

Curriculum Vitae

Details

Name: Hojat Karami

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Address:

Department of Civil Engineering, Semnan University, Semnan, Iran.



Education

B. Sc	Water Engineering
2002	Shiraz University, Shiraz, Iran
M. Sc	Civil Engineering-Hydraulic and Water Recourses
2005	Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran
Ph. D	Civil Engineering-Hydraulic and Water Recourses
2011	Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran

Academic Activities

Assistant Professor, Department of Civil Engineering, Semnan University.

Teaching (undergraduate): Hydraulics, Fluid Mechanics, Hydrology, Ground Water, Hydraulic Structures and Water and waste water.

Teaching (Postgraduate): Advance Hydraulic, Advanced Hydrology, Hydrodynamics, River Engineering, Sediment Transport, Flood Control, Water Resources Management, Hydroinformatics, Soft Computing.

Research Interests

- Sediment transport and river engineering
- Scour around hydraulic structures
- Hydrodynamic of Hydraulic structures
- Application of Soft computing in Water and Hydraulic engineering
- Storm water Modeling
- River and flood zoning
- Design, operation and restoration in urban water supply networks and sewage
- Design, operation and restoration in surface water collection and environmental projects
- Application of GIS in water resources management and hydrology
- Management of urban flood control
- Crisis management (sewage and flood)
- Environmental impact assessment in civil projects

Skills

- 1- Computer Skills (General Software): Microsoft Office, AutoCAD, MATLAB, FORTRAN, LINGO, STATISTICA, STATGRAPHIC.
- 2- Computer Skills (Specific Software): HEC-SERIES (HEC1-HEC6, HEC-RAS and HEC-HMS), EPANET, WATERCAD, WATERGEMS, ARCVIEW, ARCGIS, MIKENET, SEWER, LOOP, STORM PLUS, SWMM, Arc GIS, TECH PLOT, SMADA, SPSS, SAS, Expert Choice, CROP WAT4.0, SURFER, SSIIM 2.0, Flow3D.
- 3- Specific Ability: Experimental Modeling, Numerical Modeling, Surveying and Assessment, Conduct topographical, Workshop Equipping and Establishing.

Professional Activities and Membership

- Consultant in design of hydraulic structures in various dam, bridge and port projects.

- Research associate in Amirkabir Environment Research Center, working on the physical model of Spur dikes, Bridges, Dams.
- Member of American society of civil engineering (ASCE).
- Member of National Committee on Irrigation and Drainage.
- Scientific member of Institute of Environment Research Center, Amirkabir University.
- Professional member of Industrial Relations office, Amirkabir University of technology.
- Member of Iranian Hydraulic Association.
- Member of International Association of Hydraulic Research.
- Professional member of Soil Conservation and Watershed Management Research Center, Ministry of Agriculture, Iran.
- Member of value engineering team of landscape water supply project in Mashhad city, Iran.
- Executive member of the international workshop on management and optimization of water and wastewater systems (2007).
- Executive member of 4th Conference on Water Resources of Iran, Amirkabir University of technology (2011).
- Head of water engineering and hydraulic structures groups for 3years in Semnan University.

Job Experience

- Working as hydraulic expert in Mosharab consulting company.
- Working as consultant of Karaj City municipality in collection and direction of surface waters project (Since 2003 until now).
- Working as Scientific Supervision of landscape water supply project in Roodehen, Pakdasht, Sharif Abad, Vahidiyeh, Robat Karim, Andisheh, Pardis Cities.
- Investigation of environmental impact assessment in Karaj city metro project.

- Hydraulic modeling and simulation of flow dynamics in the Jamshidiyeh basin floodways project Using SWMM software.
- Design and Hydraulic calculation of conductive channel of surface water in Pardisan city.
- Scientific Supervisor in landscape water supply project, Karaj, Saveh, Varamin, Shahre ghodss and Qarchak Cities.
- Site selection for Burial Wastes in Mazandaran province project, Environmental Protection Organization, Iran.
- Working as expert of Site selection for Burial Wastes in Qazvin province project, Environmental Protection Organization, Iran.
- Working as expert and designer in Karaj city surface water collected and conductance project, Karaj City municipality, Iran.
- Preparing hydrologic reports project of Golestan town, Iran (Industrial Relations office at Amirkabir University of technology).
- Preparing hydrologic reports project in Mehrabad region, Tehran, Iran (Industrial Relations office at Amirkabir University of technology)
- Preparing hydrologic reports project in Ardabil City, Iran (Industrial Relations office at Amirkabir University of technology)
- Optimization of spur dikes length and distance project, Soil Conservation and Watershed Management Research Center, Ministry of Agriculture, Iran.
- Study of surface water collecting in Karaj regions.
- Surface water collecting and conductance project, Golestan province, Iran.
- Design of Sub-surface channels to collect and direct surface water project, Region 8, Tehran Municipality, Iran.

Publication

Journals:

- Karami, H., Farzin, S., Badeli, M., Mousavi, S.F. “Analysis of Flow Pattern with Low Reynolds Number around Different Shapes of Bridge Piers, and Determination of Hydrodynamic Forces, using Open Foam Software”, *Journal of Rehabilitation in Civil Engineering*, (2018).
- Karami, H., Farzin, S., Tavakol Sadrabadi, M., Moazeni, H. “Simulation of flow pattern at rectangular lateral intake with different dike and submerged vane scenarios”, *Water Science and Engineering*, (2017).
- Karami, H., Hosseinzadeh, H., Hosseini, Kh., Ardeshir., A. “Scour and Three-dimensional Flow Field Measurement Around Short Vertical-wall Abutment Protected by Collar”, *KSCE Journal of Civil Engineering*, (2017).
- Vaziri, H., Karami, H., Mousavi, S.F., Hadiani, M.O. “Analysis of hydrological drought characteristics using copula function approach”, *Paddy and Water Environment*, (2017).
- Noori, H., Karami, H., Farzin, S., Siadatmousavi, S.M., Mojaradi, B., Kisi, O. “Investigation of RS and GIS techniques on MPSIAC model to estimate soil erosion”, *Natural Hazards*, (2017).
- Azad, A., Karami, H., Farzin, S., Saeedian, A., Kashi, H., Sayyahi, F. “Prediction of water quality parameters using ANFIS optimized by intelligence algorithms (Case study: Gorganrood River)”, *KSCE Journal of Civil Engineering*, (2017).
- Ehteram, M., Karami, H., Mousavi, S.F., Farzin, S., Kisi, O. “Optimization of energy management and conversion in the multi-reservoir systems based on evolutionary algorithms”, *Journal of Cleaner Production*, (2017).
- Hosseini, Kh., Fazlollahnejad, M., Karami, H., Farzin, S. “Analysis of Flow in Spillway and Energy Dissipator of Glevard Dam Using Numerical Methods”, *Journal of Dam and Hydroelectric Power Plant*, (2017).

- Farzin, S., Karami, H., Zamiri., E. “Study of the flow over rubber dam using computational hydrodynamics”, Journal of Dam and Hydroelectric Power Plant, (2017).
- Ehteram, M., Mousavi, S.F., Karami, H., Farzin, S., Kisi, O. “Fast convergence optimization model for single and multi-purposes reservoirs using hybrid algorithm”, Advanced Engineering Informatics, (2017).
- Ehteram, M., Karami, H., Mousavi, S.F., EL-shafie, A., Amini, Z. “Optimizing dam and reservoirs operation based model utilizing shark algorithm approach”, Knowledge-Based Systems, (2017).
- Ehteram, M., Falah Allawi, M., Karami, H., Mousavi, S.F., EL-shafie, A., Farzin, S. “Optimization of Chain-Reservoirs’ Operation with a New Approach in Artificial Intelligence”, Water Resources Management, (2017).
- Karami, H., Karimi, S., Bonakdari, H., Shamsirband, S. “Predicting discharge coefficient of triangular labyrinth weir using extreme learning machine, artificial neural network and genetic programming”, Neural Computing and Applications, (2016).
- Karami, H., Karimi, S., Rahmamanesh, M., Farzin., S. “Predicting Discharge Coefficient of Triangular Labyrinth Weir Using Support Vector Regression, Support Vector Regression-firefly, Response Surface Methodology and Principal Component Analysis”, Flow Measurement and Instrumentation, (2016).
- Karimi, S., Bonakdari, H., Karami, H., Gholami, A., Zaji., A.H. “Effects of Width Ratios and Deviation Angles on the Mean Velocity in Inlet Channels Using Numerical Modeling and Artificial Neural Network Modeling”, International journal of civil engineering, (2016).
- Hosseini, Kh., Karami, H., Hosseinjanzadeh, H., Ardeshir., A. “Prediction of time-varying maximum scour depth around short abutments using soft computing methodologies - A comparative study”, KSCE Journal of Civil Engineering, (2015).

- Bassar, H., Cheraghi., R., Karami, H., Shamshirband, S. “Modeling Sediment transport around a rectangular bridge abutment”, *Environmental Fluid Mechanics*, (2015).
- Bassar, H., Karami, H., Shamshirband, S., Javidnia, H. “Hybrid ANFIS-PSO approach for predicting optimum parameters of a protective spur dike”, *Applied Soft Computing*, (2015).
- Jahangirzadeh, A., Bassar, H., Akib, S., Karami, H. “Experimental and Numerical Investigation of the Effect of Different Shapes of Collars on the Reduction of Scour around a Single Bridge Pier”, *PLoS ONE*, (2014).
- Bassar, H., Karami, H., Shamshirband, S., Saboohi, H. “Predicting optimum parameters of a protective spur dike using soft computing methodologies - A comparative study”, *Computers & Fluids*, (2014).
- Karami, H., Bassar, H., Ardeshir, A., Hosseini, S.H. “Verification of Numerical Study of Scour Around Spur Dikes Using Experimental Data”, *Water and Environment Journal*, (2014).
- Bassar, H., Shamshirband, S., Petković, D., Jahangirzadeh, A., Karami, H., Javidnia, H. “ANFIS selection strategy for optimum parameters of protective spur dike”, *Natural Hazards*, (2014).
- Hosseini, Kh., Karami, H., Bina, K., Rikhtegar, Sh. “Application of Numerical Modeling to Assess Geometry Effect of Racks on Performance of Bottom Intakes”, *Arabian journal for science and engineering*, (2014).
- Jahangirzadeh, A., Shamshirband, S., Petković, D., Karami, H. “Adaptive Neuro-Fuzzy Estimation of the Influence of Slot on Local Scour at Bridge Pier Groups”, *Journal of Coastal Conservation*, (2014).
- Karami, H., Ardeshir, A., Saneie, M., Salamatian, S.A. “Prediction of time variation of scour depth around spur dikes using neural networks”, *Journal of Hydroinformatics* (2012).

- Karami, H., Ardeshir, A., Behzadian, K., Ghodsian M. “Protective Spur Dike for scour mitigation of existing spur dikes”, Journal of Hydraulic Research (2011).
- Ardeshir, A., Cheraghi, R., Karami, H. “Analysis of Experimental Effects of Collars on the Reduction of Local Scour around Vertical wall and 45° Wing wall Abutment”, Journal of Civil Engineering Ferdowsi Mashhad University, (2011).
- Karami, H., Ardeshir, A., Behzadian, K., “Optimal dimensions of protective spur dike for mitigation of scour depth around main spur dikes within a straight reach for inception motion for bed sediment motion ”, Iranian Journal of Hydraulic (2010).
- Karami, H., Ardeshir, A., Saneie, M., Salamatian, S.A. “Investigation of Time Variation of Scour around Impermeable Spur dikes in the Straight Channel and its Prediction using Artificial Neural Networks”, Iran-Watershed Management Science & Engineering journal, (2010).

- **And more than 20 journal papers in Persian journals.**

Conferences:

- Karami, H., Ardeshir, A., Saneie M., Behzadian, K., Jalilsani F., “Reduction of local scouring with protective spur dike”, Proceedings of the World Environmental and Water Resources congress ASCE, Hawaii USA, May 2008.
- Behzadian, K., Ardeshir, A., Sabour F., Karami H., Jalilsani F., “A Comparative Study of Stochastic and Deterministic Sampling Design for Model Calibration”, Proceedings of the World Environmental and Water Resources congress ASCE, Hawaii USA, May 2008.
- Bassar, H., Ardeshir, A., Karami, H. “Numerical simulation of flow pattern around spur dike series in rigid bed”, 9th International congress on civil engineering, Isfahan university of technology, May 2012.
- Bassar, H, Karami, H. “Underground dams”, The First International and Third National Conference on Dams and Hydropower in Iran, Tehran, Feb 2012.
- Cheraghi, R., Ardeshir, A., Karami, H. “Experimental study on reduction of scour depth around rectangular bridge abutments using collar”, 6th National Congress of Civil Engineering University, Semnan, May 2011.
- Geranmehr, M., Karami, H., Ardeshir, A., “Modeling of heat transfer due to building heating system placement”, 6th National Congress of Civil Engineering University, Shiraz, May 2011.
- Shirkhani, R., Karami, H., Ardeshir, A., “Prediction of the width and depth at sand-bed Rivers using neural networks”, 2nd Integrated Water Resources Management Conference, Kerman, February 2010.
- Karami, H., Ardeshir, A., Hosseini, H, Seyedhashemi, M., “flood risk management using Hydraulic modeling and GIS”, 3rd international conference on Water Resources Management, University of Tabriz, September 2009.

- Hosseini, H, Ardeshir, A., Sabour, F., Karami, H., “Floodplain Management using GIS and Hydraulic model”, 3rd international conference on Water Resources Management, university of Tabriz, September 2009.
- Karami, H., Hosseini, H, Ardeshir, A., Sabour, F., “Watershed Management Using ArcHydro model”, 14th International Conference on Civil Engineering, Semnan University, September 2008.
- Karami, H., Hosseini, H, Ardeshir, A., Mikaeili, M., “Flood plain zoning with integrated hydraulic model and GIS”, International Conference on Civil Engineering, Semnan University, September 2008.
- Karami, H., Ardeshir, A., Behzadian, K., Jalali A. “Water Loss management considering to Unaccounted waters”, The First Conference on Coping with Water Scarcity, Tehran, January 2008.
- Karami, H., Ardeshir, A., “The effect of sediment bed diameter and constriction ratio on scour pattern around the spur dikes”, 6th Iranian Hydraulic Conference, shahrekord university, September 2007.
- Ardeshir, A., Karami, H., Saneie, M. “Experimental Study about the effect of vertical protective spur dike on scouring around the main spur dike”, 7th International Conference on civil engineering, Tarbiyat modaress university, may 2006.
- Karami, H., Saneie, M., Ardeshir, A., “Experimental Investigation of the scour duration effect on local scouring around spur dike”, 7th International Conference on river engineering, shahid chamran university, February 2007.
- Ardeshir, A., Saneie, M., Mahmoudi Zangane, A., Karami, H., “Depth variation of scour under different parameter of $\frac{u_*}{u_{*cr}}$ ”, 7th International Conference on river engineering, shahid chamran university, February 2007.
- Karami, H., Ardeshir, A., Saneie, M., “Scour pattern around the spur dikes”, 13th International Conference on civil engineering, shahid bahonar university, February 2007.

- Saneie, M., Karami, H., “Experimental study on maximum scour depth at the first spur dike”, 3rd international conference on erosion and sedimentation, Tehran, September 2005.
- Baser, H., Ardeshir, A., Karami, H., “Numerical modeling of flow characteristics around spur dikes”, 6th International Conference on civil engineering, semnan university, September 2011.
- Baser, H., Ardeshir, A., Karami, H., “Numerical modeling of flow pattern around the spur dike on rigid bed”, 6th International Congress on civil engineering, Amir kabir university, may 2011.
- Baser, H., Ardeshir, A., Karami, H., “Numerical study of flow patterns around various bridge abutments”, 6th International Congress on civil engineering, Amir kabir university, may 2011.
- Baser, H., Ardeshir, A., Karami, H., “Numerical simulation of scour around the spur dikes”, 10th Iranian Hydraulic Conference, Guilan university, November 2011.
- Baser, H., Ardeshir, A., Karami, H., “Evaluation of Different sediment transport equations in the scour phenomenon using SSIIM 2.0”, 10th Iranian Hydraulic Conference, Guilan university, November 2011.
- Baser, H., Karami, H., “Investigation of protection methods for Hydraulic Structures against local scour”, 10th International Conference on Watershed and soil and water resources management, Kerman university, march 2012.
- Karami, H., Zamiri., E., Farzin., S. “Three-dimensional modelling of flow, over the cylindrical weir using Flow-3D software”, International River Engineering Conference, Shahid Chamran university, Jan 2016.
- Jaafari., Y., Ardeshir., A., Karami, H. “Experimental research on sacrificial spur dikes to reduce scouring”, *36th IAHR World Congress, Netherlands, 2015.*
- **And more than 60 papers in international Persian conferences.**

Supervisor:

- Supervisor of More than 40 MSc Thesis in water engineering and hydraulic structures.
- Supervisor of More than 7 PhD Thesis in water engineering and hydraulic structures.