Curriculum Vitae

Kiyoumars Roushangar, PhD

Nationality: Iranian
Date of Birth:1976
Gender: Male
University of Tabriz
Tabriz, 51664 Iran
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ACADEMIC EXPERIENCE

Since 2019	**Professor,** Faculty of Civil Engineering, Water Department, University of Tabriz, Iran.
2015-2019	**Associate professor,** Faculty of Civil Engineering, Water Department, University of Tabriz, Iran.
2010-2015	**Assistant professor,** Faculty of Civil Engineering, Water Department, University of Tabriz, Iran.
2002-2010	**Lecturer,** Azad University of Shabestar, Shabestar, Iran.

EDUCATION

2005-2011	**PhD., Hydraulic structures**, Faculty of Civil Engineering, Water Department, University of Tabriz, Iran,
2000-2002	**MSc., Hydraulic structures** Faculty of Civil Engineering, Water Department, University of Tabriz, Iran
1996-2000	**B.S., Civil Engineering**, University of Tabriz, Iran.

PUBLICATIONS

2011-2023	Acceptance and publication of **more than 100** ISI articles in **prestigious international journals** with an impact factor ranging from Q1 to Q4.
2002-2023	Acceptance and publication of **more than 70 articles** a in Persian-language scientific research journals of Iran, as well as in journals indexed in the **ISC database**.

CHAPTERS IN BOOKS

2024	**Roushangar. K**., Ghasempour. R, Kirca. O, Demirel, M. **2024**. Hybrid point and interval prediction approaches for drought modeling using ground-based and remote sensing data. 10.2166/9781789064865_ch7.
2023	**Roushangar, K**., Shahnazi, S., Azamathulla, H.M. **2023**. Sediment Transport Modeling through Machine Learning Methods: Review of Current Challenges and Strategies. In: Pandey, M., Azamathulla, H., Pu, J.H. (eds**) River Dynamics and Flood Hazards**. Disaster Resilience and Green Growth. **Springer**, Singapore.
2023	**Roushangar, K**., Ghasempour, R., Shahnazi, S. **2023**. Chapter 16 - Kernel-based modeling, Editor(s): Saeid Eslamian, Faezeh Eslamian, **Handbook of Hydroinformatics**, **Elsevier**, Pages 267 281.
2023	**Roushangar, K**, Ghasempour, R. **2023**. Chapter 24 - Supporting vector machines, Editor(s): Saeid Eslamian, Faezeh Eslamian**, Handbook of Hydroinformatics**, **Elsevier**, Pages 411-422.

ACADEMIC HONORS AND AWARDS

2023	Distinguished Researcher in University of Tabriz, Iran.
2019	Distinguished Researcher in University of Tabriz, Iran
2017-2018	Research visiting from University of Caen, Caen, France.
2009-2010	Scholarship from Ministry of Science, Research and Technology of Iran to be visiting scholar Université de Caen Normandie Laboratoire CNRS M2C 6143.-France
2009	Distinguished PhD student in University of Tabriz, Iran.
2005-2009	Scholarship from Ministry of Science, Research and Technology of Iran to study PhD in University of Tabriz, Iran.
2002	Distinguished Master student in University of Tabriz, Iran.

COURSES TAUGHT

Under graduate	Fluid Mechanics Open channels hydraulics Hydraulic and fluid mechanics lab And water engineering
graduate	Hydrologic modeling and hydroinformatics data driven methods in environmental engineering Sedimentation and Erosion River and flood engineering

NUMBER OF MASTER AND PHD GRADUATED STUDENTs

Master of hydraulic structures and water engineering	**40students**
Master of water resource and environmental engineering:	**18 students**
PhD of hydraulic structures and and water engineering:	**12 students**
PhD of water resources engineering:	**2 students**

EDITORIAL BOARD

EDITOR OF JOURNAL OF CIVIL AND ENVIRMENTAL ENGINEERING

https://ceej.tabrizu.ac.ir/journal/editorial.board?lang=en

RESEARCH PROJECTS

2021-2022	Analysis of Land use in Urmia Lake watershed and the study of the resulting effects on Urmia Lake by using classification of satellite images and the Ca Markov algorithm.
2020-2021	Investigating the effects of global climate change and its role on the country's rainfall pattern.
2019-2020	Modeling the bed load materials with different gradations in coarse-grained rivers using kernel-based methods.
2018-2019	Evaluation of bed load and total sediment load of a sandy river using meta-model methods.
2016-2018	Modeling and Estimation of hydraulic jump in Sloping and expanding Channels Using Meta model Methods.

LANGUAGES

Turkish (mother tongue) – Persian – English (Advanced Proficiency) – Arabic(Basic)-French

§ Papers in peer-reviewed journals

Until Sepetember 2025

1.JCR Journals

Shahnazi, S., **Roushangar, K**., Nadiri, A. A., & Hashemi, H. (2025). Comprehensive multifaceted analysis for unveiling the driving factors of groundwater decline**. Groundwater for Sustainable Development**, 30, 101482. https://doi.org/10.1016/j.gsd.2025.101482

Roushangar, K., Alirezazadeh Sadaghiani, A. (2025) Innovative deep learning and signal decomposition approaches for enhanced spatial and temporal suspended sediment

concentration prediction. **Environ Sci Pollut Res** 32, 15851–15876 . https://doi.org/10.1007/s11356-025-36581-3.

Roushangar, K., Alirezazadeh Sadaghiani, A. & Nourani, V. (2025). Comparative Trend Analysis of Suspended Sediment Concentration and Streamflow: A Multi-method Framework. **Water Resour Manage** . https://doi.org/10.1007/s11269-025-04237-z.

Shahnazi, S., **Roushangar, K**., & Hashemi, H. (2025). A novel implementation of pre-processing approaches and hybrid kernel-based model for short- and long-term groundwater drought forecasting. **Journal of Hydrology**, 652, 132667. https://doi.org/10.1016/j.jhydrol.2025.132667

Davoudi, S., **Roushangar, K**. Innovative approaches to surface water quality management: advancing nitrate (NO3) forecasting with hybrid CNN-LSTM and CNN-GRU techniques. Model. **Earth Syst. Environ**. 11, 80 (2025). https://doi.org/10.1007/s40808-025-02291-5.

Shahnazi, S., **Roushangar, K**., Khodaei, B., & Hashemi, H. (2025). Insights into the Interconnected Dynamics of Groundwater Drought and InSAR-Derived Subsidence in the Marand Plain, Northwestern Iran. **Remote Sensing**, 17(7), 1173. https://doi.org/10.3390/rs17071173.

Roushangar, K., Amanzadeh, F., Abbaszadeh, H. et al. Investigating seepage flow characteristics with different sealing elements (case study: Lafour dam). **Arab J Geosci** 18, 74 (2025). https://doi.org/10.1007/s12517-025-12219-z.

2024-2025

1.JCR Journals

Roushangar.K., Mehrizad, A. 2024. Kernel-based framework for improved prediction of discharge coefficient in vertically supported cylindrical weirs. **Journal of Hydroinformatics**. 26. 10.2166/hydro.2024.039.

Roushangar.K., Shahnazi,S., Mehrizad, A. 2024. Data-intelligence approaches for comprehensive assessment of discharge coefficient prediction in cylindrical weirs: Insights from extensive experimental data sets, **Measurement**, 114673, ISSN 0263-2241, https://doi.org/10.1016/j.measurement.2024.114673.

Roushangar, K., Davoudi, S. & Shahnazi, S. 2024. Temporal prediction of dissolved oxygen based on CEEMDAN and multi-strategy LSTM hybrid model. **Environ Earth Sci** 83, 158. https://doi.org/10.1007/s12665-024-11453-0

Alizadeh,F., **Roushangar.,K**. 2024. Daily lake level time series spectral analysis using EMD, VMD, EWT, and EFD. **Journal of Water and Climate Change**; jwc2024637. doi: https://doi.org/10.2166/wcc.2024.637

Roushangar, K., Abdelzad, S. & Shahnazi, S. 2024. Simulation of the projected river flow changes using integrated downscaling and Bayesian optimization-tuned kernel-based

models. **Int. J. Environ. Sci. Technol**. 21, 1321–1344 . https://doi.org/10.1007/s13762-023-05322-9.

2.ISC Journals

Roushangar, K., Goodarzi, S., Abbaszadeh, H. 2024. Numerical Investigation of the Performance of Blade Groynes on Scouring and its Effect on Hydraulic Parameters of Sediment and Flow. **Environment and Water Engineering**; 10(1): 121-136. doi: 10.22034/ewe.2023.388931.1851

Roushangar, K., Saadatjoo, R., Abbaszadeh, H., Panahi, A. 2024. Prediction of Air Concentration in Stepped Spillways Using Data-Oriented Methods. **Environment and Water Engineering**; (3): -. doi: 10.22034/ewe.2024.433409.1905

Roushangar, K., Saadatjoo, R., Abbaszadeh, H., Panahi, A. 2024. 'Estimation of air concentration in chute spillway using metamodel methods', **Iranian Journal of Soil and Water Research**, doi: 10.22059/ijswr.2024.370643.669640.

2023-2024

1.JCR Journals

Ghasempour, R., Aalami, M.T., Kirca, V.S.O. **Roushangar, K**. 2023. Assessing the soil salinity vulnerability and groundwater quality variations due to drying up of the lake. **Environ Sci Pollut Res** 30, 115611–115627 (2023). https://doi.org/10.1007/s11356-023-30394-y

Ghasempour, R., Aalami, M.T., Kirca, V.S.O., **Roushangar, K**. 2023. Remote sensing-based drought severity modeling and mapping using multiscale intelligence methods. **Stoch Environ Res Risk Assess 37**, 889–902.

Roushangar, K., Davoudi, S. and Shahnazi, S. 2023. The potential of novel hybrid SBO-based long short-term memory network for prediction of dissolved oxygen concentration in successive points of the Savannah River, USA**. Environ Sci Pollut Res**, 30, 46960–46978.

Roushangar, K., Abdelzad, S. 2023. River Flow Modeling in Semi-Arid and Humid Regions Using an Integrated Method Based on LARS-WG and LSTM Models. **Water Resource Management** (Publish Online).

Roushangar, K., Shahnazi, S. and Alirezazadeh Sadaghiani, A. 2023. An efficient hybrid grey wolf optimization-based KELM approach for prediction of the discharge coefficient of submerged radial gates. **Soft Comput,** 27, 3623–3640.

Roushangar, K., Alami, M.T., Golmohammadi, H., Shahnazi, S. 2023.; Monitoring and prediction of land use/land cover changes and water requirements in the basin of the Urmia Lake, Iran. **Water Supply**; 23 (6): 2299–2312.

Ghasempour, R., **Roushangar, K**. & Alizadeh, F. 2023. Hybrid models for drought forecasting: Integration of multi pre-processing-data driven approaches and non-linear GARCH time series model. **Arab J Geosci** 16, 361.

Roushangar, K., Alirezazadeh Sadaghiani, A. and Shahnazi, S. 2023. Novel application of robust GWO-KELM model in predicting discharge coefficient of radial gates: a field data-based analysis. **Journal of Hydroinformatics**; 25 (2): 275–299.

Roushangar, K., Ghasempour, R., and Mohammad Azamathulla, H. 2023. An inverse problem for modeling open channel flow with movable bed. ***Water Supply***; 23 (1): 222–236

Roushangar, K., Dolatshahi, M. & Alizadeh, F. 2023. MODWT and wavelet coherence-based analysis of groundwater levels changes detection. **Paddy Water Environ**,**21**, 59–83.

2.ISC Journals

Roushangar, K., Amanzadeh Aboueshagh, F., Abbaszadeh, H. 2023. Numerical investigation of the influence of the combined seepage reduction scenarios on the hydraulic performance of the Alborz dam body**. Iranian Journal of Soil and Water Research**; 54(10): 1467-1483. doi: 10.22059/ijswr.2023.365336.669573

Aminvash, E**., Roushangar, K**., 2023, Numerical Investigation of the Effect of the Frontal Slope of Simple and Blocky Stepped Spillway with Semi-Circular Crest on Its Hydraulic Parameters. **Iranian Journal of Irrigation & Drainage**, 17(1): 102-116.

Roushangar, K., Davoudi, S., 2023, Dissolved Oxygen Modeling Using Deep Learning and PreProcessor Methods. ***Water and Irrigation Management***, 12(4): 983-890.

Abbaszadeh, H., **Roushangar, K**., Salahpour, Z. 2023. 'Theoretical and Numerical Investigation of the Sluice and Radial Gates Discharge Coefficient in the Conditions of Sill Application', **Iranian Journal of Irrigation & Drainage**, 17(4), pp. 625-641.

Roushangar, K., Abdelzad, S. 2023. 'Temperature modeling in semi-arid and humid climates using long-short-term memory and CEEMD and DWT preprocessor methods', **Watershed Engineering and Management**, 15(4), pp. 603-621. doi: 10.22092/ijwmse.2023.360150.1992.

Roushangar, K., Abdelzad, S. 2023. 'Prediction River Discharge Using the Combined Method of Long Short-Term Memory, Wavelet Transform and Empirical Mode Decomposition in Semi-Arid and Humid Climate', **Iranian Journal of Irrigation & Drainage**, 17(4), pp. 703-717.

Golmohammadi, H., **Roshangar, K**., Aalami, M. T. 2023. 'Assessment of the effects of land-use changes and cultivation type on changes in the volume of water entering Lake of Urmia', **Water Management in Agriculture**, 10(1), pp. 49-64.

Roushangar.K, Aalami,M.T., Golmohammadi,H. 2023. 'Effect of Land Use Trends on the Amount of Agricultural Water Consumption in Urmia Lake Watershed in the Next 20 Years Using Markov Chain', **Journal of Water and Soil Resources Conservation**, 12(2), pp.115-131.

Roushangar, K., Shafie Naeibi, S., Lotfollahi Yaghin, M.A. and Ramazanilar, M., 2023. Modeling and Predicting the Rate of Scour Depth below Pipelines in Waves Using Gaussian Process Regression (GPR) and Support Vector Machine (SVM) Methods. **Journal of Civil and Environmental Engineering**, *53*(112), pp.1-9.

2022-2023

1.JCR Journals

Roushangar, K., Alami, M.T. and Golmohammadi, H. 2022. Modeling the effects of land use/land cover changes on water requirements of Urmia Lake basin using CA-Markov and NETWAT models. **Model. Earth Syst. Environ**.

Ghasempour, R., Aalami, M.T. and **Roushangar, K**. 2022. Drought Vulnerability Assessment Based on a Multi-criteria Integrated Approach and Application of Satellite-based Datasets. **Water Resour Manage,** 36, 3839–3858.

Foroudi, A., **Roushangar, K**., Saneie, M. *et al.* 2022. Evaluating the Effect of Downstream Channel Width Variation on Hydraulic Performance of Arched Plan Stepped Spillways. **Water Resour Manage,** 36, 4237–4253.

Ghasempour, R**., Roushangar, K**. 2022. The potential of integrated hybrid data processing techniques for successive-station streamflow prediction. **Soft Comput,** 26, 5563–5576.

Roushangar, K., Akhgar, S. and Shahnazi, S. 2022. The effect of triangular prismatic elements on the hydraulic performance of stepped spillways in the skimming flow regime: an experimental study and numerical modeling. ***Journal of Hydroinformatics***, 24 (2).

Roushangar, K., Shahnazi, S. and Azamathulla, HZ. 2022. Partitioning strategy for investigating the prediction capability of bed load transport under varied hydraulic conditions: Application of robust GWO-kernel-based ELM approach, **Flow Measurement and Instrumentation,** Volume 84.

Roushangar, K., Ghasempour, R. and Nourani, V. 2022. Correction to: Spatiotemporal Analysis of Droughts Over Different Climate Regions Using Hybrid Clustering Method. **Water Resour Manage,** 36, 489.

Ghasempour, **R., Roushangar**, k., Ozgur Kirca, V. S. and Demirel, Mehmet Cüneyd; 2022. Analysis of spatiotemporal variations of drought and its correlations with remote sensing-based indices via wavelet analysis and clustering methods**.** ***Hydrology Research***; 53 (1): 175–192.

Roushangar, K., Ghasempour, R. and Alizadeh, F. 2022. Uncertainty Assessment of the Integrated Hybrid Data Processing Techniques for Short to Long Term Drought Forecasting in Different Climate Regions. **Water Resour Manage,** 36, 273–296.

Roushangar, K., Ghasempour, R. and Nourani, V. 2022. Spatiotemporal Analysis of Droughts Over Different Climate Regions Using Hybrid Clustering Method. **Water Resour Manage,** 36, 473– 488.

Hessam Najafi, Vahid Nourani, Elnaz Sharghi, **Kiyoumars Roushangar**, Dominika Dąbrowska; 2022. Application of Z-numbers to teleconnection modeling between monthly precipitation and largescale sea surface temperature. ***Hydrology Research***; 53 (1): 1–13.

Roushangar, K., Majedi Asl, M. and Shahnazi, S. Hydraulic Performance of PK Weirs Based on Experimental Study and Kernel-based Modeling. **Water Resour Manage, 35**, 3571–3592 (2021).

Roushangar, K., Homayounfar, F., and Ghasempour, R, 2022, Uncertainty analysis regarding evaluating effective parameters on the hydraulic jump characteristics of different shape channels. ***Water Supply***, 22 (1): 44–59.

Roushangar, K., Shahnazi, S., 2022, Insights into the prediction capability of roughness coefficient in current ripple bedforms under varied hydraulic conditions. ***Journal of Hydroinformatics***, 23 (6): 1182–1196.

2.ISC Journals

Roushangar K, Davoudi S., 2022, Comparison the Performance of Deep Learning and Machine Learning Methods in Predicting Dissolved Oxygen Content. **Iranian Journal of Soil and Water Research**.

Roushangar, K., Joulazadeh, S. 2022. Investigation of the Effects of Hydraulic and Sedimentary Parameters on the Rate of Bed Load Transfport Using Statistical Correlations and Machine Learning Methods. ***Iranian Journal of Soil and Water Research***, 53(1): 99-112. doi: 10.22059/ijswr.2022.333131.66912.

Roshangar, K., Nouri, 2022, A. Investigation of the Effect of Hydraulic Conditions on Optimization of Water Conveyance Channels with Different Sections. ***Water and Soil Science***, 32(1): 129142. doi: 10.22034/ws.2021.26960.2135 .

2021-2022

1.JCR Journals

Roushangar, K., Nouri, A., Shahnazi, S., and Azamathulla, H., 2021, Towards design of compound channels with minimum overall cost through grey wolf optimization algorithm. ***Journal of Hydroinformatics***, 23 (5): 985–999.

Roushangar, K Ghasempour, R Kirca, V.S.O., and Demirel, MD., 2021, Hybrid point and interval prediction approaches for drought modeling using ground-based and remote sensing data. ***Hydrology Research***, 52 (6): 1469–1489.

Roushangar, K., Ghasempour, R., 2021, Multi-temporal analysis for drought classifying based on SPEI gridded data and hybrid maximal overlap discrete wavelet transform. **Int. J. Environ. Sci. Technol**. 19, 3219–3232.

Roghayeh Ghasempour, Hazi Mohammad Azamathulla, **Kiyoumars Roushangar**, 2021, EEMD- and VMD-based hybrid GPR models for river streamflow point and interval predictions. ***Water Supply***, 3960–3975.

Roghayeh Ghasempour, **Kiyoumars Roushangar**, Parveen Sihag, 2021, Suspended sediment load prediction in consecutive stations of river based on ensemble pre-post-processing kernel based approaches. ***Water Supply***, 21 (7): 3370–3386.

Kiyoumars Roushangar, Mohsen Moghaddas, Roghayeh Ghasempour, Farhad Alizadeh; Evaluation of spatial–temporal characteristics of precipitation using discrete maximal overlap wavelet transform and spatial clustering tools. *Hydrology Research* 1 April 2021; 52 (2): 414– 430.

Vahid Nourani, Hessam Najafi, Elnaz Sharghi**, Kiyoumars Roushangar**, 2021, Application of Znumbers to monitor drought using large-scale oceanic-atmospheric parameters, **Journal of Hydrology**, Volume 598.

Roushangar, K., Ghasempour, R. and Nourani, V., 2021. The potential of integrated hybrid prepost-processing techniques for short-to long-term drought forecasting. **Journal of Hydroinformatics**, 23(1), pp.117-135.

Roushangar, K., Aghajani, N., Ghasempour, R. and Alizadeh, F., 2021. The potential of ensemble WT-EEMD-kernel extreme learning machine techniques for prediction suspended sediment concentration in successive points of river. **Journal of Hydroinformatics**, https://doi.org/10.2166/hydro.2021.146

Roushangar, K., Moghaddas, M., Ghasempour, R. and Alizadeh, F., 2021. Evaluation of spatial– temporal characteristics of precipitation using discrete maximal overlap wavelet transform and spatial clustering tools. **Hydrology Research**, DOI: https://doi.org/10.2166/nh.2021.141.

2.ISC Journals

Mohammadi, F., Hassanzadeh, Y., **Roushangar, K**., 2021, Experimental and Numerical Investigation on Discharge Coefficient Relationships sharp-crested U Shape Plan Form Weirs. **Amirkabir Journal of Civil Engineering**, 53(10): 4231-4252. doi: 10.22060/ceej.2020.18289.6819

Roushangar, K., Houshyar, Y., Andalib, G. Evaluation of Influencing Factors in Outflow Control and Self-healing Property of Clay Core (case study: Vanyar dam- Iran). ***Advance Researches in Civil Engineering,*** 3(2): 55-71. doi: 10.30469/arce.2021.135128

Roushangar, K., Alirezazadeh Sadaghiani, A., Shahnazi, S., 2021, Modeling discharge coefficient of radial gates under submerged conditions using kernel-based approaches. **Iranian Journal of Irrigation & Drainage**, 15(1): 109-120

Foroudi, A., **Roushangar, K**., Aghaeie far, A. Experimental Study of Hydraulic Performance of Stepped Spillway with a Curve Axis Affected by Downstream Transition Channel slope Changes. ***Journal of Water and Soil Conservation***, 27(6): 47-66. doi: 10.22069/jwsc.2021.17114.3258

Ghasempour, R., **Roushangar, K**., 2021, Sediment transport modeling in circular smooth and rough rainwater transport pipes using factorial analysis, intelligence and empirical methods. **Amirkabir Journal of Civil Engineering**, 53(6): 2435-2450. doi: 10.22060/ceej.2020.17406.6553 .

Roushangar, K., Akhgar, S., 2021, Numerical and Experimental Study of Wedge Elements Influence on Hydraulic Parameters and Energy Dissipation over Stepped Spillway in Skimming Flow Regime. **Amirkabir Journal of Civil Engineering**, 53(1): 185-200.

Roushangar ,K., Ghasempour,R. 2021. Drought Simulation using Two CEEMD-GPR and GPR-GARCH Integrated Models (Case Study: Northwest of Iran), **Irrigation Sciences and Engineering,** 44(1), 77-92**.**

2020-2021

1.JCR Journals

Roushangar, K., Alami, M.T. and Houshyar, Y., 2020. Experimental investigation of bentonite impact on self-healing of clay soils. **Arabian Journal of Geosciences**, 13(21), pp.1-9.

Roushangar, K. and Shahnazi, S., 2020. Prediction of sediment transport rates in gravel-bed rivers using Gaussian process regression. **Journal of Hydroinformatics**, 22(2), pp.249-262.

Roushangar, K. and Shahnazi, S., 2020. Determination of influential parameters for prediction of total sediment loads in mountain rivers using kernel-based approaches. **Journal of Mountain Science**, 17(2), pp.480-491.

Roushangar, K., Ghasempour, R. and Biukaghazadeh, S., 2020. Evaluation of the parameters affecting the roughness coefficient of sewer pipes with rigid and loose boundary conditions via kernel based approaches. **International Journal of Sediment Research**, 35(2), pp.171-179.

Roushangar, K., Khowr, A.F. and Alizadeh, F., 2020. Investigating impact of converging training walls of the ogee spillways on hydraulic performance. **Paddy and Water Environment**, pp.112.

Saghebian, S.M., **Roushangar, K**., Ozgur Kirca, V.S. and Ghasempour, R., 2020. Modeling total resistance and form resistance of movable bed channels via experimental data and a kernelbased approach**. Journal of Hydroinformatics**, doi: 10.2166/hydro.2020.094.

2.ISC Journals

Mohammadi, F., Hassanzadeh, Y. and. **Roushangar, K**, 2020. Determining the Discharge Coefficient of One-Cycle Sharp-Crested U-Shape Weirs Using Kernel-Based SVM Approach. **Iranian Journal of Irrigation & Drainage**, 14(5), pp.1722-1736.

Roushangar, K., Ghasempour, R. and Saghebian, S., 2020. Comparative Study of Effective Parameters on Relative Energy Dissipation in Channels with Different Shapes based on Factorial Analysis and Intelligent GPR Method. **Iranian Journal of Irrigation & Drainage**, 14(1), pp.205-216.

Roushangar, K. and Shahnazi, S., 2020. Evaluation and prediction of bed to total sediment load in gravel-bed rivers using classic and intelligent methods. **Watershed Engineering and Management**, 12(1), pp.178-189.

Roushangar, K. and Chamani, M., 2020. Prediction of River Discharge and Assessment its Relationship at Consecutive Hydrometric Stations Using GPR-EEMD Combined Techniques (Case Study: Housatonic River). **Iranian Journal of Soil and Water Research**, 50(10), pp.2473-2485.

Chamani, M. and **Roushangar, K**., 2020. Evaluation of CEEMD-GPR hybrid Model in Temporaland Spatial Daily Stream Flow Forecasting. **Irrigation and Water Management**, 9(2), 277-289.

Roushangar, K. and Akhgar, S., 2020. Investigation of effective Hydraulic Parameters on Scouring at downstream of Control Structures Using Gaussian Process Regression Method. **Iranian Journal of Irrigation & Drainage**, 13(6), pp.1858-1868.

2019-2020

1.JCR Journals

Roushangar, K., Nourani, V., Alizadeh, F., 2019, Corrigendum to A multiscale time-space approach to analyze and categorize the precipitation fluctuation based on the wavelet transform and information theory concept, **Hydrology Research**, 49 (3), 724–743.

Roushangar, K. and Shahnazi, S., 2019. Bed load prediction in gravel-bed rivers using wavelet kernel extreme learning machine and meta-heuristic methods. **International Journal of Environmental Science and Technology**, pp.1-12.

Roushangar, K. and Alizadeh, F., 2019. Using multi-temporal analysis to classify monthly precipitation based on maximal overlap discrete wavelet transform. **Journal of Hydroinformatics**, 4, 102-113.

Roushangar, Kiyoumars, Ali Foroudi Khowr, and Mojtaba Saneie, 2019. Experimental study and artificial intelligence-based modeling of discharge coefficient of converging ogee spillways**. ISH Journal of Hydraulic Engineering**, (2019), 1-8.

Roushangar, K. and Homayounfar, F., 2019. Prediction Characteristics of Free and Submerged Hydraulic Jumps on Horizontal and Sloping Beds using SVM Method. **KSCE Journal of Civil Engineering**, pp.1-14.

Roushangar, K., Ghasempour, R. and Biukaghazadeh, S., 2019. Evaluation of the parameters affecting the roughness coefficient of sewer pipes with rigid and loose boundary conditions via kernel based approaches. **International Journal of Sediment Research** (Published online).

Alizadeh, F., **Roushangar, K**. and Adamowski, J., 2019. Investigating monthly precipitation variability using a multiscale approach based on ensemble empirical mode decomposition. **Paddy and Water Environmen**t, pp.1-19.

Roushangar, Kiyoumars, Farhad Alizadeh, Jan Adamowski, and Seyed Mehdi Saghebian. 2019. Exploring the multiscale changeability of precipitation using the entropy concept and selforganizing maps. **Journal of Water and Climate Change**, doi.org/10.2166/wcc.2019.097.

Roushangar, K., Foroudi, A. and Saneie, M., 2019. Influential parameters on submerged discharge capacity of converging ogee spillways based on experimental study and machine learning-based modeling. **Journal of Hydroinformatics**, 21(3), pp.474-492.

2.ISC Journals

Roushangar, **K**., Akhgar, S., 2019, Numerical and experimental Study of the influence of Wedge Elements on Roughness and Energy dissipation over stepped spillway, **Iranian Journal of Irrigation and Drainage**, 13(1), 78-87.

Saghebian, S.M., **Roushangar**, K., 2019, Prediction of Total and bedform Roughness Coefficient in Alluvial Channels Based on Experimental Data via Gaussian Process Regression Method**. Iranian Journal of Irrigation and Drainage**, 2(13), 437-449.

Kiyoumars Roushangar, Roghayeh Ghasempour, Seyed Mahdi Saghebian, 2019. Comparative Study of Effective Hydraulic Parameters on Bridge Piers Scouring in Cohesive and Grainy Soils Using Gaussian Process Regression Method**. Iranian Journal of Irrigation and Drainage**, 12(6), 1475-1485.

Kiyoumars Roushangar, M.T Alami, Y Houshyar, 2019. Experimental Investigation of Selfhealing Phenomenon of Clay in Earth Dams and its Influencing Factors, **Water and Soil Science**, 29(1), 15-25.

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