



Seiyed Mossa Hosseini
Ph.D of Water Resources Engineering,
Physical Geography Department
University of Tehran



Dr. Seiyed Mossa Hosseini
Physical Geography Department,
University of Tehran, Enqelab Avenue,
Vesal Street, Tehran, Iran. P.O. Box:
14155-6465, Zip Code: 1417853933



+98 21 6111-3793



+98 21 6641-3065



smhosseini@ut.ac.ir

Academic Experience

Assistant Professor	2011-...	Physical Geography Department, University of Tehran, Tehran, Iran.
----------------------------	-----------------	---

Educational Experience

PhD	2006-2010	Department of Water Resources Engineering, College of Soil and Water, University of Tehran, Karaj, Iran. (Thesis: Laboratory and Numerical study of Nitrate removal from groundwater using Nano Fe⁰ and Fe/Cu particles, Advisors: Dr. Majid Kholghi, Prof. B. Ataie-Ashtiani)
MSc	2003-2006	Department of Irrigation and Reclamation, College of Soil and Water, University of Tehran, Karaj, Iran. (Thesis: Optimization of reservoir operation policies considering variable agricultural water demands, Advisor: Dr. B. Zahraie)
BSc	2000-2003	Department of Water Engineering, College of Agriculture, University of Shiraz, Shiraz, Iran. (Project: Designing a Lab Model to Measure Hydraulic Gradient in Parallel Pipes, Advisor: Dr. A.R. Keshavarzi)

Awards		
National PhD entrance exam: First rank in Water Resources Engineering	2006	College of Soil and Water, University of Tehran, Karaj, Iran
Distinguished Graduated Student Award in B.Sc.	2003	Department of Water Engineering, College of Agriculture, University of Shiraz, Shiraz, Iran.
Conference Award for Offering Superior Paper	2010	9 th National Conference of Nano Technology, Tarbiat-Modarres University, Tehran, Iran (March 3-4, 2010).
Superior Researcher of PhD Student	2007	College of Soil and Water, University of Tehran, Karaj, Iran

Teaching Experiences	
Groundwater Hydrology	MSc
Karst Hydrogeology	MSc
Urban Hydrology	MSc
Advanced Statistics	MSc
Surface Flow Hydrology	BSc
Basic Physics	BSc
Water Resources Management	BSc
Mathematics (Elementary and Basic)	BSc
Statistics (Elementary and Advanced)	BSc

Research Projects			
Date	Project Title	Position in Project	Ordered by
2015-...	Preparation of guide directions of groundwater balance for alluvium plains in Iran	Associate	Water Resources Management Organization, Power Ministry, Iran.
2012-2014	Laboratory and Numerical Investigation of Nitrate Removal from Groundwater Using Nano-Zero-Valent Iron Particles in Reactive Wells Systems	Director	Chaharmahal and Bakhtiari Regional Water Organization, Iran
2011-2012	Runoff Estimation in Un-Gaged Watershed (Qomrud Watershed)	Director	University of Tehran, Iran.
2008-2010	Nitrate Removal From Groundwater by Nano Zero Valent Iron	Director	Iran Nanotechnology Initiative Council
2009-2010	Rainfall-Runoff Modeling by Temporal Co-Kriging Approach	Associate	Sistan and Baluchistan Regional Water Organization, Iran

2007-2009	Regional Modeling of Contaminants in Groundwater of Qazvin Aquifer	Associate	Water Resources Management Organization, Power Ministry, Iran.
2006-2008	Optimization of Reservoir Operation Policies with Considering Uncertainty of Demands	Associate	Water Resources Management Organization, Power Ministry, Iran.

Research Interest

Nano-Particle Transport Through Saturated Porous Media

Groundwater Management, Modeling and Remediation

Experimental Modeling of Contaminant Removal from Groundwater by Nano Particles

Meta Modeling in Groundwater and Surface Flow Fields

Published Books

Genetic Algorithm and Engineering Optimization	2014	Gutenberg Publication, pp 260, by: Zahraie B. and Hosseini S.M. (In Persian)
Mathematics for Students of Geography Sciences	2016	Gutenberg Publication, pp 450, by: Hosseini S.M. (In Persian)

General

Citation indices **All**

Citations **356**

h-index **9**

i10-index **9**

Link: [Google Scholar](#)

Published Papers (Peer Reviewed Journals)

- 1) Kazemi, A.S., **Hosseini, S.M.**, and Abdi, Y. (2018). Large total area membrane of suspended single layer graphene for water desalination. *Desalination* (Accepted). DOI: 10.1016/j.desal.2017.12.050
- 2) **Hosseini, S.M.**, Ataie-Ashtiani, B., and Simmons, C.T. (2017). Spring hydrograph simulation of karstic aquifers: Impacts of variable recharge area, intermediate storage and memory effects, *Journal of Hydrology*, 552, 225-240. DOI: 10.1016/j.jhydrol.2017.06.018
- 3) **Hosseini, S.M.** (2017). Parameter estimation of aquifer transmissivity variogram using WLS, GA and PSO algorithms. *Int. J. Hydrology Science and Technology*, 7(2), 103-123.
- 4) Esmaelnejad, L., Shorafa, M., Gorji, M., and **Hosseini, S.M.** (2017). Impacts of Woody Biochar Particle Size on Porosity and Hydraulic Conductivity of Biochar-Soil Mixtures: An Incubation Study, *Communications in Soil Science and Plant Analysis*. DOI: 10.1080/00103624.2017.1383414

- 5) Asadi, P., **Hosseini, S.M.**, Ataie-Ashtiani, B., and Simmons, C.T. (2017). Fuzzy vulnerability mapping of urban groundwater systems to nitrate contamination. *Environmental Modelling & Software*, 96, 146e157. DOI: 10.1016/j.envsoft.2017.06.043
- 6) Saberinasr, A., Rezaei, M., Nakhaei, M., and **Hosseini, S.M.** (2016). Transport of CMC-Stabilized nZVI in Saturated Sand Column: the Effect of Particle Concentration and Soil Grain Size. *Water Air Soil Pollut*, 227:394. DOI 10.1007/s11270-016-3097-3
- 7) Esmaelnejad, L., Shorafa, M., Gorji, M., and **Hosseini, S.M.** (2016). Enhancement of physical and hydrological properties of a sandy loam soil via application of different biochar particle sizes during incubation period. *Spanish Journal of Agricultural Research*, 14(2). DOI: 10.5424/sjar/2016142-9190
- 8) **Hosseini S.M.**, Ataie-Ashtiani B., Simulation of Karstic Aquifers with Multiple Spring Outlets Using Single and Dual Porosity Reservoir Conceptualizations, *Groundwater*, National GroundWater Association. DOI: 10.1111/gwat.12504
- 9) **Hosseini S.M.**, and Mahjouri N., Riahi, S. (2016). Development of a Direct Geomorphologic IUH Model for Daily Runoff Estimation in Ungauged Watersheds, *Journal of Hydrologic Engineering*, ASCE, 21(6): 05016008. DOI: 10.1061/(ASCE)HE.1943-5584.0001333
- 10) **Hosseini S.M.**, and Mahjouri N. (2016). Integrating Support Vector Regression and a geomorphologic Artificial Neural Network for daily rainfall-runoff. *Applied Soft Computing*, 38: 329–345.
- 11) **Hosseini S.M.**, and Tosco T. (2015). Integrating NZVI and Carbon Substrates in a Non-Pumping Reactive Wells Array for the Remediation of a Nitrate Contaminated Aquifer, *Journal of Contaminant Hydrology*, 179: 182-195.
- 12) Tosco, T. and **Hosseini, S.M.** (2015). Comparative Assessment of Injection Strategies for Highly Concentrated Nano Fe/Cu Particles into Sand Columns. *J. Environ. Eng., ASCE*, DOI 141(4), 04014077.
- 13) **Hosseini S.M.**, and Mahjouri N. (2014). Developing a fuzzy neural network-based support vector regression (FNN-SVR) for regionalizing nitrate concentration in groundwater, *Environ Monit Assess*, 186: 3685–3699. DOI 10.1007/s10661-014-3650-8.
- 14) **Hosseini S.M.**, Mahjouri N., and Bagheri S. (2014). Monthly karstic spring flow forecasting using a sequential gaussian simulation technique, *Environ Earth Sci*, DOI 10.1007/s12665-014-3262-1.

- 15) **Hosseini S.M.**, and Tosco T. (2013). Transport and retention of high concentrated nano-Fe/Cu particles through highly flow-rated packed sand column, *Water Research Journal* (Elsevier), 47: 326-338.
- 16) **Hosseini S.M.**, Kholghi M., and Vagharfard H. (2012). Numerical and Meta-Modeling of Nitrate Transport Reduced by Nano-Fe/Cu Particles in Packed Sand Column, *Transport in Porous Media Journal* (Springer), DOI: 10.1007/s11242-012-9994-z.
- 17) **Hosseini S.M.**, Ataie-Ashtiani B., and Kholghi M. (2011). Bench Scaled Nano-Fe₀ Permeable Reactive Barrier For Nitrate Removal. *Journal of Groundwater Monitoring and Remediation* (NGWA.org), DOI: 10.1111/j1745-6592.2011.01352.
- 18) **Hosseini S.M.**, Ataie-Ashtiani B., and Kholghi M. (2011). Nitrate Reduction by Nano-Fe/Cu Particles In Packed Sand Column, *Journal of Desalination* (Elsevier), 276: 214-221, DOI:10.1016/j.desal. 2011.03.051.
- 19) Kazemi S. M., and **Hosseini S.M.** (2011). Comparison of spatial interpolation methods for estimating heavy metals in sediments of Caspian Sea. *Journal of Expert System With Applications* (Elsevier), 38:1632-1649.
- 20) Farhoudi J., **Hosseini S. M.**, and Sedghi-Asl M. (2010). Application of neuro-fuzzy model to estimate the characteristics of local scour downstream of stilling basins, *Journal of Hydroinformatics* (IWA Publishing), 12(2): 201-211.
- 21) Zahraie B., and **Hosseini S.M.** (2010). Development of Reservoir Operation Policies Using Integrated Optimization-Simulation Approach, *Journal of Agricultural Science and Technology (JAST)*, 12 (4): 433-446.
- 22) Kholghi M., **Hosseini S.M.** (2009). Comparison of Groundwater Level Estimation Using Neuro-Fuzzy and Ordinary Kriging, *Journal of Environmental Modeling and Assessment* (Springer), 14:729-737, DOI 10.1007/s10666-008-9174-2.
- 23) Zahraie B. and **Hosseini S.M.** (2009). Development of reservoir operation policies considering variable agricultural water demands, *Expert Systems with Applications* (Elsevier), 36 (2009): 4980-4987.

- 24) Najafi M.R., Lee K.T., and **Hosseini S.M.** (2007). ANN Modeling for Estimation of Surface and Subsurface Flows Based on Watershed Geomorphology, *Journal of Agricultural Science and Technology (JAST)*, 9 (4): 303-316.
- 25) Mohammadi H., and **Hosseini S.M.** (2007). Rainfall-Runoff Simulation Using Fuzzy Linear Regression (Case Study: Kasilian Representative Watershed in Iran), *Arab World Geographer Journal*, 10 (3-4): 212-226.
- 26) Kholghi M., and **Hosseini S.M.** (2006). Estimation of Aquifer Transmissivity using, Kriging, Artificial Neural Network, and Neuro fuzzy Models, *Journal of Spatial Hydrology*, 6(2): 68-81.
- 27) **Hosseini, S.M.** (in press). Parameter Estimation of Aquifer Transmissivity Variogram Using WLS, GA, and PSO Algorithms, *International Journal of Hydrology Science and Technology*.
-

Published Papers (Iranian Journal)

- 1) **Hosseini S.M.**, Ghadiri H. (2015). Hydro-geomorphological Analysis of Karstic Aquifer (Case study: Sasan Spring, Fars Province), *Quantitative Geomorphologic Researches* (accepted).
 - 2) **Hosseini S.M.**, Geravand F. (2015). Prediction of Historical Flood Using HEC-HMS Hydrological Model (Case Study: Kashkan River, Lorestan Province), *Quantitative Geomorphologic Researches*, 4(1): 118-133.
 - 3) **Hosseini S.M.**, Eyvazi A., (2014). Simulation of Daily Karst Spring Flow During Recession Period Using Analytical Models (Case Study: Cheshmeh-Ali Damghan), *Quantitative Geomorphologic Researches*, 3: 95-113.
 - 4) Jafari Beglou M., **Hosseini S.M.**, and Riahi S., (2014). Effect of land cover and land use change in north of Tajrish zone on Darband discharge river, *Quantitative Geomorphologic Researches*, 4: 54-70.
 - 5) Javan H., and **Hosseini S.M.**, (2013). Application of GIUH theory in estimation of sediment load (case study: Taleghan watershed), *Iranian Applied Geomorphology Journal*, 2: 83-97.
 - 6) **Hosseini S.M.**, Kholghi M., Ataie-Ashtiani B., and Mohagheghi M.B. (2010). Laboratory Investigation of Nitrate Reduction In Water Using Fe/Cu Nano Particles, *Journal of Water and Soil* (University of Ferdowsi, In Persian), 25 (1): 94-103.
 - 7) Zahraie B., Hourfar A.H., and **Hosseini S. M.**, (2006). *Parameter Estimation of Nash Conceptual Model. Iran-Water Resources Researches Journal*, 2 (2): 10-12.
-

Published Papers (Conference Proceeding)

- 1) **Hosseini S.M.** (2014). Three Dimensional Laboratory-Numerical Study of Nitrate Removal Process from Shahrekord Aquifer Using Nano-Zero-Valent Iron Particles in Reactive Wells Systems, National Water Reuse Congress, University of Tehran, Tehran, Iran.
- 2) Tosco T., and **Hosseini S.M.** (2013). Numerical Modelling of One-Dimensional Transport and Retention of Highly Concentrated suspensions of Nano-Fe/Cu Particles. 5th International Conference on Porous Media & Annual Meeting, (May 21-24, 2013), Prague, Czech Republic.
- 3) **Hosseini S.M.**, Kholghi M., and Danku A. (2012). Simulation of daily rainfall-runoff by HEC-HMS model (Kajoo Watershed). Third International Symposium on the Climate Change in Khazar Ecosystems, Sari, Iran (May 17-19, 2012).
- 4) **Hosseini S.M.**, Kholghi M., Ataie-Ashtiani B., and Mohagheghi M.B. (2010). Nano zero valent iron: a new technology for remediation of contaminated aquifers. Second International Symposium on the Climate Change in Khazar Ecosystems, Sari, Iran (May 12-14, 2010).
- 5) **Hosseini S.M.**, Kholghi M., Ataie-Ashtiani B., and Mohagheghi M.B. (2010). Nitrate removal from water by nano-Fe/Cu particles. 9th student Conference of Nano Technology, Tarbiat-Modarres University, Tehran, Iran (March 3-4, 2010).
- 6) Zahraie B., and **Hosseini S.M.** (2007). Development of Fuzzy Reservoir Operation Policies Using Genetic Algorithm. 2nd IASME/WSEAS International Conference on Water Resources, Hydraulic and Hydrology, Portoroz, Slovenia.
- 7) Najafi M.R. and **Hosseini S.M.** (2005). A Geomorphologic Artificial Intelligent Model for Runoff Computations in Un-gaged Watersheds. RAWRDM Conference, India.
- 8) Zahraie B., and **Hosseini S.M.** (2006). Incorporating Agricultural Water Demand Variability in Reservoir Operation Optimization. An International Perspective on Environmental and Water Resources, ASCE Regional Conference, India.
- 9) Zahraie B., and **Hosseini S.M.**, and Najafi M.R. (2006). Optimization of Zayandeh-Rud Reservoir Operation Using Genetic Algorithm. First Regional Symposium of Optimal Operation of Water Resources in Karoon and Zayandeh-Rud Watersheds, University of Shahrekord, Iran (Sep, 5-7 2006).

Students Supervised/Advised

Ali Beryani	Ph.D	Advisor	2016- ...	Numerical and Laboratory Assessment of Transport and Retention of Graphene Oxide Nano-Particles Through Saturated Sand Column
Leila Esmaeel-Nejad	Ph.D	Advisor	2015- ...	Investigation of Biochar Types Effect with Different Sizes on Physical and Hydrological Properties of a Sandy Loam Soil
Amir Saberi-Nasr	Ph.D	Advisor	2014- ...	Transport of CMC Stabilized nZVI in Saturated Porous Media: Effect of Particle Concentration and Grain Size
Akram Eyvazi	MSc	Supervisor	2013	Hydrogeological Behavior of Cheshme-Ali Karstic Aquifer
Amir Sadegh-Osati	MSc	Supervisor	2014	Recharge Effect of Kan-River on the Tehran Aquifer
Hossein Javan	MSc	Supervisor	2012	Estimation of Daily Sediment and Runoff Hydrograph Using Watershed Geomorphologic Properties
Hajar Ghadiri	MSc	Supervisor	2015	Hydro-Geomorphological Behavior of Dashte-Arjan Karstic Aquifer
Fatemeh Geravand	MSc	Supervisor	2015	Determination of Flood Plain Limits of Kashkan River Using HEC-RAS Model
Maral Babakhani	MSc	Advisor	2015	Geostatistical Detection of Quality and Quantity Trend in Kerman Groundwater
			...	