

Samereh Falahatkar

Age: 43 years old (1982/03/21)

Marital status: Married/ Two children

Spoken Language: Persian, English

Born in: Lahijan (Iran)



Education:

PhD., Natural Resources and Marine Science Faculty, Tarbiat Modares University, 2009-2014.

Thesis: Modeling of Temporal and Spatial Soil Organic Carbon Change in Related to Land Use and Land Cover in Future Four decades in Deylaman Region(Supervisor: Dr Seyed Mohsen Hosseini, Dr Abdolrasoul Salman Mahini, Co-supervisor: Dr. Shamsollah Ayoubi)

MSc., Natural Resources Faculty, Isfahan university of technology, 2006- 2008.

Thesis: Isfahan Land cover change detection using remote sensing and GIS. (Supervisor: Dr Ali Reza Soffianian, Dr Seyed Jamaledin Khajedin, Co-supervisor: Mr. Hamid Reza Ziaee)

BSc., Natural Resources Faculty, Tehran university, 2001-2005.

Research Interests:

Monitoring of Greenhouse gases by Satellite Data

Climate Change

Application of remote sensing data for environmental management

Environmental Modelling

Teaching Course:

Geographical Information System (M.Sc.)

Advanced in Remote Sensing (M.Sc.)

Landscape Planning (M.Sc.)

Impact Assessment of Climate Change (M.Sc.)

Environmental Planning and Assessment Methods (Ph.D.)

Publication:

- Alizadeh, F., **Falahatkar, S.**, Afzali, A., Mousavi, S. 2025, Detection of internal dust storm centers and their transport and dispersion modelling in southwestern Iran, *Acta Geophysica*. (Accepted)
- Asadi-Fard, E., **Falahatkar, S.**, Tanha Ziyarati, M., Zhang, X., 2024, A New Achievement of Satellite-based Gas Flaring Volume Estimation: Decision Tree Modeling, *Earth Science informatics*, 1-15, <https://doi.org/10.1007/s12145-024-01316-4>
- Asadi-Fard, E., **Falahatkar, S.**, Tanha Ziyarati, M., Zhang, X., 2024, A New Perspective on Estimation of Gas Flaring Volume from Space: OLI/TIRS, VIIRS, and TROPOMI, *Journal of geophysical research*, 129: 1-12. 10.1029/2023JD039524 (IF: 3.88)
- Asadi-Fard, E., **Falahatkar, S.**, Tanha Ziyarati, M., Zhang, X., Faruolo, M., 2023, Assessment of RXD Algorithm Capability for Gas Flaring Detection through OLI-SWIR Channels, *Sustainability*, 2023, 15, 5333. <https://doi.org/10.3390/su15065333>. (IF:3.88)
- Safaeian, S., **Falahatkar, S.**, Tourian, M.J., 2023. Satellite observation of atmospheric CO₂ and water storage change over Iran. *Scientific Reports*. 13: 3036-3051. <https://doi.org/10.1038/s41598-023-28961-x> . (IF: 4.99)
- Sangi, S., **Falahatkar, S.**, Gholamalifard, M., 2022. Spatiotemporal Variation of Nitrogen Dioxide and Nighttime Light Dataset of Iranian Metropolises in the COVID-19 Outbreak. *Journal of Environmental Informatics*, 41 (2): 130-140. doi:10/3808/jei.202300488. (IF: 10.22)
- Shojaei Baghini. N., **Falahatkar, S.**, Hassanvand, M.S., 2022. Time series analysis and spatial distribution map of aggregate risk index due to tropospheric NO₂ and O₃ based on satellite observation. *Journal of Environmental Management*, 304, 1142020. (IF: 8.91)
- Mousavi, S.M., **Falahatkar, S.**, 2020. Spatiotemporal distribution patterns of atmospheric methane using GOSAT data in Iran, *Environment, development and sustainability*, 24: 4191-4207. <https://doi.org/10.1007/s10668-019-00378-5>.(IF: 4.08)
- **Falahatkar, S.**, Rezaei, F., 2020. Towards low carbon cities: Spatio-temporal dynamics of urban form and carbon dioxide emissions, *Remote Sensing Applications: Society and Environment*, 18:100317. <https://doi.org/10.1016/j.rsase.2020.100317>.(IF:3.8)
- Mirchooli, F., Kiani-Harchegani, M., Khaledi Darvishan, A., **Falahatkar, S.**, Sadeghi, S. H., 2020. Spatial distribution dependency of soil organic carbon content to important environmental variables, *Ecological Indicators*, 116: 106473. (IF: 6.22)
- Chezgi, J., Vafakhah, M., **Falahatkar, S.**, 2019. Spatial Resolution Effect of Remotely Sensed Data on Flood Hydrograph Simulation, *Journal of the Indian Society of Remote Sensing*, <https://doi.org/10.1007/s12524-019-01060-z>. (IF: 1.89)
- Siabi, Z., **Falahatkar, S.**, Alavi, S.J., 2019. Spatial distribution of XCO₂ using OCO-2 data in growing seasons, *Journal of environmental management*, vol 244, 110-118, <https://doi.org/10.1016/j.jenvman.2019.05.049>. (IF: 8.91)

- Mousavi, S.M., **Falahatkar, S.**, Farajzadeh, M., 2017. Assessment of seasonal variations of carbon dioxide concentration in Iran using GOSAT data, *Natural resources forum*, vol 41, No. 2, 83-91, DOI: 10.1111/1477-8947.12121. (IF: 2.73)
- **Falahatkar, S.**, Mousavi, S.M., Farajzadeh, M., 2017, Spatial and Temporal Distribution of Carbon Dioxide Gas using GOSAT Data over IRAN, *Environmental monitoring and assessment*, 189:627, doi.org/10.1007/s10661-017-6285-8. (IF: 3.30)
- **Falahatkar, S.**, Hosseini, S.M., Ayoubi, S., Salman Mahiny, A.R., 2016, Predicting Soil Organic Carbon Density using Auxiliary Environmental Variables in Northern Iran, *Archive of Agronomy and Soil Science*, 62, p: 375-394. [DOI]: 10.1080/03650340.2015.1051472
- **Falahatkar, S.**, Hosseini S. M., Salman Mahiny, A.R., Ayoubi, S., Wang. S., 2014. Soil Organic Carbon Stock as Affected by Land Use Changes in the Humid Region of Northern Iran, *Journal of Mountain science*, Vol 11 (2), p: 507-518. [DOI] 10.1007/s11629-013-2645-1.
- **Falahatkar, S.**, Soffianian, A. R. Khajeddin, S. J., Ziaee, H.R., Ahmadi Nadoushan, M., 2011, Integration of Remote sensing Data and GIS for Prediction of Land Cover Maps. *International journal of geomatics and geosciences*, vol 1(4): 847-864.
- **Falahatkar, S.**, Hosseini, S. M., Soffianian, A.R., 2011, Retrieval Land surface temperature using TM and ETM+ thermal Bands (case study: Isfahan city, Iran), *Indian journal of science and technology*, vol4 (2): 19-25.
- Soffianian, A. R., Ahmadi Nadoushan, M., Yaghmaei, L. **Falahatkar, S.**, 2010, Mapping and analyzing urban expansion using remotely sensed imagery, Iran, *World Applied Sciences Journal*. 9 (12). 1370-1378.

Seminars

- **Falahatkar, S** & Soffianian, A. R. 2008. *Land Cover Change Detection Using Post-Classification Comparison: the case study of Isfahan, Iran*. International congress of environmental research. Goa. India, 18-20 December.
- **Falahatkar, S.**, Hosseini, S. M., Salman Mahiny, A.R., 2012, *The Relationship of Primary Terrain Attributes on Soil Organic Carbon in Agriculture (Case study: Deylaman Region, Iran)*, 8th International Soil Science Congress” Land degradation and Challenges in soil management”, Ege University, Turkey, 15-17 May.
- **Falahatkar, S.**, Hosseini, S. M., Salman Mahiny, A.R., Ayoubi, S, 2013, *Artificial Neural Network as an Effective Tool for Predicting Soil Organic Carbon Density in Different Land*

Uses in Northern Iran, International Conference on Applied Life Sciences (ICALS), UAE, 15-17 September.

- Falahatkar, S.**, Hosseini, S. M., Salman Mahiny, A.R., Ayoubi, S, 2013, ***PREDICTION OF LAND COVER CHANGES BY THE INTEGRATION MLP AND CA-MARKOV MODEL***. 2th international conference of Sensors and Model in Photogrametry and Remote Sensing., Tehran University, Iran. 6-8 October.
- Falahatkar, S.**, 2015. Linear Spectral unmixing: ***A soft Classifier for producing land cover map***. 3th international conference of Sensors and Model in Photogrametry and Remote Sensing, Kish. 23-25 November.
- Mousavi, S.M., **Falahatkar, S.**, Farajzadeh, M., 2017, ***Investigation of the Relationship between Satellite Retrieval CO₂ Concentration and NDVI over IRAN***, International conference on Climate Change, Sri Lanka, 16-17 February.
- Siabi, z., **Falahatkar, S.**, Alavi, S.J., 2017, ***Modeling of the atmospheric CO₂ concentration using Random Forest Model***, 32th International conference on Remote sensing, India, 23-27 October.
- Siabi, z., **Falahatkar, S.**, Alavi, S.J., 2018, ***Spatial Distribution of XCO₂ using the OCO-2 Data and Environmental Variables over Iran***, Seventh International Conference on Remote Sensing and Geoinformation of the Environment, 18-21 March, Paphos, Cyprus.
- Falahatkar, S., Asadi-Fard, E., 2024, ***Integration of remotely sensed data and neural network modeling for gas flaring volume estimation***. Oman conference for environmental sustainability (Decarbonization), Masqat, Oman.

Projects:

- Executor: Development of infrastructure for gas flaring volume estimation and air pollutant in southern Pars region using remote sensing in Pars Special Economic Energy Zone, 2025, Supported by Research and Technology of PSEEZ. (Grant number: 03-10-090).
- Executor: Site selection of wastewater treatment plants by GIS and decision making method in Kangan city, 2025, Supported by Bushehr Water and Wastewater Company.
- Executor: Quantification of air pollutants changes due to COVID-19 outbreak over Iran, 2022, Supported by Iran National Science Foundation (Grant number: 99012652).
- Executor: Spatial distribution Modeling of CO₂ in related to land cover components by remote sensing, 2019, Supported by Iran National Science Foundation (Grant number: 96001126).

- Executor: Spatial and temporal distribution monitoring of CO₂ and CH₄ in related to land cover using GOSAT data, 2016, Supported by Iran National Science Foundation (Grant number: 94009935).
- Executor: Investigation of atmospheric CO₂ Variations on total water storage over Iran. 2018, Supported by Iran National Science Foundation (Grant number: 98020586).