

Sanaz Mohammadi



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Education

- 2014-2021 **Ph.D.** Tarbiat Modares University (TMU), Tehran, IRAN.
Water Management and Engineering.
GPA-3.9 / Ranked First.
Dissertation: Modeling Advancing Wetting Front Pattern and Water Distribution under Pulsed Surface Drip Irrigation.
Supervisor: Dr. Seyed Majid Mirlatifi
Advisor: Prof. Mehdi Homaei and Dr. Hossein DehghaniSanij
- 2009-2012 **M.Sc.** Tarbiat Modares University (TMU), Tehran, IRAN.
Irrigation and Drainage Engineering.
GPA-3.9 / Ranked First.
Thesis: Sugarcane Irrigation Scheduling Using a combination of SEBAL Algorithm and SWAP model.
Supervisor: Dr. Seyed Majid Mirlatifi
Advisor: Dr. Mehdi Akbari
- 2005-2009 **B.Sc.** Urmia University, Urmia, IRAN.
Agricultural Engineering/water.

Experience

- Since 2023 **Senior Expert**, Agriculture and Water National Research Center (AWNRC), Tehran, Iran.
- Since 2023 **Peer Reviewer** of Iranian Journal of Soil and Water Research, Tehran, Iran.
- 2021-2023 **International Project** with cooperation of UNDP and the Japanese government: "Participation of Local Communities Modeling in the Revival of Lake Urmia through the Establishment of sustainable Agriculture".
- 2021-2022 **National Project** by Agricultural Research, Education and Extension Organization (AREEO): "Evaluation and Improvement of a Decision Support System (DSS) in Order to Improve Irrigation Management in Pilot Farms of Urmia Lake Basin Area."
- 2018-2021 **Research Assistance and Teacher Assistance**, Tarbiat Modares University, Tehran, Iran.
- 2013-2014 **Irrigation and Drainage Expert**, Yekom Consulting Engineers, Tehran, Iran.

Scholarship and Awards

- 2019 **Iran National Science Foundation:** Project No. 96012623 (3.245 \$).
- 2017 **Ranked First:** Among P.hD. Students of Water Management and Engineering major, Tarbiat Modares University, Tehran, Iran.
- 2015 **Full Scholarship:** from Tarbiat Modare University for Ph.D. Program.
- 2015 **Ranked First:** Among M.Sc. Students of Irrigation and Drainage Engineering major, Tarbiat Modares University, Tehran, Iran.
- 2010 **Ranked 9th:** Among more than 30000 Participants in the National University Entrance Exam for M.Sc.

Research Interests

- Crop Evapotranspiration
- Remote Sensing and Data Assimilation
- Crop Water Productivity
- Irrigation Scheduling and Deficit Irrigation
- Soil Moisture Distribution in the Crop Root Zone
- Crop Growth Modeling
- Precision Agriculture and Sustainable Water Management.

Software skills

- | | |
|----------------|---|
| Remote Sensing | • GIS, ILWIS, ENVI, WaPOR, GEE. |
| Soil and Crop | • HYDRUS-2D, RET-C, SWAP, Aqua Crop, CropWat, DSSAT, CERES, WOFOST. |
| Programing | • R, Python. |

Languages

Turkish	Mother Language
Persian	Excellent
English	Intermediate

Certifications

- Drip Irrigation in Wheat Farming, Urmia University, (INCIID 2018).
- Application of Modern Measuring Instruments in Irrigation and Drainage Networks, Urmia University, (INCIID 2018).
- Extreme Rainfall Estimation in Lake Urmia Using Satellite Images, Urmia University, (INCIID 2018).
- Simulating Irrigation Networks and Drainage in WaterGEMS, Urmia University, (INCIID 2018).
- Course Certificate in Watershed Modeling System, Urmia University, 2009.

- Economic Value of Water in Environmental, Agriculture and Industrial Uses; Water Marketing Background (Case Study: Lake Urmia Basin), Urmia University, (INCIID 2018).
- Health, Safety and Environment Certificate (HSE), Tarbiat Modares University, 2014.
- Design and Implementation of Pressurized Irrigation Systems Certificate, Agriculture and Natural Resources Engineering Organization of Tehran Province, 2012.
- Certification of Teaching Qualification, Tarbiat Modares University, 2012.

Publications

Journal Papers

- 1) Hajirad, I., Ahmadaali, Kh., Liaghat, A., **Mohammadi, S.**, Mirlatifi, S.M., Dehghanisani, H. (2024). Development of a new regional growth model based on reference evapotranspiration for yield prediction. *Journal of Water Management in Agriculture*. (Under review).
- 2) **Mohammadi, S.**, Hajirad, I. (2024). A review of modeling soil moisture distribution under drip irrigation systems. *Iran-Water Resources Research*. (Under review).
- 3) **Mohammadi, S.**, Hajirad, I., & Liaghat, A. (2024). Improving the soil wetting pattern in drip irrigation systems with emphasis on pulsed management. *Iranian Journal of Soil and Water Research*, 54(12), 1885-1911. doi: 10.22059/ijswr.2023.365593.669576.
- 4) Dehghanisani, H., **Mohammadi, S.**, Amini, A., rezaverdinejad, V., nourjou, A., Emami, S., tabatabaai, S. H., jamshidi, B., & dehghanisani, G. (2024). Establishing and evaluating an irrigation decision support system in order to improve irrigation management in pilot farms south of Urmia Lake basin. *Iranian Journal of Soil and Water Research*, 55(1), 33-49. doi: 10.22059/ijswr.2023.365750.669579.
- 5) **Mohammadi, S.**, Mirlatifi, S.M., Homae, M., Dehghanisani, H., Hajirad. (2023). Evaluation of silage maize production under pulsed drip irrigation in a semi-arid region. *Irrigation Science*. <https://doi.org/10.1007/s00271-023-00880-9>.
- 6) Dehghanisani, H., Emami, S., Amini, A., Rezaverdinejad, V., Nourjou, A., **Mohammadi, S.**, Tabatabaai, H., & Jamshidi, B. (2023). Development of an irrigation decision support system and investigating its compatibility with the conditions of Mahabad irrigation and drainage network. *Water and Soil Management and Modelling*. doi: 10.22098/mmws.2023.12456.1243
- 7) **Mohammadi, S.**, Mirlatifi, S.M, Dehghanisani, H., Hajirad, I., Homae, M. (2022). Simulation and investigation of Soil Moisture Distribution and Wetting Patterns in a Clay Soil under Pulsed Drip Irrigation. *Iranian Water Research Journal*, 45(2), 57-69. (In Persian).
- 8) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2022). The Effects of Two Irrigation Management on Growth Indices of Silage Maize in arid and semi-arid climates. *Iranian Journal of Irrigation and Drainage*, 15(6), 1444-1458. doi: 20.1001.1.20087942.1400.15.6.18.8 (In Persian).
- 9) **Mohammadi, S.**, Mirlatifi, S.M, Dehghanisani, H., Hajirad, I., Homae, M. (2021). Modeling Soil Wetting Patterns under Pulsed Drip Irrigation by Dimensional Analysis Method and Comparison with HYDRUS-2D Numerical Model. *Iranian Journal of Soil*

- and Water Research*, 52(7), 1903-1913. DOI: 10.22059/ijswr.2021.322796.668947 (In Persian).
- 10) **Mohammadi, S.**, Mirlatifi, S.M., Homae, M., Dehghanisani, H., Hajirad, I. (2021). Determination of Silage Maize Crop Coefficient under Pulsed Drip Irrigation using Water Balance Method in Varamin. *Iranian Journal of Soil and Water Research*, 52(5), 1223-1237. doi: 10.22059/ijswr.2021.316676.668865. (In Persian).
 - 11) **Mohammadi, S.**, Mirlatifi, S.M., Dehghanisani, H., Homae, M. (2021). Effect of Pulsed Management in Drip Irrigation on Yield, Yield Components and Water Productivity of Silage Maize. *Iranian Journal of Soil and Water Research*, 51(12), 3135-3145. doi: 10.22059/ijswr.2020.309258.668726. (In Persian).
 - 12) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Effects of Different Pulsed Drip Irrigation Levels on the Yield and Water Productivity of Silage Maize. *Water and Irrigation Management*, 11(2), 87-98. doi: 10.22059/jwim.2021.306782.807. (In Persian).
 - 13) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Effects of Different Pulsed Drip Irrigation Levels on the Yield and Water Productivity of Silage Maize. *Water and Irrigation Management*, 11(2), 87-98. doi: 10.22059/jwim.2021.306782.807. (In Persian).
 - 14) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Estimating Silage Maize Crop Coefficient and Water Stress Coefficient under Different Irrigation Levels using Soil Water Balance Method (Case Study: Varamin Region). *Iranian Journal of Soil and Water Research*, 52(9), 2359-2371. doi: 10.22059/ijswr.2021.326719.669013. (In Persian).
 - 15) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Investigating the effect of deficit irrigation on yield and water productivity of silage maize under pulsed and continuous drip irrigation management. *Iranian Water Research Journal*, 15(3), 15-23. (In Persian).
 - 16) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Determining Actual Evapotranspiration of Silage Maize using Soil Water Balance Method under Different Drip Irrigation Levels with Pulsed and Continuous Management (Case Study: Varamin Region). *Iranian Journal of Soil and Water Research*, 52(7), 1869-1880. doi: 10.22059/IJSWR.2021.322095.668940. (In Persian).
 - 17) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Determining yield response factor (ky) of silage maize under different irrigation levels of pulsed and continuous irrigation management. *Central Asian Journal of Plant Science Innovation*. 1(4). 214-220.
 - 18) **Mohammadi, S.**, Mirlatifi, S.M., Akbari, M. (2015). Sugarcane Irrigation Scheduling by Combining Remote Sensing Data and SWAP Model in Mirza-Kuchak-Khan Sugarcane Agro-Industry, Ahwaz, Iran. *Journal of Water Research in Agriculture*. 28.1(1), 39-50. doi: 10.22092/jwra.2015.101063. (In Persian).

- 1) **Mohammadi, S.**, Hajirad, I. (2024). Estimation of crop yield using the integration of remote sensing data and crop growth model. 15th International Conference on Agricultural Science, Environment, Urban and Rural Development. Tehran. Iran.
- 2) Hajirad, I., **Mohammadi, S.**, Ahmadaali, Kh. (2024). Investigating Spatial-Temporal Changes of Agricultural Water Productivity in Urmia Lake Basin. 15th International Conference on Agricultural Science, Environment, Urban and Rural Development. Tehran. Iran.
- 3) **Mohammadi, S.**, Hajirad, I., Dehghanisani, H. (2023). Pulse management as an On-Farm technique for efficient application of irrigation water. 25th ICID International Congress (ICID). Visakhapatnam, India.
- 4) Hajirad, I., **Mohammadi, S.**, Dehghanisani, H. (2023). Investigating agricultural water productivity in lake Urmia basin using WaPOR database. 25th ICID International Congress (ICID). Visakhapatnam, India.
- 5) **Mohammadi, S.**, Dehghanisani, H., Rezaverdinejad, V., Dehghanisani, Gh. (2023). Less Irrigation Water use in Lake Urmia Basin using Internet of Things and Smart Irrigation. 25th ICID International Congress (ICID). Visakhapatnam, India.
- 6) Hajirad, I., **Mohammadi, S.**, Dehghanisani, H. (2023). Determining the Critical Points of a Basin from the Point of View of Water Productivity and Water Consumption Using the WaPOR Database. *Environ. Sci. Proc.* 25, 86. <https://doi.org/10.3390/ECWS-7-14322>.
- 7) **Mohammadi, S.**, Dehghanisani, H., Rezaverdinejad, V., Nourjou, A. (2023). Social Challenges of Introducing a Decision Support System for Agricultural Irrigation Management Where Lake Urmia is almost Dead. WCRP Open Science Conference. 23-27 Oct 2023.
- 8) **Mohammadi, S.**, Dehghanisani, H., Hajirad, I. (2023). climate change and its effects on plants. WCRP Open Science Conference. 23-27 Oct 2023.
- 9) Hajirad, I., **Mohammadi, S.**, Mirlatifi, S.M., Dehghanisani, H. (2021). Evaluation of AquaCrop Model to Simulate Silage Maize Yield under different irrigation interval managements. Sixth International Conference on Science and Technology of Agricultural Sciences, Natural Resources and Environment of Iran·Tehran·<https://civilica.com/doc/1237077>. (In Persian).
- 10) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Investigating the effect of deficit irrigation on yield and water productivity of silage maize under pulsed and continuous drip irrigation management. The first national conference on irrigation deficiency and the use of unconventional water in agriculture in dry areas·Mashhad·<https://civilica.com/doc/1193861>. (In Persian).
- 11) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2021). Determining Yield Response Factor of Silage Maize (ZP 606) under Pulsed and Continuous Drip Irrigation. The first national conference on irrigation deficiency and the use of unconventional water in agriculture in dry areas·Mashhad·<https://civilica.com/doc/1193862>. (In Persian).
- 12) **Mohammadi, S.**, Hajirad, I., Mirlatifi, S.M., Dehghanisani, H. (2019). The effects of deficit irrigation on soil moisture distribution in drip irrigation. Third National Conference

- on Coastal Water Resources Management, Sari, Iran, <https://civilica.com/doc/950938>. (In Persian).
- 13) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2019) The Effects of Deficit Irrigation on silage Maize LAI under Drip Irrigation System. Third National Conference on Coastal Water Resources Management, Sari, Iran, <https://civilica.com/doc/950933>. (In Persian).
 - 14) **Mohammadi, S.**, Mirlatifi, S.M., Dehghanisani, H., Hajirad, I. (2018). Effects of Pulsed Drip Irrigation on Soil Moisture Distribution under water stress Conditions, The 1st International and 4th National Congress on Iranian Irrigation and Drainage, Urmia, <https://civilica.com/doc/1025369>.
 - 15) **Mohammadi, S.**, Mirlatifi, S.M., Dehghanisani, H., Hajirad, I. (2018). The Conversion of Permittivity Measured by a PR2/6 into Volumetric Soil Moisture Content in a Loamy Soil under Field Calibration. The 1st International and 4th National Congress on Iranian Irrigation and Drainage. Urmia. <https://civilica.com/doc/1025366>. (In Persian).
 - 16) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2018). The Effect of Different Pulsed and Continuous Drip Irrigation Regimes on LAI of Twin-Row Forage Maize. The 1st International and 4th National Congress on Iranian Irrigation and Drainage, Urmia, <https://civilica.com/doc/1025367>. (In Persian).
 - 17) Hajirad, I., Mirlatifi, S.M., Dehghanisani, H., **Mohammadi, S.** (2018). Soil Wetting Pattern of Drip Irrigated Maize as influenced by Deficit Irrigation and Discharge Rate, The 1st International and 4th National Congress on Iranian Irrigation and Drainage, Urmia, <https://civilica.com/doc/1025368>.
 - 18) **Mohammadi, S.** and Mirlatifi, S.M. (2016). Estimation of Wheat Crop Coefficient Using Remote Sensing-Based Vegetation Index. 2nd Iranian congress on soil and Water Engineering and Management. Iran. (In Persian).
 - 19) **Mohammadi, S.** and Bourbour, S. (2012). Assessment of Cropwat 8.0 for Estimation of Reference Evapotranspiration Using Limited Climatic Data. 3rd National Conference on Comprehensive Water Resource Management. Iran. (In Persian).

Publications

Books

- 1) **Mohammadi, S.**, Hajirad, I., Dehghanisani, H. (2023). Soil Moisture Distribution Under Drip Irrigation Systems. Tehran Academic Jihad Publications. (In Persian).
- 2) Hajirad, I., **Mohammadi, S.** (2021). Water Wells (Maintenance, Troubleshooting and Rehabilitation: A Practical Guide to Understanding Well Problems and Solutions). Dibagaran Publications. Tehran. (In Persian).
- 3) Hajirad, I., **Mohammadi, S.** (2020). Irrigation and Drainage Engineering. Dibagaran Publications. Tehran. (In Persian).

References

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