

C.V.AKRAM SEIFI

1-Personal Details

Name: Akram Seifi
Date of Birth: 21 September 1986
Place of Birth: Sharhe-babak, Iran
Marital Status: Married
Address: Department of Water engineering, Faculty of Agriculture, Vali-e-Asr
University of Rafsanjan, Iran
Tel: +98-9133908291
Fax: +98-34 - 31312042
E-mail: seifi.akram@gmail.com, a.seifi@vru.ac.ir,
<https://scholar.google.com/citations?user=SBRDuDEAAAJ&hl=en>
ORCID: <https://orcid.org/0000-0003-0887-1217>

2-Educational records

- B.Sc. Zabol University, Irrigation engineering, 2008

- M.Sc. Tarbiat Modares University, Irrigation and Drainage engineering, 2010
Thesis: Developing an Expert System for Predicting Daily Reference
Evapotranspiration Using Support Vector Machines (SVM) in Comparison with ANFIS, ANN
and Empirical Methods

- Ph.D. Tarbiat Modares University, Irrigation and Drainage engineering, 2015
Thesis: Salinity and Oxyfertilization Management of Pistachio Orchards under Subsurface Drip
Irrigation

3-Employment

Assistant Professor
University of Vali-e-Asr of Rafsanjan, from 2015

4-Courses title

- Principles and Methods of Irrigation
- Surface Water Hydrology
- Pipes and Closed Conduit Hydraulics
- Hydraulic Laboratory
- Pumps and Pumping Stations
- Design of Pressurized Irrigation Systems
- Design of Drainage Systems

5- Research Interests

- Design and management of pressurized irrigation systems
- One, two- and three-dimensional modeling of soil water content
- Climatology modeling
- Hydrologic analysis of water resources
- Performance evaluation of irrigation systems
- Irrigation Networks Rehabilitation, Modernization and Automation
- Experimental and field studies of water engineering
- Using intelligence tenets such as (GA, ANFIS, ANN, Data mining) in numerical modeling

6- Honors and Awards

- Vali-e-Asr University, 2017, Science association award for top advisor
- Vali-e-Asr University, 2018, Best teacher award of water science & engineering department
- Vali-e-Asr University, 2019, Top researcher of water science & engineering department

7- Published Papers

1. **Seifi, A.**, S.M.Mirlatifi. & Riahi, H. (2011). Assessment and Monitoring of Meteorological Stations Network Using Principal Component Analysis and Factor Analysis, A case study of the Kerman province. Iranian Journal of irrigation and drainage, 5(1): 30-42.
2. **Seifi, A.**, S.M.Mirlatifi. & Riahi, H. (2011). Developing a Combined Model of Multiple Linear Regression-Principal Component and Factor Analysis (MLR-PCA) for Estimation of Reference Evapotranspiration (Case Study: Kerman Station). Journal of Water and Soil, 24(6): 1186-1196.
3. Riahi-Madvar, H., Ayyoubzadeh, S.A., Samani, J.M.V. & **Seifi, A.** (2011). Uncertainty Analysis of Quasi-Two-Dimensional Flow Simulation in Compound Channels with Overbank Flows. Journal of Hydrology and Hydromechanics, 59(3): 171-183.
4. **Seifi, A.**, S.M.Mirlatifi. & Riahi, H. (2013). Introduction and application of Least Square Support Vector Machine (LSSVM) for simulation of reference evapotranspiration and uncertainty analysis of results, A case study of the Kerman city. Irrigation & Water Journal, 4(13): 67-79.
5. **Seifi, A.**, Mirlatifi. S.M., Dehghanisanij, H. & Torabi, M. (2014). Determination of Crop Water Stress Index for Pistachio Trees under Subsurface Drip Irrigation Using Canopy-Air Temperature Difference. Water & Irrigation Management, 4(1): 123-136.
6. **Seifi, A.**, Mirlatifi. S.M., Dehghanisanij, H. & Torabi, M. (2015). The Impact of Irrigation Frequency on Moisture and Salinity distributions under Subsurface Drip Irrigation (SDI) of Pistachio Orchards. Iranian Journal of irrigation and drainage, 8(4): 786-799.

7. **Seifi, A.** & Riahi, H. (2016). Abrupt Changes Analysis and Periodically Changes Pattern Inference of Reference Evapotranspiration of Iran with Wavelet Analysis and Moving t Test. *Iranian Journal of Water and Soil Science*, 26: 199-210.
8. **Seifi, A.**, Mirlatifi, S.M. & Dehghanisani, H. (2016). Field Evaluation of SALTMED Model for Simulating Distribution and Dynamics of Soil Water and Salt Content under Subsurface Drip Irrigation in Pistachio Orchards. *Iranian Journal of Irrigation and Drainage*, 10: 594-612.
9. Riahi, H. & **Seifi, A.** (2016). Performance Evaluation of Gene Expression Programming Approach in Layout Design of Drippers in Drip Irrigation systems comparing with empirical method. *Iranian Journal of Water and Soil Conservation*, 23(5): 25-45.
10. **Seifi, A.** & Riahi, H. (2017). Qualitative zoning of Shahr-e-Babak aquifer based on its corrosiveness, sedimentation, and applicability for agricultural, drinking, and pressure irrigation uses. *Iranian Journal of Water and Wastewater*, 28, 92-105.
11. Riahi, H., Khashei-Siuki, A. & **Seifi, A.** (2017). Accuracy and uncertainty analysis of artificial neural network in predicting saffron yield in the south Khorasan province based on meteorological data. *Iranian Journal of Saffron Agronomy and Technology*, 5(3): 255-271.
12. **Seifi, A.** & Riahi, H. (2017). Group Spatial Analysis and Fuzzy Analysis of Groundwater Quality in Shahr-e-Babak Plain for Drinking and Agricultural Purpose. *Iranian Water Resources Research Journal*, 12(2)
13. Riahi, H. & **Seifi, A.** (2018). Uncertainty analysis in bed load transport prediction of gravel bed rivers by ANN and ANFIS. *Arabian Journal of Geosciences*, 11(21): 688.
14. Riahi-Madvar, H., Dehghani, M., **Seifi, A.** & Singh, VP. (2019). Pareto Optimal Multigene Genetic Programming for Prediction of Longitudinal Dispersion Coefficient. *Water resources management*, 33(3): 905-921.
15. Dehghani, M., **Seifi, A.** & Riahi-Madvar, H. (2019). Novel forecasting models for immediate-short-term to long-term influent flow prediction by combining ANFIS and Grey Wolf optimization. *Journal of Hydrology*, 576: 698-725.
16. Riahi-Madvar, H., Dehghani, M., **Seifi, A.**, Salwana, E., Shamshirband, Sh., Mosavi, A. & Chau, K. (2019). Comparative analysis of soft computing techniques RBF, MLP, and ANFIS with MLR and MNL for predicting grade-control scour hole geometry. *Engineering Applications of Computational Fluid Mechanics*, 13(1): 529-550.
17. **Seifi, A.** & Riahi, H. (2019). Improving one-dimensional pollution dispersion modeling in rivers using ANFIS and ANN-based GA optimized models. *Environmental Science and Pollution Research*, 26(1): 867-885.
18. Soroush, F. & **Seifi, A.** (2019). Application of a Self-Organizing Map (SOM) for Clustering the Groundwater Quality in Kerman Province and Assessment its Suitability for Drinking and Irrigation Purposes. *JWSS-Isfahan University of Technology*, 23(2): 281-302.
19. **Seifi, A.** & Riahi, H. (2019). Evaluation of Heavy Metal Pollution Indices for Surface Water of the Sarcheshmeh Copper Mine using Multivariate Statistical Methods and GIS. *Iranian Journal of Soil and Water Research*, 50(1): 161-176.
20. Riahi, H. & **Seifi, A.** (2019). Inferring Damage Effects of Subsurface Water Level Local Uplifting on Water and Wastewater Systems Using Analytical Hierarchy Process (Case Study: Kerman City). *Iranian Journal of Irrigation Sciences and Engineering (JISE)*, 42(1): 31-45.
21. **Seifi, A.**, & Soroush, F. (2019). Hybridizing of TOPSIS multi criteria decision making technique with entropy for ranking of groundwater quality and groundwater pollution risk. *Iranian Journal of Irrigation and Drainage*, 13(75): 699-714.

22. **Seifi, A.** & Riahi, H. (2020). Estimating daily reference evapotranspiration using hybrid gamma test-least square support vector machine, gamma test-ANN, and gamma test-ANFIS models in an arid area of Iran. *Journal of Water and Climate Change*, 11 (1): 217–240.
23. **Seifi, A.**, Ehteram, M., Singh, V. P., & Mosavi, A. (2020). Modeling and Uncertainty Analysis of Groundwater Level Using Six Evolutionary Optimization Algorithms Hybridized with ANFIS, SVM, and ANN. *Sustainability*, 12(10), 4023.
24. Memarzadeh, R., Zadeh, H. G., Dehghani, M., Riahi-Madvar, H., **Seifi, A.**, & Mortazavi, S. M. (2020). A novel equation for longitudinal dispersion coefficient prediction based on the hybrid of SSMD and whale optimization algorithm. *Science of The Total Environment*, 716, 137007.
25. **Seifi, A.**, & Soroush, F. (2020). Pan evaporation estimation and derivation of explicit optimized equations by novel hybrid meta-heuristic ANN based methods in different climates of Iran. *Computers and Electronics in Agriculture*, 173, 105418.
26. **Seifi, A.**, Dehghani, M., & Singh, V. P. (2020). Uncertainty analysis of water quality index (WQI) for groundwater quality evaluation: Application of Monte-Carlo method for weight allocation. *Ecological Indicators*, 117, 106653.
27. **Seifi, A.**, Ehteram, M., & Soroush, F. (2020). Uncertainties of instantaneous influent flow predictions by intelligence models hybridized with multi-objective shark smell optimization algorithm. *Journal of Hydrology*, 124977.
28. **Seifi, A.**, & Mirlatifi, M. (2020). Irrigation Water Use Efficiency and Yield of Pistachio under Aerated Subsurface Drip Irrigation System. *Journal of Agricultural Science and Technology*, 22(6), 1655-1670.
29. **Seifi, A.** & Riahi, H. (2020). Zoning pollution risk of heavy metal and toxic elements in surface water resources of Sarcheshmeh copper mine by Bayesian analysis and uncertainty analysis by sequential Gaussian and geostatistical simulation. *Iranian Journal of Environmental Sciences*, 8(1): 165-186.
30. **Seifi, A.**, Ehteram, M., Nayebloei, F., Soroush, F., Gharabaghi, B., & Torabi Haghighi, A. (2021). GLUE uncertainty analysis of hybrid models for predicting hourly soil temperature and application wavelet coherence analysis for correlation with meteorological variables. *Soft Computing*, 25(16), 10723-10748.
31. **Seifi, A.**, Ehteram, M., & Dehghani, M. (2021). A robust integrated Bayesian multi-model uncertainty estimation framework (IBMUEF) for quantifying the uncertainty of hybrid meta-heuristic in global horizontal irradiation predictions. *Energy Conversion and Management*, 241, 114292.
32. **Seifi, A.**, & Dehghani, M. (2021). Influence of nano-titanium dioxide particles (TiO₂ NPs) on improving phytoremediation efficiency of As/Cu/Cd from copper mine wastewaters using Lemna minor. *Arabian Journal of Geosciences*, 14(6), 1-14.
33. Riahi, H., & **Seifi, A.** (2021). Potential assessment of water harvesting from local wastewater treatment plants (Case study: Rotating Biological Contactor, RBC). *Water Harvesting Research*, 4(2), 207-213.
34. **Seifi, A.**, & Sedaghati, N. (2021). Ranking Evaluation of Drip Irrigation and Perforated Low-Pressure PVC Pipes Systems in Pistachio Orchards of Kerman Province Based on the Non-Linear Optimization Decision Model. *Pistachio Science and Technology (In Persian)*, 5(10): 21-44.
35. **Seifi, A.** (2021). Ranking of Sprinkler Irrigation Systems Using Hybridizing of Multi-Attribute Decision-Making Approaches of Entropy, Grey Relational, and TOPSIS (EGC-TOPSIS): Dehghan Plain. *Iranian Journal of Irrigation and Drainage*, 14(83): 1583-1601.

36. **Seifi, A.**, Ehteram, M., Soroush, F., & Haghghi, A. T. (2022). Multi-model ensemble prediction of pan evaporation based on the Copula Bayesian Model Averaging approach. *Engineering Applications of Artificial Intelligence*, 114, 105124.

8- Books

- 1- **Seifi, A.** & Riahi, H. (2012). Input Variable Selection in expert systems based on hybrid Gamma Test-Least Square Support Vector Machine, ANFIS and ANN models. Published in: *Advances in Expert Systems by Intech- Olajnica 19/2*, 32000 Vukovar. <http://dx.doi.org/10.5772/51210>.
- 2- **Seifi, A.**, Najafi, S. & Riahi, H. (2013). Design and modeling of fluid dynamics and analysis of results in Flow-3D. Translation of “FLOW-3D Excellent in flow modeling software user manual”. 4th ed., Andisheh Sara publication, pp. 304.

9– Conference Papers

- 1- **Seifi, A.**, Riahi, H. & S.M.Mirlatifi. (2011). Development of gamma test approach for optimum selection of input parameters in nonlinear ANFIS model for daily evapotranspiration estimation. 1st Regional Water Resources Development Conference, Abarkouh.
- 2- **Seifi, A.** & Riahi, H. (2011). Comparative evaluation of time series models MA, AR, and ARMA for estimating reference evapotranspiration. 1st Regional Water Resources Development Conference, Abarkouh.
- 3- **Seifi, A.** & Riahi, H. (2011). Application GS⁺ software to evaluate of hydraulic conductivity using Kriging and Inverse Distance Weighting methods. 1st Regional Water Resources Development Conference, Abarkouh.
- 4- **Seifi, A.**, Riahi, H. & S.M.Mirlatifi. (2013). Daily reference evapotranspiration modeling by using genetic programming model in Kerman station. 2nd International Conference on Plant, Water, Soil and Weather Modeling. 8-9 May, Kerman.
- 5- **Seifi, A.**, Mirlatifi. S.M., Dehghanisani, H. & Torabi, M. (2014). Analysis of special leaf area and biomass of pistachio orchards under different irrigation frequencies of subsurface drip irrigation system. 2th national conference on farm water management, Karaj.
- 6- **Seifi, A.**, Mirlatifi. S.M., Dehghanisani, H. & Torabi, M. (2014). Effect of different irrigation frequencies on soil moisture distribution under subsurface drip irrigation (SDI) system, case study: pistachio orchard of Sijan. Iranian congress of soil and water engineering and management. 20-21 May, Tehran.
- 7- **Seifi, A.**, Mirlatifi. S.M., Dehghanisani, H. & Torabi, M. (2014). Evaluation of correlation between the Soil Moisture Content and Pistachio Crop Water Stress Index in a Loamy Silt soil. 1st Iran`s Pistachio Conference. 31 August – 1 September, Kerman.
- 8- **Seifi, A.**, Mirlatifi. S.M., Dehghanisani, H. & Torabi, M. (2016). Investigation the Impact of Irrigation Frequency under Subsurface Drip Irrigation (SDI) on Nut Yield and Water Use Efficiency of Pistachio Orchards. 7nd National Conference on Watershed Management and Soil and Water Resources. 16-17 February, Kerman.
- 9- **Seifi, A.**, Mirlatifi. S.M., Dehghanisani, H. & Torabi, M. (2016). Field Evaluation of SALTMED and HYDRUS-2D Models to Estimate Soil Moisture Profile under Subsurface Drip Irrigation Using Irrigation Data of Pistachio Orchard. 7nd National Conference on Watershed Management and Soil and Water Resources. 16-17 February, Kerman.

- 10- **Seifi, A.** & Riahi, H. (2016). Spatiotemporal trend Analysis of forty-year droughts with SPI in GIS. 7nd National Conference on Watershed Management and Soil and Water Resources. 16-17 February, Kerman.
- 11- Riahi, H. & **Seifi, A.** (2016). Using Support Vector Machine for Modeling Local Erosion Downstream of the Water Level Control Structures. 7nd National Conference on Watershed Management and Soil and Water Resources. 16-17 February, Kerman.
- 12- **Seifi, A.** & Riahi, H. (2016). Evaluation of corrosion and sedimentation challenges for pressurized irrigation development plans: Shahr-e-babak plain. 2nd Iranian National Conference of Irrigation and Drainage, Isfahan university, 23-25 August
- 13- **Seifi, A.** & Riahi, H. (2017). Vulnerability and the sensitivity analysis of urban structures and infrastructure from the rise of groundwater level in cities without sewage collection network. 2nd Iranian National Conference on Hydrology, Shahrekord, Shahrekord University, Iranian Hydrology Association, 11-12 July.
- 14- **Seifi, A.** & Riahi, H. (2017). Trend analysis and evaluation of spatiotemporal variation of reference evapotranspiration of Iran by Mann-Kendall method in GIS. 2nd Iranian National Conference on Hydrology, Shahrekord, Shahrekord University, Iranian Hydrology Association, 11-12 July.
- 15- **Seifi, A.** & Riahi, H. (2018). Comparative Analysis of virtual water flow for pistachio and almond and their footprint components during 1992-2016 with agricultural imports. 2nd Iranian National Conference on Pistachio, Vali-e-Asr university, 12-13 September.

10- Research Projects.

- 1- **Seifi, A.** (2018). Assessment of biological treatment for arsenic removal from wastewater of Sarcheshmeh copper complex by *Lemna minor* and *Cyperus* plants. Iran National Science Foundation. Grant number of 95838877
- 2- Riahi, H. & **Seifi, A.** (2016). Optimizing predictive models of wastewater treatment time series under dynamic fluctuation in productive population: case study RBC system of Vali-e-Asr university. Vali-e-Asr university of Rafsanjan.
- 3- **Seifi, A.** (2017). Investigate the feasibility of using wastewater treatment in agricultural and landscape and its risk analysis using Bayesian network. Vali-e-Asr university of Rafsanjan.
- 4-

11- Reviewer

Journal of Irrigation and Drainage

Journal of Hydrological Science

Hydrology and Earth System Sciences (HESS)

Expert system with applications

Energy Strategy Reviews

Ain Shams Engineering Journal

Applied Science

Earth Science Informatics

Journal of Hydrology: Regional Studies

Journal of Environmental Health Science and Engineering

Artificial Intelligence in Medicine

Groundwater for Sustainable Development

Scientific Reports

Natural Hazard

Stochastic Environmental Research and Risk Assessment (SERR)

10- Computer Software

Programming: MATLAB

General Software: Office, SPSS, Statistica

Engineering Software: Surfer, AutoCAD

Expertise Software: loop, Epanet, GS+, RETC, Hydrus 1D, Lingo, GIS, Expert choice, Hydrus 2D, SALTMED, FLOW-3D, DTREG, Orange, Pipe flow.