

Mehdi Vafakhah

Speciality: Water Resources

Academic Status: Associate Professor



PhD: Natural Resources-Watershed Management Engineering
MS: Natural Resources-Watershed Management Engineering
BS/BA: Natural Resources-Rangeland and Watershed Management Engineering

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Research Interests

- 1- Snow Hydrology
- 2- Surface Hydrology
- 3- Flood Prediction and Control
- 4- Application of Geostatistic in Hydrology
- 5- Application of Remote Sensing Data for Characterization of Hydrologic parameters
- 6- Rainfall-Runoff Modeling
- 7- Application of Artificial Intelligent in Hydrology
- 8- Regional Analysis

Education

- 1 BSc/BA : Rangeland & Watershed Management Engineering , Gorgan, IRAN, 1996
- 2 MS : Watershed Management Engineering, TarbiatModares, IRAN, 1999
- 3 PhD : Watershed Management Engineering, Water Resource, Tehran University, Iran

Research Experience

- 1- Rangeland and Watershed Management Project, Bachelor Thesis, Shiraz, Iran, -
- 2- Climatology Studies for Sixty Case Studies in Markazi Province, Iran, -
- 3- Hydrologic Studies for Sixty Case Studies in Markazi Province, Iran, -
- 4- Coworker in National Planning of Preparation Erosion Feature Map of 15 Khordad Dam Basin, Markazi Province, Iran, -
- 5- Coworker in Research Plan of Role of Land Management in Soil Erosion, Markazi Province, Iran, -
- 6- Coworker in Research Plan of Recognition and Classification of Marles and Badlands, Vafaraghan Watershed, Markazi Province, Iran, -
- 7- Coworker in Providing of Identity Cards for Watersheds of Markazi Province, Iran, -
- 8- Coworker in Measurement of Runoff and Sediment in Standard Plot for Evaluation of USLE, -
- 9- Estimation Regional Frequency of Low-Flows in the Seasonal Rivers(Case Study in the Arid Regions of Central Iran), Master Thesis, 1998, -
- 10- Project Manager in Regional Analysis of Sediment Yield in Northern Region(Mazandaran and Gorgan, 01/01/2000 -
- 11- Soil Erosion and Sediment Study, DashtZarand, Iran, -
- 12- Composing and Resulting Design Account for Two Case Studies in Markazi Province, Iran, -
- 13- Composing and Resulting Project Execution for Three Case Studies in Markazi Province, Iran, -
- 14- Composing and Resulting Project Execution for Four Case Studies in Markazi Province Using Geographical Information System, Iran, -
- 15- Designing Operation of Water Spear ding and Permanent Development Agriculture Study, DashtZarand, Iran, -
- 16- River Engineering Study, DashtZarand, Iran, -
- 17- Executive and Project Manager Executive Study in Five Case Studies in Markazi Province, Iran., -
- 18- Executive and Project Manager Design Account-Executive Study, DashtZarand, Iran, -
- 19- Coworker in Investigation on Forage Quality of Three Species in the Rangeland in Three Different Stages of Phonology, 01/01/2003 -
- 20- Coworker in Study on Morphometrical Variations of Bed Load Sediments along Vaz River in Mazandaran Province, Iran, 01/01/2004 -
- 21- Coworker in Investigation on Spatial Variations Erosivity R Factor in Mazandaran Province, Iran, 01/01/2004 -

- 22- Coworker in Estimation and Forecasting of Flood Occurrence Using Synoptic Systems Location in the Southern Beach of Caspian Sea, 01/01/2004 -
Comparison of Artificial Neural Network, Neuro-Fuzzy, and Auto-Regressive Models to
- 23- Intelligent Prediction of Runoff in Hajighoshan River, TarbiatModares University, Iran, 02/01/2010 - 01/02/2011
- 24- Coworker in Optimization of Soil Erosion by Using Geographic Information System in Taleghan Region, -
- 25- Coworker in Comparison of Different Geostatistical Methods for Estimating Evapotranspiration in Salt Lake Watershed, -

Teaching Experience

- 1- General Hydrology, Undergraduate
- 2- River Engineering, Postgraduate
- 3- Applied Hydrology, Undergraduate
- 4- Cartography, Undergraduate
- 5- Snow and Avalanche, Postgraduate
- 6- Remote Sensing, Short Course
- 7- Watershed Management, Short Course
- 8- Flood Control, Postgraduate
- 9- Advance Hydrology, Postgraduate

Languages Skills

- 1- English

Computer Skills

- 1- ILWIS, Arc/View, Matlab, Statistica, SPSS, HYFA, HEC-HMS, HEC-RAS, PCI Geomatica, ENVI, Word, Excel, PowerPoint

Awards

- 1- Selection as the Best Master Thesis , 20th Anniversary Establishment of TarbiatModarres University, 2002
- 2- Selection as the Best Researcher during 2003, 2008 and 2015 years,

National Journals

- 1- Vafakhah, M. , M. Mahdavi and M.R. Ghannadha 1999, 'Selection of the Most Suitable Statistical Distribution Function for Determining of Low Flow of One Day and Seven Day(Case Study :Salt Lake Basin Iran)', *Pajouhesh and Sazandegi*, pp. 26-31
- 2- Vafakhah, M., 2000, 'Diagnosis of Effective Factors in Flooding by Using Factor Analysis in Gharachi Basin', *Pajouhesh and Sazandegi*, pp. 72-76
- 3- Gholami, A., M.Mahdavi, M.R.Ghannadha and M. Vafakhah, 2002, 'An Evaluation of Suitable Probability Distribution for Minimum, Mean and Maximum Discharges, Using L Moment Method', *Iranian Journal of Natural Resources*, pp. 345-355
- 4- Zehtabian, Gh.R., O.Alipour and M.Vafakhah, 2002, 'A Study of the Application of Artificial Unit Hydrograph for Analyzing the Floods of Watershed Basin in North of Iran', *Iranian Journal of Natural Resources*, pp. 331-345
- 5- Mahdavi, M., A.A. Jamali, S.A. Ayobzadeh and M.Vafakhah, 2004, 'A Sensitivity Study of Storm Hydrologic Empirical Methods for Estimating Flood Peak as Related to Drainage Area in Watershed in Iran', *Iranian Journal of Natural Resources*, pp. 414-427
- 6- Erfanzadeh, R. and M.Vafakhah, 2003, 'Determination of Relation Between Soil Factors and Forage Quality in Two Species in the Rangeland (*Trifoliumrepens* and *Viciatetrasperma* ', *Pajouhesh and Sazandegi*, pp. 101-102
- 7- Gholami, A., M.Mahdavi and M. Vafakhah, 2003, 'Comparison Between Linear Moment and Ordinary Moment for the Simulation of Minimum', *Pajouhesh and Sazandegi*, pp. 8-14
- 8- Vafakhah, M. and D. Najafi, 2002, 'Modeling of Hydrological Events Using Artificial Neural Network', *Forest and Range Journal*, pp. 30-35
- 9- Vafakhah, M 2004, 'Application of Systematic Model in Development of a Feasible-Detailed Study in SavehMaraq-Maraghkan Watershed', *Journal of Agricultural Sciences and Natural Resources of Khazar*, pp. 15-24
- 10- Khosravi, M., MohseniSaravi, M., Vafakhah, M.and G., Fathi , 2011, 'Determination of the Best Hydrologic Homogeneous Method for Regional Flood Analysis in Western Watersheds, Iran', *Iran-Watershed Management Science and Engineering*, Vol. 4, No. 13, pp. 20-15
- 11- Vafakhah, M. and Gh., Shojaei, 2008, 'Determination of the Most Suitable Stage-Discharge Relation at the Hydrometric Station of Zayandehrud Regulatory Dam', *Journal of Science and Technology Agriculture and Natural Resources*, Vol. 11, No. 42, pp. 315-323
- 12- Moradi, H.R., M. Vafakhah and A.K.Bavil 2008, 'Comparison of Flood Routing by Muskingum and Muskingum-Cunge Methods in the Part of Lighvan River', *Journal of Science and Technology Agriculture and Natural Resources*, Vol. 11, No. 42, pp. 335-343
- 13- Yazdani, M.R., M., Mahdavi, E. Hosseini Chegini and M. Vafakhah 2006, 'Maximum Flood Discharge Estimation for Small Watersheds', *Iranian Journal Natural Resources*, Vol. 59,

No. 2, pp. 353-363

- Chidaz, A.;Mohsenisaravi, M. and M. Vafakhah ,2009, 'Evaluation the HEC-HMS model for
14- estimating flood hydrograph in Kasilian watershed', *Pajouhesh and Sazandegi*, Vol. 22, No. 3, pp. 72-59
- Poor Hjizadeh, A.; MohseniSaravi, M.; Varvani, J. and M. Vafakhah , 'Relationship between
15- Nash instantace unit hydrograph parameters and flow physiographical characteristics in some selection watershed, Iran', *Pajouhesh and Sazandegi*, Vol. 22, No. 2, pp. 30-21
- Vafakhah, M.; MohseniSaravi, M. and M. Onagh , 2009, 'Comparison of Different
16- Geostatistical Methods for Estimating Evapotranspiration in Salt Lake Watershed', *Pajouhesh and Sazandegi*, Vol. 22, No. 2, pp. 40-30
- Sadeghi, S.H.R., H.R., Moradi, M., Mozain and M., Vafakhah, 2005, 'Comparison of
17- Different Statistical Analysis Methods in Rainfall-Runoff Modeling (Case Study: Kasilian Watershed)', *Agriculture Sciences and Natural Resources Journal*, pp. 81-90
- KaramiKhaniki, A., M., Dehghani, M., Godarzi and M., Vafakhah, 2005, 'Flood Routing in
18- Tidal Rivers using MIKE21 Software(Case Study Zohre River)', *Water and Soil Conservation Journal*, pp. 43-49
- Vafakhah M., 2005, 'The Efficiency of Meteorological Drought Indices for Evaluation and
19- Monitoring of Bakhtegan, Tashk and Mahrloo Lakes Watershed Droughts', *Desert Journal*, pp. 369-383
- Soheili, E. and M. Vafakhah, 2005, 'The Efficiency of Non Numerical (Andrew Curve)
20- Method in Determination of Homogenous Area in Flood Estimation', *Pajouhesh and Sazandegi Journal*, pp. 73-82
- Sadeghi, S.H.R., B. Yasrebi, S. Aghabeigi Amin and M. Vafakhah, 2005, 'Temporal and
21- Spatial Variations of Suspended Sediment Yield in the Important Sub-watersheds of Haraz Watershed', *Journal of Agricultural Sciences and Natural Resources of Khazar*, pp. 15-29
- Sadeghi, S.H.R., B. Yasrebi, S. Aghabeigi Amin, M. Vafakhah and E. Esmaili, 2005,
22- 'Temporal Sediment Variation in Panjab Station of Haraz Watershed', *Jihd-e-Daneshgahi Journal*, pp. 11-17
- Sadeghi, S.H.R., M. Vafakhah and M. Hajigholizadeh, 2005, 'Flood Zoning in Eram Garden,
23- Tehran', *Jihd-e-Daneshgahi Journal*, pp. 41-47
- Sadeghi, S.H.R., A., KhalediDarvishan, and M., Vafakhah, 2007, 'Study on Channel
24- Hydraulic Characteristics on Morphometric Variations of Bed Sediments', *Journal of Hydraulics*, pp. 1-10
- Sadeghi, S.H.R., M. Hajigholizadeh and M. Vafakhah, 2006, 'Effect of Groins and Drops on
25- Flood Depth and Extensions(Case Study: Tehran Kan River)', *Agriculture Sciences and Natural Resources Journal*, Vol. 13, No. 4, pp. 109-119
- Vafakhah M., 2006, 'Regional Analysis of Sediment Yield in the Part of Caspian Sea
26- Watersheds', *Agriculture Sciences and Natural Resources Journal*, Vol. 13, No. 6, pp. 121-131
- 27- Vafakah, M., M. MohseniSaravi, M., Mahdavi and S.K.Alavipanah , 2008, 'Application of

- Geostatistical Analysis in Snow Depth and Density in Orazan Watershed ', *Iranian Journal of Watershed Management Engineering and Sciences*, Vol. 2, No. 4, pp. 55-49
- 28- KhalediDarvishan A.V., S.H.R. Sadeghi, M. Vafakhah and L. Gholami , 2008, 'Recognition of Effective Physical Characteristics of Watershed on Bed Sediment Morphometry (Case Study: Vaz River)', *Iran-Water Resources*, Vol. 4, No. 1, pp.
- 29- Sadeghi, S. H. R., A.V. KhalediDarvishan, M. Vafakhah and L. Gholami , 2008, 'Study on Changes in Morphometric Characteristics of Bed', *Journal of the Iranian Natural Res* , Vol. 60, No. 3, pp.
- 30- NassajianZavareh, M.H., Vafakhah, M. and Telvari, A.R. , 2010, 'Regional Flood Frequency Analysis in the Part of Large Central Watershed of Iran', *Iran-Watershed Management Science and Engineering*, Vol. 4, No. 11, pp. 52-49
- 31- Sadeghi, S.H.R., Afzali, A., Vafakhah, M. and Telvari, A.R. , 'Development of Synthetic Unit Hydrograph for Northern Iranian Watersheds using Physiographical Characteristics', *Pajouhesh and Sazandegi*, Vol. 86, pp. 15-24
- 32- Bashari M. and M.Vafakhah , 2012, 'Probability Study of Hydrological Drought and Wet Periods Occurrence using Markov Chain in Kashafrud Watershed', *Pajouhesh and Sazandegi*, pp.
- 33- Bashari, M. and M.Vafakhah , 'Comparison of Different Time Series Analysis Methods for Forecasting Monthly Discharge in Karkheh Watershed', *Iranian Journal of Water and Irrigation*, pp.
- 34- Vafakhah, M., M., MohseniSaravi, M., Mahdavi, S. K., Alavipanah ,2011, 'Snowmelt Runoff Prediction by using Artificial Neural Network and Adaptive Neuro-fuzzy Inference System in Taleghan Watershed', *Iran-Watershed Management Science and Engineering*, Vol. 5, No. 14, pp. 36-23
- 35- Vafakhah, M., M., MohseniSaravi, M., Mahdavi, S. K., Alavipanah , 'Comparison of Snow Cover Area (SCA) in NOAA and MODIS Images (A Case Study: Taleghsn Watershed)', *Pajouhesh and Sazandegi*, pp.
- 36- Jafari, M., Vafakhah, M. and H., Abghari H., 2013, Performance Comparison of Two Activation Functions Namely Sigmoid and Hyperbolic Tangent in Artificial Neural Networks for Storm Runoff Coefficient Forecasting (Case Study: Barariyeh Watershed, Neishabour), *Journal of Water and Soil Conservation (Journal of Agricultural Sciences and Natural Resources)*; 20(2);85-103.
- 37- Dehghani, N.,Vafakhah, M., 2013, Comparison of Daily Suspended Sediment Load Estimations by Sediment Rating Curve and Neural Network Models (Case Study: Ghazaghli Station in Golestan Province), *Journal of Water and Soil Conservation (Journal of Agricultural Sciences and Natural Resources)*; 20(2);221-230.
- 38- Mohammadi M. , Moradi H.R. , Vafakhah M., 2012, Local Distribution and Relationship Between Meteorological and Groundwater Drought's in Arak Plain, *Journal of Physical Geography* ; 5(15):77-84.
- 39- Vafakhah, M., BakhshiTiragani, M. and M., Khazaei, 2012, Analysis of Rainfall and Discharge Trend in Kashafrud Watershed, *Geography and Development Iranian*

Journal,10(29): 77-90.

40- T Sadeghifar, SA Azarmsa, M Vafakhah, 2013 ,Prediction of Alongshore Sediment Transport Rate Using Semi-Empirical Formulas and an Artificial Neural Networks (ANNs) model in Noor Coastal zone, International Journal of Maritime Technology 9 (17), 77-86

41- S Aghabeigi, AR Telvari, K Mirnia, S Feiznia, M Vafakhah, 2013 ,Seasonal variations of suspended sediment concentration in rain and snow melting floods, Journal of Watershed Engineering and Management

42- SS KAVOUSHI, M VAFAKHAH, MH MAHDIAN, 2013 ,Evaluation of Some Infiltration Models for Different Land Uses in Kojour Watershed, IRANIAN OF IRRIGATION & WATER ENGINEERING 4 (13), 1-13

43- SS KAVOUSHI, M VAFAKHAH, MH MAHDIAN, 2013 , Evaluation of Some Infiltration Models for Different Land Uses in Kojour Watershed, IRANIAN OF IRRIGATION & WATER ENGINEERING 4 (13), 1-13

44- S Razavizadeh, A Kaviani, M Vafakhah, 2014 ,Estimation of Suspended Sediment Discharge by Optimal Structure of Artificial Neural Network in Taleghan Watershed, JWSS-Isfahan University of Technology 18 (68), 79-88

45- Y Nabipoor, M Vafakhah, HR Moradi, 2014 ,Evaluation of Watershed Management Practices (WMPs) Effect on Flood Characteristics, JWSS-Isfahan University of Technology 18 (67), 199-215

46- HP Karani, H Eslami, M Vafakhah, 2014 , Application of Geostatistics for Evaluation of Spatial variability of Precipitation concentration Index (PCI) in Ghazvin Province, IranBull. Env. Pharmacol. Life Sci 3 (4), 60-64

47- S YOUSEFI, HR MORADI, A TELVARI, M VAFAKHAH, 2014 , Effect of Riparian Vegetation on Morphometric and Morphological Indices in Braided Part of Talar River, IRANIAN JOURNAL OF ECOHYDROLOGY 1 (2), 99-110

48- P JALALI, M VAFAKHAH, MR JAVADI, 2014 ,Investigation of Suspended Sediment Load, Phosphorus and Organic Matters Changes in The River Flow (Case Study: Tilenrud Watershed), NATURAL ECOSYSTEMS OF IRAN 5 (3), 103-113

49- Z ASADOLAHI, M VAFAKHAH, SH SADEGHI, 2014,Developing Models of Daily Sediment Yield Estimation for Kojur Forest Watershed, JOURNAL OF RANGE AND WATERSHED MANAGEMENT (IRANIAN JOURNAL OF NATURAL ...,

50- MR Javadi, M Baghery, M Vafakhah, SA Gholami, 2014 ,Effect of Flood Water Spreading on Some Soil Chemical Properties in Delijan Region, IRANIAN JOURNAL OF SOIL RESEARCH (FORMERLY SOIL AND WATER SCIENCES) 27

- 51- N Dehghani, M Vafakhah, AR Bahremand , 2014 , Comparison of WetSpa Distributed Hydrological Model and Adaptive Neuro-Fuzzy Inference System for Rainfall-Runoff Modeling in Kasilian Watershed JWSS-Isfahan University of Technology 19 (73), 151-163
- 52- N Dehghani, M Vafakhah, 2014 , Evaluation of Bed Load Hydraulic Formulas in Navrud, Gilan Province JWSS-Isfahan University of Technology 18 (69), 75-87
- 53- M Vafakhah, A Dastorani, A Moghaddam Nia, 2015 , Optimal Parameter Estimation for Nonlinear Muskingum Model based on Artificial Bee Colony Algorithm ECOPERSIA 3 (1), 847-865
- 54- M Vafakhah, SM Mohseni, H Ahmadi, 2015 , Land Use Optimization for Soil Erosion Minimization and Pure Income Maximization in The Part of Taleghan Watershed, Journal of Range and Watershed Management
- 55- H Kheirfam, M Vafakhah, 2015, Evaluation of Gamma Test, Cluster Analysis, Discriminant Function Analysis and Andrews Curves Methods to Separate Homogeneous Watersheds for Regional Analysis of Suspended Sediment, Journal of Soil and Water Resources Conservation 4 (2), 65-85
- 56- H Akbari, M Vafakhah , 2015 , Monthly River Flow Prediction using Adaptive Neuro-Fuzzy Inference System (A Case Study: Gharasu Watershed, Ardabil Province-Iran) ECOPERSIA 3 (4), 1175-1188
- 57- R Alijani, M Vafakhah, A Malekian, 2016 , Spatial and Temporal Analysis of Monthly Streamflow Deficit Intensity in Gorganroud Watershed, Iran ECOPERSIA 4 (1), 1313-1330
- 58- M Jafari, M Vafakhah, A Tavasoli, 2016 , Storm Runoff Coefficient Estimation Using Adaptive Neuro-Fuzzy Inference System in Barariyeh Watershed, Neishabour JWSS-Isfahan University of Technology 19 (73), 165-177

International Journals

- Shirmohammadi, B., Vafakhah, M., Moosavi, V. and A.R., Moghaddamnia, 2013, 'Application of Several Data-Driven Techniques for Predicting Groundwater Level', Water Resources Management, 27(2):419-432.

<http://link.springer.com/article/10.1007/s11269-012-0194-y>
- Moosavi, V., Vafakhah, M., Shirmohammadi, B. and N., Behnia, 2013, 'A Wavelet-ANFIS Hybrid Model for Groundwater Level Forecasting for Different Prediction Periods' Water Resources Management, 27(5):1301-1321.

<http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s11269-012-0239-2>
- Zare, M., Pourghasemi, H.R., Vafakhah, M., Pradhan, B., 2013, 'Landslide susceptibility mapping at Vaz Watershed (Iran) using an artificial neural network model: a comparison

between multilayer perceptron (MLP) and radial basic function (RBF) algorithms', *Arabian Journal of Geosciences*, 6(8): 2873-2888.

<http://link.springer.com/article/10.1007/s12517-012-0610-x>

- 4- Vafakhah, M. , 2013, 'Comparison of Cokriging and Adaptive Neuro-fuzzy Inference System Models for Suspended Sediment Load Forecasting', *Arabian Journal of Geosciences*, 6(6):3003-3018.

<http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s12517-012-0550-5>

- 5- Vafakhah, M. , 2012 , 'Application of Artificial Neural Networks and Adaptive Neuro-Fuzzy Inference System Models to Short-term Streamflow Forecasting', *Canadian Journal of Civil Engineering*, Vol. 39, pp. 414-402

<http://www.nrcresearchpress.com/doi/abs/10.1139/l2012-011>

- 6- Dastorani, M., T., Khodaparast, R., Talebi, A., Vafakhah, M. and J. Dashti , 2011 'Determination of the Ability of HEC-HMS Component in Rainfall-Runoff Simulation', *Research Journal of Environmental Science*, Vol. 5, No. 10, pp. 797-790

- 7- Noor, H.; Mirnia, S. Kh.;Fazli, S.; Raisi, M.B. and M. Vafakhah , 2010, 'Application of MUSLE for the prediction of phosphorus losses ', *Water Science & Technology*, Vol. 62, No. 4, pp. 815-809

- 8- Sadeghi, S.H.R., M.H.Hajigholizadeh, M. Vafakhah and J.K. Singh ,2006 , 'Effect of Hydraulic Structure on Changing Flood Zones in Kan River, ', *Journal of soil and water conservation*, pp. 8-1

- 9- Zarrin, H., F. Sharifi., M. Vafakhah and M.H. Mahdian , 2009, 'Regional Analysis of Low Flow in Karkheh and Karoon Watersheds', *Journal of Applied Sciences*, Vol. 9, pp. 1141-1146

10- Vafakhah, M. and MohseniSaravi, M. , 2011, 'Optimizing Management of Soil Erosion in Orazan Sub-basin, Iran', *Journal of Agricultural Science and Technology(JAST)*, Vol. 13, pp. 717-726

11- M Vafakhah, E Kahneh, 2016, A comparative assessment of adaptive neuro-fuzzy inference system, artificial neural network and regression for modelling stage-discharge relationship, *International Journal of Hydrology Science and Technology* 6 (2), 143-159

12- F Sedighi, M Vafakhah, MR Javadi, 2016, Rainfall–Runoff Modeling Using Support Vector Machine in Snow-Affected Watershed, *Arabian Journal for Science and Engineering*, 1-12

13- H Kheirfam, M Vafakhah, 2016, Assessment of some homogeneous methods for the regional analysis of suspended sediment yield in the south and southeast of the Caspian Sea, *Journal of Earth System Science* 124 (6), 1247-1263

14- SYousefi, HR Moradi, A Telvari, M Vafakhah, 2015, Monitoring of fluvial systems by RS and GIS (Case study: Talar River, Iran), *Journal of Selcuk University Natural and Applied Science* 4 (2), 60-72

- 15- SK Bozchaloei, M Vafakhah, 2015, Regional Analysis of Flow Duration Curves Using Adaptive Neuro-Fuzzy Inference System, *Journal of Hydrologic Engineering* 20 (12), 06015008
- 16- M Vafakhah, A Nouri, SK Alavipanah, 2015, Snowmelt-runoff estimation using radiation SRM model in Taleghan watershed, *Environmental Earth Sciences* 73 (3), 993-1003
- 17- F Sedighi, M Vafakhah, 2015, Effect of Snow Water Equal Consideration in Runoff Prediction by Using RBF and ANFIS Models, *Cumhuriyet Science Journal* 36 (3), 1832-1843
- 18- H Noor, M Vafakhah, M Taheriyoun, M Moghadasi, 2014, Hydrology modelling in Taleghan mountainous watershed using SWAT, *Journal of Water and Land Development* 20 (1), 11-18
- 19- V Moosavi, M Vafakhah, B Shirmohammadi, M Ranjbar, 2014, Optimization of wavelet-ANFIS and wavelet-ANN hybrid models by Taguchi method for groundwater level forecasting, *Arabian Journal for Science and Engineering* 39 (3), 1785-1796,
- 20- M Vafakhah, F Sedighi, MR Javadi, 2014, Modeling the Rainfall-Runoff Data in Snow-Affected Watershed, *International Journal of Computer and Electrical engineering* 6 (1), 40
- 21- H Noor, M Vafakhah, M Taheriyoun, M Moghaddasi, 2014, Comparison of single-site and multi-site based calibrations of SWAT in Taleghan Watershed, Iran *International Journal of Engineering* 27 (11), 1645-1652,
- 22- M Zare, HR Pourghasemi, M Vafakhah, B Pradhan , 2013 , Landslide susceptibility mapping at Vaz Watershed (Iran) using an artificial neural network model: a comparison between multilayer perceptron (MLP) and radial basic function (RBF) algorithms *Arabian Journal of Geosciences* 6 (8), 2873-2888,
- 23- M Vafakhah, 2013, Comparison of cokriging and adaptive neuro-fuzzy inference system models for suspended sediment load forecasting, *Arabian Journal of Geosciences* 6 (8), 3003-3018,
- 24- V Moosavi, M Vafakhah, B Shirmohammadi, N Behnia, 2013, A wavelet-ANFIS hybrid model for groundwater level forecasting for different prediction periods, *Water Resources Management* 27 (5), 1301-1321,
- 25- A Motevalli, M Vafakhah, 2016, Flood hazard mapping using synthesis hydraulic and geomorphic properties at watershed scale, *Stochastic Environmental Research and Risk Assessment* 30 (7), 1889-1900
- 26- A Gholami, M Habibnejad Roshan, K Shahedi, M Vafakhah, K Solaymani, 2016, Hydrological stream flow modeling in the Talar catchment (central section of the Alborz Mountains, north of Iran): Parameterization and uncertainty analysis using SWAT-CUP,

Refereed National Conference Proceedings

- 1- Sadeghi. S.H.R., D.A. Najafi and M. Vafakhah, 2004, 'Study on Land Use Variation on Soil Erosion(Case Study: Lenjan-e-Olya in Isfahan Provinc', National Conference on Watershed and Soil And Water Management, Iran , pp.
- 2- KhedriTajan, B. and M. Vafakhah, 2004, 'Selection of the Most Suitable Statistical Distribution Function for Determining of Hydrological Drought in the Golestan Province', National Conference on atershed and Soil And Water Management, Iran , pp.
- 3- Jalili, K. and M.Vafakhah, 2004, 'Evaluation of Geomorphologic Method in Watershed Management Using GIS', The 3nd National Congress on Range and Range Management, Iran , pp.
- 4- Sadeghi. S.H.R., D.A. Najafi, M. Vafakhah and A. Mokhtari, 2004, 'Applicability of Clustering Analysis in Sediment Watershed Modeling', National Conference on Watershed and Soil And Water Management, Iran , pp.
- 5- GhadimiArosmahle, F. and M. Vafakhah, 1999, 'Critical of Water Resources in ZarandPidment', 1st National Seminar on Engineering Geology and Environment, Iran , pp.
- 6- Vafakhah, M., 1998, 'Different Aspects of SCS Method on Runoff Prediction', M.Sc. Seminar, Iran , pp.
- 7- Vafakhah, M., 1998, 'Economical Analysis of Research Extentional and Educational Station of KhoshkehRoud Aquifer', Research Center Markazi Province, Iran , pp.
- 8- Vafakhah, M., 1997, 'Artificial Recharge and Flood Spreading as New Techniques for Flood Utilization', Research Center Markazi Province, Iran , pp.
- 9- Vafakhah, M., 1996, 'Study on Parameters of Snyder's Unit Hydrograph', Six Monthly Seminar of Research Center of Markazi Province, Iran , pp.
- 10- Vafakhah, M. and M.Mahdavi, 1999, 'Mahdavi, 1999.Mathematical Model for Estimation of Hydrologic Drought in Center Arid Zones of Iran', 2nd Regional Conference on Climate Change, Tehran, Iran, Iran , pp. 210-202
- 11- Vafakhah, M. and S.A.Ayyobzadeh, 2001, 'Recognition of Important Factors in Hydrologic Drought for Control of them in Namak(Iran) Lake', First National Conference on Drought Mitigation and Water Shortage, Kerman, Iran , pp. 941-935
- 12- Hasanlo M.R., M. Vafakhah and A.R. Rabet, 2002, 'Study Effectiveness of Constructed Groyns on Zanjanroud River', 6th River Engineering Conference, Iran , pp.
- 13- Vafakhah, M., 2003, 'Investigation of the Effect of Geological Zones and Eras on Hydrologic Drought in Salt Lake Watershed(Iran)', Third Regional and First National Conference on Climate hange, Iran , pp.
- 14- Vafakhah, M., 2003, 'Artificial Recharging and Flood Spreading as New Methods for Flood Utilization in Natural Resources Fields (Case Study Khoskeroud Aquifer, Saveh(Iran)', Third

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- 15- Vafakhah, M., 1998, 'Study on Effects of Geological Ares and Zones on Hydrologic Drought of Namak Lake(Iran) Watershed', 2nd Conference of Iranian Geology Society, Iran , pp.
 - 16- Vafakhah M. and A.Pourmatin, 1998, 'Important Factors on Flood Generation for Their Control Using Factor Analysis(Case Study in Gharechai Watershed) ', 5th River Engineering Conference, Iran , pp.
 - 17- Vafakhah M. and F. Noormohamadi , 'Distribution of Gully Erosion in Darehshahr Region(Ilam Province)', 5th National Seminar on Watershed Management, Iran , pp.
 - 18- Vafakhah M. and S.H.R.Sadeghi , 'Relationship between Water Quality Chemical Parameters and Discharge in', 5th National Seminar on Watershed Management, Iran , pp.
 - 19- Mosavi, V.; Vafakhah, M.; Hamidi, N. and N.Deighani , 'Map of the intrinsic risk of avalanches for North-west of Shiraz city', First Seminar on Snow , Ice and Avalanche, Iran , pp.
 - 20- Yosefi, S.; Vafakhah, M.andZ.Abdolahi , 'Identification of avalanche passes in Saman Watershed', First Seminar on Snow , Ice and Avalanche, Iran , pp.
 - 21- Vafakhah, M.;Mohsenisaravi, M.; Mahdavi, M. and S.K.Alavipanahi , 'Computing the water equivalent of snow cover using MODIS images', First Seminar on Snow , Ice and Avalanche, Iran , pp.
 - 22- Vafakhah, M. and H. Izanloo , 'Comparison of different methods of peak flood discharge forecasting', 5th National Seminar on Watershed Management , Iran , pp.
 - 23- Vafakhah M., M.M. Saravi, M. Mahdavi& S.K. Alavipanah , 'Application of geostatistical analysis in snow depth and density in Orazan watershed', International Conference ASMMOD 2009, Thailand , pp.
 - 24- Tavasoli, A., M, Vafakhah and A. Hoseinnia , 'Determination of Suitable Regions for Flood Storage in Mashhad City by using GIS', 3th Conference on Iranian Water Resources Mangement, Iran , pp.
 - 25- Yasrebi, B., S.H.R., Sadeghi, S., Aghabeigi Amin and M. Vafakhah, 2005, 'Effect of Lar Dam on Haraz Watershed Floods', Second National Conference on Watershed and Soil And Water Management, Iran , pp.
 - 26- Sadeghi, S.H.R., M., Vafakhah and A., KhalediDarvishan 2005, 'The Most Important of Hydraulic Factors Controlling Morphmetric of Bed Sediment', The Fifth Iranian Conference on Hydraulic, Iran , pp.
 - 27- Vafakhah, M. and M, Hajegholizadeh, 2005, 'Application of Remote Sensing and ERDAS Software for Preparing of Land Use Map', National Congress on Sediment and Erosion, Iran , pp.

Refereed International Conference Proceedings

- 1- Vafakhah, M., 2004, 'Chaos Theory in Hydrology: Important Issues and Interpretations', The

- Fourth International Iran and Russia, Iran , pp.
- 2- Rajabi, M. and M. Vafakhah, 2005, 'Efficiency of Meteorological Drought Indices for Assessment and Monitoring Drought in Bakhtegan, Tashk, and Maharlo Lakes Watershed', The International Conference on Geohazards, Natural Disasters and Methods of Confronting with Them, Iran , pp.
 - 3- Vafakhah M. and H. Zarin, 2005, 'Floods Characteristics of Karoon River in Ahvaz Region', The International Conference on Geohazards, Natural Disasters and Methods of Confronting with Them, Iran , pp.
 - 4- Vafakhah M. and A.A.Bavil 2005, 'Decision Support System: A Suitable Technique for Flood Management', The International Conference on Geohazards, Natural Disasters and Methods of Confronting with Them, Iran , pp.
 - 5- Vafakhah, M. and M.R., Fazelpour, 2005, 'Comparison between Exploitation of Qanats and Wells in the North of Ardakan', International Conference on Qanat, Iran , pp.
 - 6- Vafakhah, M., 2002, 'Mathematical Model for Estimation of Sediment Yield in North Region(Mazandaran and Gorgan) ', 6th RiverEngineering Conference, Iran , pp.
 - 7- Vafakhah, M., 2005, 'Qanat Characteristics and Specifications in Shotoryeh Village (Markazi Province)', International Conference on Qanat, Iran , pp.
 - 8- Sadeghi, S.H.R., B. Yasrebi, M. Vafakhah, S. Aghabeigi Amin and J.K. Singh, 2005, 'Optimal Watershed Management using Spatial Prioritization', National Conference on Watershed Management for Sustainable Production, Livelihood and Environment Security, India , pp.
 - 9- Vafakhah, M. and M.MohseniSaravi , 'Optimizing the management of soil erosion in orazansubbasin, Iran', International Conference on Water resources, Malaysia , pp.
 - 10- Sadegi. S.H.R., B., Yasrebi and M. Vafakhah , 'Long Term Water Discharge Changeability due to Rainfall Change in Haraz Watershed, Iran', Water Resources Management 2007, Oman , pp.
 - 11- Sadeghi, S.H.R., B., Yasrebi, M, Vafakhah, S. Aghabigi Amin and A.Esmaeili Sari , 'Adequacy of One Year Discharge Data in Representing Watershed Hydrologic Behavior', ICON FARM 2008, India , pp.
 - 12- Chezgi J. and M.Vafakhah , 'Effect of Controlling VitexAgnoos Specie on Bank Erosion', 8th International River Engineering Conference , Iran , pp.
 - 13- Vafakhah, M.andA.Afzali , 'Geostatistical interpolation of monthly rainfall in Kashafrood basin', The 2nd International Geography Symposium, Turkey , pp.
 - 14- Sadeghi, S.H.R., S., Aghabeigi Amin, M. Vafakhah, B., Yasrebi and A., Asmaeili, 2006, 'Suitable Drying Time for Suspended Sediment Samples', International Sediment Initiative, Sudan , pp.
 - 15- MohseniSaravi, M., M. Vafakhah and A.Kohndel, 2008, 'The Efficiency of Some Infiltration Models in Three Rangeland Conditions (Case Study: Savojbolagh Rangelands, Iran)', International Grassland Congress, China , pp.
 - 16- Vafakhah, M., 2007, 'Regional Analysis of Sediment Yield in the Part of Caspian Sea Coastal

Basins', Asian Simulation and Modeling, Thailand , pp.

- 17- Yazdani, M.R., S., Chavoshi, B., Saghafian and M., Vafakhah, 2006, 'Evaluation of Runoff and Peak Flood Changes for a Period of Time', International Conference on Climate Change and the Middle East, Turkey , pp.

- 18- Alizadeh, Gh., M., Vafakhah, A., Azarmsa and M., Torabi , 'Using an artificial neural network to model monthly shoreline variations', 2nd International Conference on Artificial Intelligence Management Science and Electronic Commerce, IEEE, China , pp. 1433-1437

Memberships in Societies

- 1- Member of Iranian Water Resources Association, -
- 2- Member of Iranian Society of Irrigation and Water Engineering, -

Journal Reviewer

- 1- Journal of Hydrologic Engineering, America
- 2- Iranian Journal of Watershed Management Science and Engineering, Iran
- 3- Iranian Journal of Water Research, Iran
- 4- Journal of Hydrology, America
- 5- Pajohesh and Sazandeghi Journal, Iran
- 6- Iranian Journal of Water and Soil(Gorgan), Iran
- 7- Journal of Range and Watershed Managment, Iran
- 8- Hydrological Science Journal
- 9- Arabian Journal of Geosciences

Conference Reviewer

- 1- 6th National Seminar on Watershed Management Science and Engineering, TarbiatModares University
- 2- 4th National Seminar on Erosion and Sediment, TarbiatModares University
- 3- Iranian Water Conference-Clean Water, ShahidAbaspour Power and Water University and Technology
- 4- First Seminar on Snow, Ice and Avalanche, Research Center for Agricultural Sciences and Natural Resources Chahar Mahal and Bakhtiari

M.Sc. Thesis Supervised

- 1- Seife, A , 'Hybrid Method on Prediction of Flood Discharge in Part of South-West of Iran', Adviser
- 2- Fathinasab, H, 'Investigation on Effect of Water Turbidity on Soil Permeability in Flood Spreading Project', Adviser
- 3- Alipourtomaj, O, 'Investigation on Synthetic Unit Hydrograph Application in Flood Analysis of North Watershed of Country', Adviser
- 4- Yazdani, M.R, 'Determination of Maximum Discharge of Flood by SCS Graphical Model in Small Watersheds', Adviser
- 5- Akhondi, A, 'Investigation on Curve Number Model in Flood Estimation Using Geographical Information System', Adviser
- 6- Gholami, A, 'Study on Best Frequency Distribution for Maximum, Mean and Minimum Discharges by Using L-Moment Method', Adviser
- 7- Jamali A.A, 'Sensitivity Study of Sum Hydrograph Empirical Method for Estimating the Flood Peak Due to Drainage Area in Watersheds of Iran', Adviser
- 8- Jokar, J, 'An Investigation Flood Generation in Sub Catchments of Shapour River Using Flood Simulation Method', Adviser
- 9- Najafi, D, 'Prioritization of "Isfahan and Sirjan" Sub watersheds in Generation of Sediment Using Regional Analysis', Adviser
- 10- Dehghani, M, 'The Efficiency Assessment of Flood Routing Methods in Tidal Zohre River', Adviser
- 11- Hajigholizadeh, M, 'Study of Effects of Human Interferences on Flood Behavior in a part of Tehran Kan River', Adviser
- 12- KhalediDarvishan, A, 'Relationship Between Watershed Hydrologic Characteristics and Bed Load Morphometry in Vaz River', Adviser
- 13- Asadolahi, Z, 'Modeling Daily Sediment Variation in Kojur Forest Watershed', Guidance
- 14- Nabipour, Y, 'Impact Evaluation of Watershed Management Measures on Flood Control in Hajighoshan Watershed, Golestan Province', Guidance
- 15- Chidaz, A, 'Evaluation the HEC-HMS model for estimating flood hydrograph in Kasilian basin', Adviser
- 16- Poor Hjjizadeh, A, 'Relationship between NASH instantace unit hydrograph parameters and flow physiographical characteristics in some selection watersheds, Iran', Adviser
- 17- Rostami, M, 'Temporal variability of effective discharge for suspended sediment transport in Kojur forest watershed', Adviser
- 18- Jafari, M, 'Prediction of Runoff Coefficient using Artificial Neural Network in the Neishabour Bar Watershed', Guidance
- 19- Kavosi, S.M, 'Determination of Infiltration Parameters Using Artificial Neural Netwok and

Neuro-Fuzzy', Guidance

- 20- Dastorani, A, 'Comparison of Some Optimization Methods of Muskingum Flood Routing Parameters in a Part of Karoon River', Guidance
- 21- Dehghani, N, 'Comparison of Wetspa Distributed Hydrologic Model and Intelligent Methods for Rainfall-Runoff Modeling in Kasilian Watershed', Guidance
- 22- Kahneh, E, 'Modeling Stage-Discharge Relationship Using Artificial Intelligence Methods and Regression in TangehLavijHydrometry Station', Guidance
- 23- Noori, A, 'Simulation of Snowmelt-Runoff using Radiation SRM Model, A Case Study in Taleghan Watershed', Guidance
- 24- Kamaraei, R, 'Spatial Variability of Nitrariaschoberi to Relation Soil Properties using Geostatistical Technique, Case Study: Meighan Desert of Iran', Adviser
- 25- Ghanbari, F, 'Spatial Variations of Production, Density and Canopy Cover Percentage Artemisia aucheriBoiss. using Geostatistical Methods in Baladeh, Noor', Adviser
- 26- Khodaparast, R, 'Determination of the Ability of HEC_HMS Model in Rainfall-Runoff Simulation', Adviser
- 27- Torabi, M, 'Using an artificial neural network to model monthly shoreline variations ', Adviser
- 28- Tale, S, 'Comparison of neuro-fuzzy and HEC-HMS in prioritizing sub-basins for watershed management operations (a case study: Taleghan watershed)', Adviser
- 29- Sadeghifar, T, 'Prediction of Longshore Sediment Transport Rate Using Artificial Neural Networks(ANNs) in Nour Coastal Zone, Caspian Sea', Adviser

Ph.D. Thesis Supervised

- 1- Aghabigi, S, 'Sediment forecasting and routing models for river reaches by Muskingum - sediment rating models ', Adviser
- 2- Noor, H, 'Effect of Spatial Pattern of Watershed Management Scenarios on Runoff Entering Taleghan Dam', Guidance

Professional Experiences

- 1- Responsible Creation of River Engineering Station in Markazi Province, 01/01/1998 - 01/01/1999
- 2- Expert and Manager of Project at Watershed Management Designs, Flood Control and Artificial Nutrition at Nashtak and Sahba , 01/01/1995 - , since 1995
- 3- Member of Council Science in TarbiatModarres University , 01/01/1998 - , since 1998
- 4- Teacher of Agriculture Sciences and Natural Resources in Gorgan University, 01/01/1991 -

01/01/1995

- 5- Expert Research in Center of Research Natural Resources and Affairs Trap Markazi Province, 01/01/1995 - 01/01/1999
- 6- Expert and Manager of Project in Watershed Management Jihad-E-Sazandegi Markazi Province, 01/01/1996 - 01/01/1999

Seminars

- 1- National Conference on Watershed and Soil And Water Management, Kerman, Iran
- 2- The Fourth International Iran and Russia, Sharkourd, Iran
- 3- The 3rd National Congress on Range and Range Management, Karaj, Iran
- 4- The International Conference on Geohazards, Natural Disasters and Methods of Confronting with Them, Tabriz, Iran
- 5- International Conference on Qanat(Kariz), Kerman, Iran
- 6- National Conference on Watershed Management for Sustainable Production, Livelihood and Environment Security, Pantnagar, India
- 7- Second National Conference on Watershed and Soil And Water Management, Kerman, Iran
- 8- The Fifth Iranian Conference on Hydraulic, Kerman, Iran
- 9- National Congress on Sediment and Erosion, Karaj, Iran
- 10- International Sediment Initiative, Khartoum, Sudan
- 11- International Conference on Climate Change and the Middle East, Turkey
- 12- International Grassland Congress, China
- 13- X. European Ecological Congress , Turkey
- 14- Asian Simulation and Modeling, Thailand
- 15- First Seminar on Snow, Ice and Avalanche, Sharkord, Iran, 12/06/1390
- 16- 6th National Seminar on Watershed Management Science and Engineering, Noor, Iran
- 17- 4th National Seminar on Erosion and Sediment, Noor, Iran
- 18- The 2nd International Geography Symposium, Antalya, Turkey
- 19- 5th River Engineering Conference, Ahvas, Iran
- 20- Second Conference of Iranian Geology Society, Mashhed, Iran
- 21- 1st National Seminar on Engineering Geology and Environment, Tehran, Iran
- 22- 2nd Regional Conference on Climate Change, Tehran, Iran
- 23- First National Conference on Drought Mitigation and Water Shortage, Kerman, Iran
- 24- 6th River Engineering Conference, Ahvas, Iran

- 25- Third Regional and First National Conference on Climate Change, Isfahan, Iran
- 26- 2nd International Conference on Artificial Intelligence Management Science and Electronic Commerce, Zhengzhou, China