



MOHSEN POURREZA BILONDI

Birth Date: December 1, 1983

Phone: (+98) 915-792-7086

Mohsen.pourreza@birjand.ac.ir

ORCID: <https://orcid.org/0000-0001-6922-6559>

Google scholar: <https://scholar.google.com/citations?user=V0GpNikAAAAJ&hl=en>

Scopus: <http://www.scopus.com/authid/detail.url?authorId=56653486000>

Publons: <https://publons.com/researcher/4270813/mohsen-pourreza-bilondi/>

Mailing Address: Water Engineering Dept,

Agricultural College, University of Birjand, Birjand,

Iran.

EDUCATION

PhD Shahid Chamran University of Ahvaz,
Hydrology and Water Resources Management, July 2012
Dissertation: “Uncertainty Analysis and Parameters Estimation of Rainfall Runoff
Modeling Using Markov Chain Monte Carlo Scheme”

Supervised by: *Dr. A.M Akhond Ali and Dr. Bijan Ghahraman*

Advised by: *Dr. Abdolrasoul Telvari,*

Thesis grade: 19.3/20.

Cumulative GPA: 17.09 / 20

MS Shahid Chamran University of Ahvaz,
Water Structure, July 2007
Thesis: “The Effects of Flood and Morphological Interaction in Rivers (Case Study:
Karooon River)”

Supervised by: *Dr. A.M Akhond Ali*

Advised by: *Dr. M. Fathi-Moghadam*

Thesis grade: 19.3/20.

Cumulative GPA: 17.04 / 20

BS Ferdowsi University of Mashhad, Water Engineering Aug 2005

Pre-University Degree in Math and Physics 2000-2001

Molla Mozaffar Center of Exceptional Talents, Pre-University School, Gonabad, Iran

Diploma in Math and Physics 1997-2000

Molla Mozaffar Center of Exceptional Talents, High School, Gonabad, Iran
Cumulative GPA: 18.20 / 20

HONORS AND AWARDS

Ranked 1st among 30 applicants in the countrywide entrance exam of PhD., Program in the field of “Hydrology”
April. 2007

Ranked 15th among 700 applicants in the Countrywide entrance exam of Master Program in the field of
“Irrigation Engineering” and accepted in Shahid Chamran University of Ahvaz, April. 2005

Passing second and third grades of primary school in one academic year (1991)

PROFESSIONAL EXPERIENCE

- Mar 2011- Dec 2011, Sabbatical leave, EAWAG, Zurich, Switzerland, Fund from the Ministry of Science of Iran.

INTERNATIONAL PROJECT

1- “Intensification of the recovery ratio of brackish water desalination systems for agriculture (HighRec)”, Iran (University of Birjand: **Mohsen Pourreza Bilondi**), Germany (Technische Universität Berlin, inter3 and Fraunhofer ise institutes) and Qatar (University of Qatar), <https://www.inter3.de/en/projects/details/article/vom-brack-zum-bewaesserungswasser-erschliessung-neuer-wasserressourcen.html>

TEACHING EXPERIENCE

University of Birjand, Birjand, Iran Oct 2012 to present
Associate Professor in Hydrology, Department of Water Engineering

- Advanced Hydrology
- Water Resources Management
- Programming with Matlab & Python
- Statistics
- Optimization
- Risk and uncertainty analysis

Doctoral Students Supervised:

Mohammad Javad Zeinali, (Current student)

Samira Ziaefar, (Current student)

Doctoral Students Advised:

Mahrouz NourAli, “Uncertainty Analysis and Parameters Estimation of Rainfall Runoff Modeling Using Markov Chain Monte Carlo Algorithm”, Date Graduated: Sep 2016

Amir Hossein Aghakhani Afshar, “Modeling climate change on hydrological parameters of the kashafrood basin (Iran) with considering the hydraulic structures” Date Graduated: Oct 2016

Ahmad Jafarzadeh, “Improvement of groundwater modeling using Bayesian model averaging assessment”, Date Graduated: Jan 2022

Masters Students supervised

- **Sadegh SadeghiTabas**, “Sustainable Groundwater Modeling Using Multi Objective Optimization Algorithms”, Aug 2015.
- **Safoura Arab**, “Comparison of parametric and non-parametric river flow forecasting models”, Oct 2015.
- **Seyyede Mahboobeh Parhizgar**, “Spatial prioritization and flooding potential assessment of urban basins using Fuzzy analytic hierarchy process (case study of Birjand city)”, Jan 2016.
- **Sorayya Gelnarkar**, “Incorporation SCS-CN and Relationship Mass Balance Based Continuous Simulation Model”, Jan 2017.
- **Somaye Maghsud-Sang-Atash**, “Design of groundwater quality monitoring network by using geostatistics method (Case study, Mashhad Plain)”, Jan 2017.
- **Mohadese Kavusi** “Optimal design of groundwater monitoring network using PSO algorithm”, Jan 2017.
- **Farzaneh Yazdanpanah**, “Evaluation of fully coupled WRF/WRF-Hydro modelling system for flood simulation (case study: Abol-Abbas watershed)”, Sep 2021

Masters Students Advised

- Dorsa Darikande, “Parameter uncertainty analysis of streamflow river with GLUE”, Oct 2013
- Maryam Mohammadi, “ Location of critical areas of groundwater pumping using fuzzy analysis of hierarchical process(FAHP) model (Case Study: Neyshabur Plain)”, Oct 2013
- Bahare Sadat Hamraz, “Parameter uncertainty analysis of groundwater modeling using GLUE”, Oct 2014
- Mehdi Khorashadi zadeh. “Uncertainty assessment of Pollution transport model using GLUE method”. Nov 2014.

PUBLICATIONS

Books

- Calibration and uncertainty analysis of SWAT model with SWAT-CUP, step by step learning (In Persian),
- Spatial Modeling in GIS and R for Earth and Environmental Sciences, Chapter 5, Elsevier (2019) <https://www.elsevier.com/books/spatial-modeling-in-gis-and-r-for-earth-and-environmental-science/pourghasemi/978-0-12-815226-3>
-

Journal Publications (ISI, English)

1. Etminan, S., Jalali, V., Mahmoodabadi, M., Khashei Siuki, A., & **Pourreza Bilondi, M.** (2022). GLUE algorithm capability in estimating the van Genuchten soil–water characteristic parameters and their uncertainties. *Paddy and Water Environment*, 1-13.
2. Jafarzadeh, A., Khashei-Siuki, A., & **Pourreza-Bilondi, M.** (2021). Performance assessment of model averaging techniques to reduce structural uncertainty of groundwater modeling. *Water Resources Management*, 1-25.
3. Jafarzadeh, A., **Pourreza-Bilondi, M.**, Akbarpour, A., Khashei-Siuki, A., & Samadi, S. (2021). Application of multi-model ensemble averaging techniques for groundwater simulation: synthetic and real-world case studies. *Journal of Hydroinformatics*, 23(6), 1271-1289.
4. Etminan, S., Jalali, V., Mahmoodabadi, **M.**, & **Bilondi, M. P.** (2021). Assessing an efficient hybrid of Monte Carlo technique (GSA-GLUE) in Uncertainty and Sensitivity Analysis of vanGenuchten Soil Moisture Characteristics Curve. *Computational Geosciences*, 25(1), 503-514.
5. Samadi, S., **Pourreza-Bilondi, M.**, Wilson, C. A. M. E., & Hitchcock, D. B. (2020). Bayesian model averaging with fixed and flexible priors: Theory, concepts, and calibration experiments for rainfall-runoff modeling. *Journal of Advances in Modeling Earth Systems*, 12(7), e2019MS001924.
6. Jafarzadeh, A., **Pourreza-Bilondi, M.**, Siuki, A. K., & Moghadam, J. R. (2021). Examination of Various Feature Selection Approaches for Daily Precipitation Downscaling in Different Climates. *Water Resources Management*, 35(2), 407-427.
7. Saberi, E., Khashei Siuki, A., **Pourreza-Bilondi, M.**, & Shahidi, A. (2020). Development of a simulation–optimization model with a multi-objective framework for automatic design of a furrow irrigation system. *Irrigation and Drainage*.
8. Mianabadi, A., Davary, K., **Pourreza-Bilondi, M.**, & Coenders-Gerrits, A. M. J. (2020). Budyko framework; towards non-steady state conditions. *Journal of Hydrology*, 125089.
9. **Pourreza-Bilondi, M.**, & Samadi, S. Z. (2016). Quantifying the uncertainty of semiarid flash floods using generalized likelihood uncertainty estimation. *Arabian Journal of Geosciences*, 9(13), 622.
10. **Pourreza Bilondi, M.**, Abbaspour, K.C., Ghahraman, B., (2013). Application of Three Different Calibration-Uncertainty Analysis Methods in a Semi-Distributed Rainfall-Runoff Model Application. *Middle-East Journal of Scientific Research* 15, 1255-1263.
11. Zarei, H. and **Pourreza Bilondi, M.**, (2013). Factor analysis of chemical composition in the Karoon River basin, southwest of Iran. *Applied Water Science* 3(4), 753-761.
12. Tareghian, R. and **Pourreza Bilondi, M.**, (2013) a comparative study of non-linear forecast combination of rainfall-runoff models using adaptive neuro-fuzzy inference system (ANFIS), *Carpathian journal of earth and environmental sciences* 8(4), 41-54.
13. Memarian, H., **Bilondi, M. P.**, & Rezaei, M. (2015). Drought prediction using co-active neuro-fuzzy inference system, validation, and uncertainty analysis (case study: Birjand, Iran). *Theoretical and Applied Climatology*, 1-14.

14. Hamraz, BaharehSadat, Abolfazl Akbarpour, **Mohsen Pourreza Bilondi**, and Sadegh Sadeghi Tabas (2015) On the assessment of ground water parameter uncertainty over an arid aquifer. *Arabian Journal of Geosciences*. 8(12), 10759- 10773.
15. Darikandeh, D., Akbarpour, A., **Bilondi, M. P.**, and Hashemi, S.R. (2014). Application of GLUE Methodology for Estimating the Parameters of the Rainfall-Runoff Model. *Journal of River Engineering*. 2(8)
16. Darikandeh, D., Akbarpour, A., **Bilondi, M. P.**, and Hashemi, S.R. (2014). Automatic Calibration for Estimation of the Parameters of Rainfall-Runoff Model. *Journal of River Engineering*. 2(8).
17. Sadeghi-Tabas, S., Samadi, S. Z., Akbarpour, A., & **Pourreza-Bilondi, M.** (2017). Sustainable groundwater modeling using single-and multi-objective optimization algorithms. *Journal of Hydroinformatics*, 19(1), 97-114.
18. Nourali, M., Ghahraman, B., **Pourreza-Bilondi, M.**, & Davary, K. (2016). Effect of formal and informal likelihood functions on uncertainty assessment in a single event rainfall-runoff model. *Journal of Hydrology*, 540, 549-564.
19. **Pourreza-Bilondi, M.**, Samadi, S. Z., Akhoond-Ali, A. M., & Ghahraman, B. (2016). Reliability of Semiarid Flash Flood Modeling Using Bayesian Framework. *Journal of Hydrologic Engineering*, 05016039.
20. Sadeghi-Tabas, S., Akbarpour, A., **Pourreza-Bilondi, M.**, & Samadi, S. (2016). Toward reliable calibration of aquifer hydrodynamic parameters: characterizing and optimization of arid groundwater system using swarm intelligence optimization algorithm. *Arabian Journal of Geosciences*, 9(18), 719.
21. Afshar, A. A., Hassanzadeh, Y., Besalatpour, A. A., & **Pourreza-Bilondi, M.** (2016). Climate change forecasting in a mountainous data scarce watershed using CMIP5 models under representative concentration pathways. *Theoretical and Applied Climatology*, 1-17.
22. Afshar, A. A., Hassanzadeh, Y., **Pourreza-Bilondi, M.**, & Ahmadi, A. (2018). Analyzing long-term spatial variability of blue and green water footprints in a semi-arid mountainous basin with MIROC-ESM model (case study: Kashafrood River Basin, Iran). *Theoretical and Applied Climatology*, 134(3-4), 885-899.
23. Hassanzadeh, Y., Afshar, A. A., **Pourreza-Bilondi, M.**, Memarian, H., & Besalatpour, A. A. (2019). Toward a combined Bayesian frameworks to quantify parameter uncertainty in a large mountainous catchment with high spatial variability. *Environmental monitoring and assessment*, 191(1), 23.

Journal Publications (Farsi)

1. Sadeghi Tabas, S., Akbarpour, A. and **Pourreza Bilondi, M.**, (2014) Application of Intelligent Algorithms in Providing Optimal Unit Hydrograph Using Probability Distribution Functions, Iranian Journal of Irrigation and Drainage, 8(2), 284- 295.
2. **Pourreza Bilondi, M.**, Akhond Ali, A. M. and Ghahraman, B., (2012) Parameters Uncertainty Analysis in distributed single- event rainfall-runoff model with MCMC approach, Iranian Water Research Journal, 6 (11), 165-173.
3. Sadeghi Tabas, S., **Pourreza-Bilondi, M.** and Taghian, M (2015) Multi-objective optimization of hedging rule model for reservoir operation using evolutionary algorithms, Water and wastewater journal, 26 (5), 14-22

Conference Papers

1. **Mohsen Pourreza-Bilondi**, Samadi S. Zahra., Ali-Mohammad Akhoond-Ali, Bijan Ghahraman. (2015) *American Geophysical Union. 14-17 Dec., 2015. San Francisco, CA, USA- poster presentation.*
2. **Mohsen Pourreza-Bilondi**, Samadi S. Zahra. (2016) Continuous Hydrologic Modeling of Coastal Plain Watershed Using HEC-HMS. *Sustainable hydraulics in the era of global change, 4th IAHR Europe Congress, Belgium, 27-29 July 2016- oral presentation.*

PRESENTATIONS AND INVITED LECTURES

Paper Presentation, “Continuous Hydrologic Modeling of Coastal Plain Watershed Using HEC-HMS,” *Sustainable hydraulics in the era of global change, 4th IAHR Europe Congress, Belgium, 27-29 July 2016.*

Workshop,

- Water Evaluation And Planning (WEAP)*, ISE, Sep,2008.
- Multi- Criteria Decision Making (MCDM)-Tehran-May, 2010
- Uncertainty and system analysis (2011) Eawag- Zurich- Switzerland

PROFESSIONAL TRAINING

Seminar or Workshop

- Swat& Swat-Cup, Shahid Chamran University of Ahvaz, Nov 2014.

Company/Organization,

- Hydrologist specialist, Dezab consulting Eng. Co., River Engineering Affairs. (Feb 2008-2010) <http://www.dezab.com>

PROFESSIONAL AFFILIATIONS

PROFESSIONAL SERVICE

Symposium Co-Organizer

Water Harvesting and Water Congress, Qanat Conf, 2015

Peer-Reviewed Articles for:

- Journal of Hydrologic Engineering (ASCE)
- Arabian Journal of Geosciences (AJGS)
- River Research and Applications
- Theoretical and Applied Climatology (TAAC)

COMMUNITY SERVICE

Organization

[Title/Position/Duty], [Location], Dates

COMPUTER SKILLS

Programming: MATLAB, FORTRAN, R, Macro-excel [VB] (Good), Python

Applications: Office [Excel-Word], Arc GIS (ARC MAP)

REFERENCES

- Dr. Karim Abbaspour (EAWAG, Zurich)
- Dr. Seyedeh Zahra (Vidya) Samadi (Clemson University)
- Dr. Shahrooz Mohajeri (inter3 Institue in Berlin, <https://www.inter3.de/en.html>)
-