SCU), Ahwaz, Iran
Dissertation Title: *Transient analysis for leak detection in pipelines*

2009 - 2011 ***Master of Science (M.Sc.),*** Hydraulic Structures
Department of Water Engineering
University Of Tabriz, Tabriz, Iran
Thesis Title: *Simulation of Water Surface Profile With Hydraulic Jump in Lateral Intakes*

2004 - 2008 ***Bachelor of Science (B.Sc.),*** Water Engineering
Department of Water Engineering
Razi University, Kermanshah, Iran

WORK EXPERIENCES

2021 - Date ***Assistant Professor,*** Hydraulics
Department of Water Engineering, Campus of Agriculture and Natural Resources, Razi University, Kermanshah, Iran

2010 - Date ***Project manager and Designer***
Water supply and wastewater systems, Hydraulic structures, River Engineering, etc.
Gamasiab Consultant Engineers Co., Kermanshah, Iran

PUBLICATIONS

Books

2010 ***Hydraulic structures,*** In Persian
*R. Ghobadian, **K. Mohammadi** and Z. Karimi*

2012 ***Sediment transportation hydraulics and erosion,*** In Persian
*R. Ghobadian, **K. Mohammadi** and M. zare*

Peer-Reviewed Scholarly Papers

2010 *Comparative analysis of different methods for calculating the field hydraulic conductivity with Golf permeameter in silt - loam soil above the water table*
*R. Ghobadian and **K. Mohammadi***
Journal of soil and water

2010 *Simulation of subcritical flow pattern in 180 degree uniform and divergent open-channel bend using SSIIM 3D model*
R. Ghobadian, ***K. Mohammadi,*** *A. Hosseinzadeh Dalir*
Journal of Irrigation science and Engineering

2011 *Simulation of subcritical flow pattern in 180 degree uniform and convergent open-channel bend using SSIIM 3D model*
R. Ghobadian and ***K. Mohammadi***
Journal of Water Science and Engineering

2011 *Effect of cutoff curtain on position of phreatic line and seepage discharge in earth dams using finite volume method*
R. Ghobadian, M. Khalaj and ***K. Mohammadi***
Journal of Irrigation science and Engineering

2012 *An Experimental Investigation of Hydraulic Jump in Side Weirs*
K. Mohammadi *and A. Hosseinzadeh Dalir*
Journal of soil and water science

2014 *3D Investigation of Flow Hydraulic in U Shape Meander Bends with Constant, Decreasing and Increasing Width*
A. Liaghat, ***K. Mohammadi*** *and M. Rahmanshahi*
Journal of River Engineering

2017 *Analysis of rapid unsteady flow in pipelines using unsteady friction model*
K. Mohammadi *and M. Fathi-Moghadam*
Journal of soil and water science

2017 *Study of leak effect on hydraulic characteristics of pressure wave in unsteady flow*
K. Mohammadi, *M. Fathi-Moghadam, J. Ahadian and S. Haghighipour*
Journal of Irrigation science and Engineering

2022 *Determination of transient flow pressure losses due to leakage from pipe wall using intelligent algorithms*
K. Mohammadi
Journal of Advanced Technologies in Water Efficiency

2022 *Optimal pressure management of water distribution network of Ezgele city with emergency connection between pressure zones using NSGA-II*
R. Ghobadian and ***K. Mohammadi***
Iranian Journal of Irrigation and Water Engineering

2023 *Assessment of unsteady friction coefficients in pressure transient wave simulation during water leakage from pipeline using inverse analysis*
K. Mohammadi *and M. Fathi-Moghadam*
Journal of Water and Soil Science

2023 *Optimal design and cost analysis of water distribution networks based on pressure-dependent leakage using NSGA-II*
R. Ghobadian and ***K. Mohammadi***
Journal of Applied Water Sciences

2023 *Improved strategy management for WDNs: Integrated Prioritization SWOT QSPM (IPSQ) Method – Application to passive defense*
K. Mohammadi
Journal of Socio-Economic Planning Sciences

2024 *Application of various methods in design for control of bed erosion and river modification aiding numerical simulation*
A. Kohzadi, ***K. Mohammadi*** *and A. Eghbalzadeh*
Journal of applied research in water and wastewater

2024 *Pipe renewal plan in water distribution network considering physical and operational risk factors: A hybrid MCDM-QSPM technique*
K. Mohammadi
Journal of Water Resources Management - Under Review

2025 *Redefining Water Networks Efficiency: A Synergy of Hydraulic Modelling and NSGA-II Optimization Framework for Leakage, Cost, and Pressure*
K. Mohammadi
Journal of Water Supply - Accepted

2025 *A CADAM-Based model simulation for Static-Dynamic Stability performance assessment of Concrete Gravity Dams*
K. Mohammadi
International Journal of Civil Engineering - Under Review

2025 *On the unsteady friction for transient flow mechanics: A comprehensive review of models, applications and challenges*
K. Mohammadi
Journal of applied research in water and wastewater - Accepted

2025 *Anticipatory Pipeline Modification in Urban Water Networks: A Risk-Informed Decision-Driven Framework for Sustainable Infrastructure Governance*
K. Mohammadi
Journal of Hazardous Materials Advances - Under Review

2025 *Comprehensive investigation of analytical and numerical methods for calculating back-water profile in channels using proportional coding models*
K. Mohammadi
Journal of Advanced Modeling in Civil Engineering - Under Review

Peer-Reviewed Conference Papers

2010 *Simulation and comparison of flow pattern in 180 degree uniform and convergent open-channel bend using 3D model*
R. Ghobadian, ***K. Mohammadi*** *and S. Fasihi*
8th International river engineering conference, Shahid Chamran University (SCU), Ahwaz, Iran

2010 *Simulation and comparison of flow characteristics in 180° convergent and uniform open-channel bends by 3d numerical model*
R. Ghobadian, ***K. Mohammadi*** *and J. F. Rodriguez*
9th Hydro–Informatics Conference (HIC), Tianjin, CHINA

2010 *Evaluation of Golf permeameter single and double-depth analysis in estimation of saturated hydraulic conductivity above the water table depth in a loam soil*
R. Ghobadian and ***K. Mohammadi***
10th National Conference on Irrigation and reducing evaporation. Shahid Bahonar University, Kerman, Iran.

2010 *Simulation and comparison of flow pattern in a 180 degree uniform and divergent bend*
R. Ghobadian and ***K. Mohammadi***
9th National Conference on Hydraulics. Tarbiat Modarres University, Tehran, Iran

2010 *Estimate and compare the overflows in compound sharp crested side weir using theoretical formulas and artificial neural network*
K. Mohammadi, *M. Roshani and A. Hosseinzadeh Dalir*
9th National Conference on Hydraulics. Tarbiat Modarres University, Tehran, Iran

2011 *Investigation of the influence of some dimensionless parameters on discharge coefficient and determine the discharge coefficient in a side orifice using intelligent simulation*
K. Mohammadi, *S. Farzin, N. Kardan and Y. Hasanzadeh*
6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran

2011 *Investigation the pattern of flow in channels with a 180-degree bend and variable width*
R. Ghobadian, M. T. Aalami, ***K. Mohammadi*** *and S. Farzin*
6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran

2011 *Dimension optimization of compound cross-section weir using genetic algorithms*
N. Kardan, ***K. Mohammadi,*** *S. Farzin and Y. Hasanzadeh*
6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran

2012 *Simulation of Urmia Lake water level variations due to hydrological parameters using artificial neural networks*
K. Mohammadi, *S. Farzin, Y. Hasanzadeh and A. Hosseinzadeh Dalir*
4th Iranian Water Resources Management Conference. Amirkabir University, Tehran, Iran

2012 *Application of Artificial Intelligence in secondary hydraulic jump depth determination in stilling basins with reverse steep and positive and negative stairs*
K. Mohammadi, *S. Bagheri, S. Shiri Arani and H. Moosavi Jahromi*
1st International Conference on dams and hydropower plants, Tehran, Iran

2012 *Water surface profiles and discharge coefficient in a side weir with hydraulic jump*
K. Mohammadi, *S. Bagheri, A. Hosseinzadeh Dalir and R. Ghobadian*
3rd National Conference on Integrated Water Resources Management, University of Agricultural Sciences and Natural Resources, Sari, Iran

2014 *Transient flow analysis with unsteady friction models using Hammer software*
K. Mohammadi, *M. Fathi-Moghadam, J. Ahadian and S. Haghighipour*
1th National Congress on Civil, Architecture, Electronic and Mechanic Engineering development. University of Golestan, Golestan, Iran

2015 *Experimental and numerical simulation of leak in rapid unsteady flows*
K. Mohammadi, *M. Fathi-Moghadam, J. Ahadian and S. Haghighipour*
10th International Congress on Civil Engineering. University of Tabriz, Tabriz, Iran

2021 *Hydraulic analysis of the drinking water distribution network under the daily consumption pattern using the slope matrix method for Ezgele city*
R. Ghobadian and ***K. Mohammadi***
4th National Conference of New Technologies in Architectural, Civil and Urban Engineering of Iran. Tehran, Iran

2021 *Investigation of spillway design criteria in earthen dams based on Indian standards*
K. Mohammadi
9th National Conference on Civil Engineering, Architecture and Sustainable Urban Development of Iran. Tehran, Iran

2021 *Application of coding and numerical simulation in determination of the discharge coefficient in classic relation of leakage orifice in pipe for unsteady transient flows*
K. Mohammadi
4th National conference of water crisis in Iran and the Middle East. Tehran, Iran

2021 *Estimation of pressure wave head loss during passing through the leak orifice in the pipeline using artificial neural network*
K. Mohammadi
11th National congress of the new technologies in sustainable development of Iran. Tehran, Iran

2021 *The application of Gene Expression Programming (GEP) in determining the discharge coefficient Composite sharp-edged side overflows*
K. Mohammadi
11th National congress of the new technologies in sustainable development of Iran. Tehran, Iran

2022 *Investigation of drinking water supply and distribution infrastructure of Paveh city as one of the main indicators of sustainable development of Howraman*
K. Mohammadi
International conference on Hawraman: Global registration, culture and sustainable development. Kermanshah, Iran

2022 *General evaluation of water supply systems in the border city of Nodesheh in order to pave the way for sustainable development in Howraman*
K. Mohammadi
International conference on Hawraman: Global registration, culture and sustainable development. Kermanshah, Iran

2022 *Investigating the performance of MikeNet numerical model in the analysis of transient flows in order to supply water to rural areas*
K. Mohammadi
2nd International conference on architecture, civil engineering, urban development, environment and horizons of islamic art. Tabriz, Iran

2024 *Identifying erosion-prone areas in the river using critical unit discharge techniques and relative bed stability using MIKE11 model*
K. Mohammadi
23th Hydraulics Conference, Razi University, Kermanshah, Iran

2024 *Comparison of optimistic and pessimistic analyses of multi-criteria clustering in the drinking water distribution network modification plan*
K. Mohammadi
5th Iranian Congress of Water and Wastewater Science and Engineering. University of Esfahan, Esfahan, Iran

2024 *Intelligent management and planning of repairs in the urban drinking water distribution network (Case study: Ezgeleh city)*
K. Mohammadi
5th Iranian Congress of Water and Wastewater Science and Engineering. University of Esfahan, Esfahan, Iran

2025 *Optimal prefabricated rectangular broad-crested weirs: From hydraulic efficiency to sensitivity analysis*
K. Mohammadi
24th Hydraulics Conference, Birjand University, Birjand, Iran

RESEARCH PROJECTS

2023 *Prioritization and intelligent management of repairs, modification and modernization of urban drinking water distribution networks with the aim of reducing costs, accidents, pollution and water loss*
Water and Wastewater Authority of Kermanshah province, Kermanshah, Iran

2025 *Optimizing the dimensions of prefabricated rectangular and trapezoidal broad-crested weirs to reduce concrete consumption*
Parsi Sazan Company, Kermanshah, Iran.

2025 *Applying decision-making matrices in strategic water supply management in Kermanshah Oil Refinery Company*
Kermanshah Oil Refinery Company, Kermanshah, Iran. In Progress

ATTENDED WORKSHOPS

2010 *First Workshop on turbidity current flows and its management in dam reservoirs*
Khuzestan Regional water department, Ahwaz, Iran

2012 *Totally management of catchment software, SWAT & SWAT-CUP*
Scientific reference on Irrigation and Drainage, Shahid Chamran University of Ahwaz (SCU), Iran

2015 *Project management – MSP Software*
Kamyaran Consulting Engineers, Iran

2021 *Application of SIMAPRO software in Life Cycle Assessment*
Razi University, Kermanshah, Iran

2022 *Introduction to Mendeley reference management software*
Razi University, Kermanshah, Iran

2024 *Step pumping of deep production wells*
Razi University, Kermanshah, Iran

INVITED LECTURES AND CONDUCTED WORKSHOPS

2013 *Water supply system design and WaterGEMS software*
Bureau of suburb water
Erbil, Iraq

2013 *River engineering and Mike11 software*
Sharif education institute, in associate with Dezab consultant engineers
Ahwaz, Iran

2014 *Water supply system design and WaterGEMS software*
Sharif education institute, in associate with Dezab consultant engineers
Shahid Chamran University of Ahwaz (SCU)
Ahwaz, Iran

2015 *Repair of water supply systems*
Scientific High education institute of water and electricity, in associate with power ministry of Iran
Kermanshah, Iran

2016 *Operation of water supply systems*
Scientific High education institute of water and electricity, in associate with power ministry of Iran
Kermanshah, Iran

2016 *Water supply equipment*
Scientific High education institute of water and electricity, in associate with power ministry of Iran
Kermanshah, Iran

2018 *Engineering Hydrology*
Industrial University of Kermanshah
Kermanshah, Iran

2021 *Analysis of water hammer and solutions to damp it in pumping stations and water transmission lines using Hammer software*
Razi University
Kermanshah, Iran

2021 *Principles of design and analysis of water supply systems using WaterGEMS software*
Razi University
Kermanshah, Iran

2022 *Methods for reducing costs in the maintenance and repair of water supply facilities*
Razi University
Kermanshah, Iran

2022 *Evaluation and renovation of urban drinking water distribution networks*
Razi University
Kermanshah, Iran

2023 *Cost reduction methods in maintenance and repairs of water supply facilities*
Scientific High education institute of water and electricity, in associate with power ministry of Iran
Kermanshah, Iran

2024 *Occupational safety and health in construction projects*
Razi University
Kermanshah, Iran

AWARDS AND HONORS

2010 *Known as brilliant talent among MSc students*
University of Tabriz, Tabriz, Iran

2011 *First place in the entrance exam for the PhD program in the field of hydraulic structures*
Shahid Chamran University (SCU), Ahwaz, Iran

WORK DOSSIER

2008 *Expert*
Operation Consulting Unit, Chamchamal Irrigation and Drainage Plan
Kermanshah, Iran

2011 *Project Manager and designer*
Water and waste water systems, Pakab Consulting Engineers Co.
Kermanshah, Iran

2012 *Manager of Iraq branch*
Pakab Consulting Engineers Co.
Erbil and Sulaymaniyah, Iraq

2014 *Project Manager and designer*
Water supply systems, pumping stations, waste water networks, hydraulic structures, etc., Gamasiab Consulting Engineers Co.
Kermanshah, Iran

2018 *Head of Project Supervisors*
Irrigation Systems, Bahab No Andish Consulting Engineers Co.
Kurdistan, Iran

2020 *Head of Project Supervisors*
Water Supply and Treatment Systems, Gamasiab Consulting Engineers Co.
Kermanshah, Iran

2021 *Senior Expert in Technical Unit and Top Supervisory*
Water supply systems and waste water projects, hydraulic structures, Gamasiab Consulting Engineers Co.
Kermanshah, Iran

2024 *Dams, Reservoirs and Water Resources Inspectors Group*
Kermanshah Governorship
Kermanshah, Iran

Selected Projects

Expert

Equipping and modernization projects of irrigation and drainage channels in Chamchamal Plain
Kermanshah Province, Iran

Designing and Supervising water supply and distribution network systems for 120 villages Two Times - Pakab and Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Project Designer

Design of water supply and distribution network systems for villages
Pakab Consulting Engineers Co.
Markazi Province, Iran

Design of water supply systems for complex of 14 villages
In person
Lorestan Province, Iran

Design of a conduit structure to lead sewerage of Abshooran River to Kermanshah wastewater treatment plant
Pakab Consulting Engineers Co.
Kermanshah Province, Iran

Design of emergency water supply system from wells for Songhor city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of pipelines between reservoirs in water supply system in Songhor city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of Emergency Water Supply system from wells for Kerend city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of Water Supply system for Namin city
Gamasiab Consulting Engineers Co.
Ardabil Province, Iran

Design of Wastewater collection network for Razian, Zelan, Sheikhsele and Nooryab village
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of Wastewater collection network for Osmani, Karkonan and Khalkhal settlement
In person
Tazeabad, Kermanshah Province, Iran

Design of pipe line and pumping station for transfer treated wastewater to use in cooling tower of Bisetoon power plant
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Study for capability of constructing Tangab, Kangakosh, Kanekabood and Emam Hasan RCC dams (structural design)
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Pumping and irrigation plan of the lands around the reservoir of Azadi dam, Kerend city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Top Hydraulic Expert

Technical Office
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Branch manager and designer

Design of pipeline to transfer raw water from Dukan dam to the Pirqorban water treatment plant.
Pakab Consulting Engineers Co.
Solymaniyah Province, Iraq

Project manager

Design of water and sewer networks for "Maskane Mehr" projects, the national mass housing project
Pakab Consulting Engineers Co.
Kermanshah, Gilangharb, Ghasreshirin, Eslamabad cities, Kermanshah Province, Iran

Design of water distribution network for Nowdeshe city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water distribution network for Pave city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water distribution network for Harsin city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water distribution network for Taze Abad city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water distribution network for Naft Shahr city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water distribution network for Gelsefid - Ravansar city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of Water Supply system for kerend city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of Water Supply system for Ezgele city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of pump stations for water supply plan, Harsin city.
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of pump stations for higher zoon of water distribution network with variable speed pumps, Harsin city.
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Design of water supply system for many villages
Gamasiab Consulting Engineers Co.
Booshehr Province, Iran

Head of Supervisors

Plan of constructing irrigation system for Soomar's Lige Yek Plain
Bahab No-Andish Consulting Engineers Co.
Kermanshah Province, Iran

Water supply plan of Pave city
Gamasiab Consulting Engineers Co.
Kermanshah Province, Iran

Note: *Most of above projects has a transient (surge) analysis with design of protection equipments*

SOFTWARE

Fluent with

WaterGEMS
SewerGEMS
Hammer
AutoCAD
HEC-RAS
Flow 3D

	MCDM models like Electre-TRI
Have experience with	MATLAB Mike11 & 21 GIS SSIIM 3D Tecplot Surfer Plaxis CCHE 2D Geo Slope CADAM Seep W Hec-HMS Micro Station Gene Xpro Tools SMS MSP AI Tools
Have a proficiency with	Visual Basic Programming Language

LANGUAGES

English (Professional Working and Academic Proficiency)
Persian (Proficient/Bilingual)
Kurdish (Native)