

Dr. Kamran Mohammadi

Birth: 1985, September, 21
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Education:

- **Ph.D.** in Hydraulic Structures Engineering – 2016.01.05
Shahid Chamran University – School of Water Sciences Engineering [Center of Excellence for Water Sciences in Iran] - Ahwaz- Iran
Thesis Title: *Transient analysis for leak detection in pipelines*
Thesis Score: 19.2 (Excellent degree)
Professional Courses: *Advanced Hydraulic, Computational Hydraulic, Advanced River Engineering, Advanced Hydro-Physical models, Advanced Design of Hydraulic Structures, Instrumentation.*
GPA of Courses: 18.24
- **M.Sc** in Hydraulic Structures Engineering – 2011.08.28
University Of Tabriz - Department of Water Engineering - Tabriz - Iran
Thesis Title: *Simulation of Water Surface Profile With Hydraulic Jump in Lateral Intakes*
Thesis Score: 19.75 (Excellent degree)
Professional Courses: *Supplementary Open Cannel Hydraulic, Sediment Hydraulic, Computational Methods in Water Sciences, Design of Water Regulator Structures, Geotechnic, Advanced Structural Analysis, Earth Dams, Hydro-Physical models.*
GPA of Courses: 17.55
- **B.Sc** in Water Engineering – 2008.09.14
Razi University - Department of Water Engineering - Kermanshah - Iran
B.Sc Project: *Calculating the field hydraulic conductivity with Golf permeameter in silt - loam soil above the water table*
B.Sc Project Score: 20
Professional Courses: *Fluid Mechanics, Hydraulic, Open Cannel Hydraulic, Design of Water Supply Systems, Soil Mechanics, Hydraulic Structures Design, Engineering Hydrology, Hydrogeology, Engineering Geology, Survey, Engineering Drainage, Design of Gravity and Pressurized Irrigation Systems, Pump and Pump Stations, Water and Wastewater Engineering, Structural Analysis, Programming, Concrete and Reinforced Concrete, Numerical Calculation.*
GPA of Courses: 15.03

Experiences:

- **Assistant professor of Hydraulic Structures, Water Engineering Department, Razi University.** Kermanshah, Iran, 2021.
- **Water and wastewater projects designer and project manager – Gamasiab consultant engineers.** Kermanshah, Iran, 2010.

Publications:

Books:

- R. Ghobadian, **K. Mohammadi** and Z. Karimi. *Hydraulic structures*. 2010. Art Spring Publication. (in Persian)
- R. Ghobadian, **K. Mohammadi** and M. zare. *Sediment transportation hydraulics and erosion*. 2012. Razi University Publication. (in Persian)

Journal Papers:

- *Comparative analysis of different methods for calculating the field hydraulic conductivity with Golf permeameter in silt - loam soil above the water table*. 2010. Journal of soil and water, Volume 24, Issue 3.
- *Simulation of subcritical flow pattern in 180 degree uniform and divergent open-channel bend using SSIIM 3D model*. 2010. Journal of Irrigation science and Engineering, Volume 40, Issue 2.
- *Simulation of subcritical flow pattern in 180 degree uniform and convergent open-channel bend using SSIIM 3D model*. 2011. Journal of Water Science and Engineering, Volume 4, Issue 3.
- *Effect of cutoff curtain on position of phreatic line and seepage discharge in earth dams using finite volume method*. 2011. Journal of Irrigation science and Engineering, Volume 34, Issue 1.
- *An Experimental Investigation of Hydraulic Jump in Side Weirs*. 2012. Journal of soil and water science, Volume 23, Issue 4.
- *3D Investigation of Flow Hydraulic in U Shape Meander Bends with Constant, Decreasing and Increasing Width*. 2014. Journal of River Engineering, Volume 2, Issue 3.
- *Analysis of rapid unsteady flow in pipelines using unsteady friction model*. 2017. Journal of soil and water science, Volume 27, Issue 2.
- *Study of leak effect on hydraulic characteristics of pressure wave in unsteady flow*. 2017. Journal of Irrigation science and Engineering, Volume 40, Issue 1.
- *Determination of transient flow pressure losses due to leakage from pipe wall using intelligent algorithms*. 2022. Advanced Technologies in Water Efficiency, 1(3), 77-96. DOI: 10.22126/ATWE.2022.7254.1009
- *Optimal Pressure Management of Water Distribution Network of Ezgele City with Emergency Connection between Pressure Zones Using NSGA-II*. 2022. Iranian Journal of Irrigation and Water Engineering, 50(2): 104-125. DOI: 10.22126/ATWE.2022.7254.1009
- *Assessment of unsteady friction coefficients in pressure transient wave simulation during water leakage from pipeline using inverse analysis*. 2022, Journal of Water and Soil Science, Accepted Manuscript, Available Online from 22 December 2023.
- *Improved strategy management for WDNs: Integrated Prioritization SWOT QSPM (IPSQ) Method – Application to passive defense*. 2023. Journal of Socio-Economic Planning Sciences, Under Review.
- *Optimal design and cost analysis of water distribution networks based on pressure-dependent leakage using NSGA-II*. 2023. Journal of Applied Water Sciences, <https://doi.org/10.1007/s13201-023-01888-4>.

Conference Papers:

- ***Simulation and comparison of flow pattern in 180 degree uniform and convergent open-channel bend using 3D model.*** 2010. 8th International river engineering conference, Shahid Chamran University (SCU), Ahwaz, Iran.
- ***Simulation and comparison of flow characteristics in 180° convergent and uniform open-channel bends by 3d numerical model.*** 2010. Hydro – Informatics Conference (HIC), Tianjin, CHINA
- ***Evaluation of Golf permeameter single and double-depth analysis in estimation of saturated hydraulic conductivity above the water table depth in a loam soil.*** 2010. 10th National Conference on Irrigation and reducing evaporation. Shahid Bahonar University, Kerman, Iran.
- ***Simulation and comparison of flow pattern in a 180 degree uniform and divergent bend.*** 2010. 9th National Conference on Hydraulics. Tarbiat Modarres, Tehran, Iran.
- ***Estimate and compare the overflows in compound sharp crested side weir using theoretical formulas and artificial neural network.*** 2010. 9th National Conference on Hydraulics. Tarbiat Modarres University, Tehran, Iran.
- ***Investigation of the influence of some dimensionless parameters on discharge coefficient and determine the discharge coefficient in a side orifice using intelligent simulation.*** 2011. 6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran.
- ***Investigation the pattern of flow in channels with a 180-degree bend and variable width.*** 2011. 6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran.
- ***Dimension optimization of compound cross-section weir using genetic algorithms.*** 2011. 6th National Congress on Civil Engineering. University of Semnan, Semnan, Iran.
- ***Simulation of Urmia Lake water level variations due to hydrological parameters using artificial neural networks.*** 2012. 4th Iranian Water Resources Management Conference. Amirkabir University of Technology, Tehran, Iran.
- ***Application of Artificial Intelligence in secondary hydraulic jump depth determination in stilling basins with reverse steep and positive and negative stairs.*** 2012. 1st International Conference on dams and hydropower plants, Tehran, Iran.
- ***Water surface profiles and discharge coefficient in a side weir with hydraulic jump.*** 2012. 3rd National Conference on Integrated Water Resources Management, Iranian Irrigation and Water Engineering Association, University of Agricultural Sciences and Natural Resources, Sari, Iran.
- ***Transient flow analysis with unsteady friction models using Hammer software.*** 2014. 1th National Congress on Civil, Architecture, Electronic and Mechanic Engineering development. University of Golestan, Golestan, Iran.
- ***Experimental and numerical simulation of leak in rapid unsteady flows.*** 2015. 10th International Congress on Civil Engineering. University of Tabriz, Tabriz, Iran.
- ***Hydraulic analysis of the drinking water distribution network under the daily consumption pattern using the slope matrix method for Ezgele city.*** 2021. The 4th National Conference of New Technologies in Architectural, Civil and Urban Engineering of Iran. Tehran, Iran.
- ***A review of unsteady friction models in transient flow.*** 2021. The 9th National Conference on Civil Engineering, Architecture and Sustainable Urban Development of Iran. Tehran, Iran.
- ***Investigation of spillway design criteria in earthen dams based on Indian standards.*** 2021. The 9th National Conference on Civil Engineering, Architecture and Sustainable Urban Development of Iran. Tehran, Iran.

- ***Application of coding and numerical simulation in determination of the discharge coefficient in classic relation of leakage orifice in pipe for unsteady transient flows.*** 2021. The 4th National conference of water crisis in Iran and the Middle East. Tehran, Iran.
- ***Estimation of pressure wave head loss during passing through the leak orifice in the pipeline using artificial neural network.*** 2021. 11th National congress of the new technologies in sustainable development of Iran. Tehran, Iran.
- ***The application of Gene Expression Programming (GEP) in determining the discharge coefficient Composite sharp-edged side overflows.*** 2021. 11th National congress of the new technologies in sustainable development of Iran. Tehran, Iran.
- ***Investigation of drinking water supply and distribution infrastructure of Paveh city as one of the main indicators of sustainable development of Howraman.*** 2022. International conference on Hawraman: Global registration, culture and sustainable development. Kermanshah, Iran.
- ***General evaluation of water supply systems in the border city of Nodesheh in order to pave the way for sustainable development in Howraman.*** 2022. International conference on Hawraman: Global registration, culture and sustainable development. Kermanshah, Iran.
- ***Investigating the performance of MikeNet numerical model in the analysis of transient flows in order to supply water to rural areas.*** 2022. 2nd International conference on architecture, civil engineering, urban development, environment and horizons of islamic art. Tabriz, Iran.

Workshops:

- ***First Workshop on turbidity current flows and its management in dam reservoirs.*** Khuzestan Regional water department, Iran. 2011.
- ***Totally management of catchment software, SWAT & SWAT-CUP.*** Scientific reference on Irrigation and Drainage, Shahid Chamran University of Ahwaz (SCU), Iran, 2012.
- ***Project management – MSP.*** Kamyaran Consulting Engineers, Iran, 2015.

Teaching Experiences:

- ***Water supply system design and WaterGEMS software,*** Bureau of suburb water, Erbil, Iraq, 2013.
- ***Mike11 software,*** Sharif institute (in associate with Dezab consultant engineers), Ahwaz, Iran, 2013.
- ***Water supply system design and WaterGEMS software,*** Sharif institute (in associate with Dezab consultant engineers), Ahwaz, Iran, 2014.
- ***Water supply system design and WaterGEMS software,*** Shahid Chamran University of Ahwaz (SCU), Iran, 2014.
- ***Repair of water supply systems,*** Scientific High education institute of water and electricity (in associate with power ministry of Iran), Kermanshah, Iran, 2015.
- ***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, 2016.
- ***Engineering Hydrology,*** Industrial University of Kermanshah, Kermanshah, Iran, 2018.

Awards and Honors:

- **Known as brilliant talent student in master education**, University of Tabriz, Iran, 2008.
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Work Dossier:

- **Expert**, Operation Consulting Unit, Chamchamal Irrigation and Drainage Plan, Kermanshah, Iran, 2008.
- **Expert and Project manager – Water and waste water systems**, Pakab Consulting Engineers Co. Kermanshah, Iran, 2011.
- **Manager of Iraq branch of Pakab Consulting Engineer Co.** Erbil and Sulaymaniyah, Iraq, 2012.
- **Project Manager - Designing of water supply systems, pumping stations, water distribution network and waste water projects**, Gamasiab Consulting Engineers Co. Iran, 2014.
- **Head of Project Supervisors**, Bahab No Andish Consulting Engineers Co. Kurdistan, Iran, 2018.
- **Senior Expert in Technical Unit and Top Supervisory - water supply systems and waste water projects**, Gamasiab Consulting Engineers Co. Iran, 2019.

Selected Projects:

- **Expert: equipping and modernization projects of irrigation and drainage channels in Chamchamal Plain, Kermanshah, Iran.**
- **Expert: designing and Supervising water supply and distribution network systems for 120 villages, Kermanshah Province, Iran. (Tow Times - Pakab and Gamasiab Consulting Engineers Co.)**
- **Designer: design of water supply and distribution network systems for villages, Markazi Province, Iran. (Pakab Consulting Engineers Co.)**
- **Designer: design of water supply systems for complex of 14 villages, Lorestan Province, Iran. (In person)**
- **Project manager: design of water and sewer networks for "Maskane Mehr" projects, the national mass housing project, Kermanshah – Gilangharb – Ghasreshirin – Eslamabad cities, Iran. (Pakab Consulting Engineers Co.)**
- **Designer: design of a conduit structure to lead sewerage of Abshooran River to Kermanshah wastewater treatment plant. Kermanshah Province, Iran. (Pakab Consulting Engineers Co.)**
- **Branch manager and designer: design of pipeline to transfer raw water from Dokan dam to the Pirqorban water treatment plant. Solymaniyah Province, Iraq. (Pakab Consulting Engineers Co.)**
- **Project manager: design of water distribution network for Nowdeshe city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)**
- **Project manager: design of water distribution network for Pave city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)**
- **Project manager: design of water distribution network for Harsin city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)**

- *Project manager: design of water distribution network for Tazeabad city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of water distribution network for Naftshahr city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: water distribution network for Gelsefid - Ravansar. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of emergency water supply system from wells for Songhor city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of pipelines between reservoirs in water supply system in Songhor city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of Emergency Water Supply system from wells for Kerend city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of Water Supply system for Namin city. Ardabil Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: Water Supply system for kerend city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of Wastewater collection network for Razian, Zelan, Sheikhsele and Nooryab village. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: design of Wastewater collection network for Osmani, Karkonan and Khalkhal settlement - Tazeabad. Kermanshah Province, Iran. (In person)*
- *Designer: design of pipe line and pumping station for transfer treated wastewater to use in cooling tower of Bisetoon power plant. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Designer: Study for capability of constructing Tangab, Kangakosh, Kanekabood and Emam Hasan RCC dams (structural design). Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Head of Project Supervisors: Plan of constructing irrigation system for Soomar's Lige Yek Plain. Kermanshah Province, Iran. (Bahab No Andish Consulting Engineers Co.)*
- *Head of Project Supervisors: Water supply plan of Pave city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of pump stations for water supply plan, Harsin city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of pump stations for higher zoon of water distribution network with variable speed pumps, Harsin city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Top supervisory in water supply plan (pipeline – pump stations – water treatment plan – concrete reservoirs), Pave city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of water supply plan, Ezgele city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of water supply system for Taze Abad city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*

- *Designer: pumping and irrigation plan of the lands around the reservoir of Azadi dam, Kerend city. Kermanshah Province, Iran. (Gamasiab Consulting Engineers Co.)*
- *Top Hydraulic Expert: Technical Office. (Gamasiab Consulting Engineers Co.)*
- *Project manager: design of water supply system for many villages. Booshehr Province, Iran. (Gamasiab Consulting Engineers Co.)*

Note1: Most of above projects has a transient (surge) analysis with designing protection equipment.

Note2: Have a top supervisory experience in all of above projects mentioned in Pave, Songhor, Harsin and Taze Abad cites.

Note3: Also, I was manager of Iraq branch of Shahrsaz Shaygan Constructing Co. and Pakab Consulting Engineers Co. in Erbil and Sulaymaniyah.

Skills:

Software:

- Fluent with WaterGEMS, SewerGEMS, Hammer, AutoCAD, HEC-RAS, Flow 3D
- Have experience with MATLAB, Mike11 & 21, GIS, SSIIM 3D, Tecplot, Surfer, CCHE 2D, Geo Slope, Plaxis, Seep W, Land Desktop Development, Hec-HMS, Micro Station, Gene Xpro Tools, SMS and MSP.
- Proficiency in Visual Basic programming language

Language:

- Fluent in Persian and Kurdish - Native
- Fluent in Speaking, writing, listening and reading English. Professional in academic activities