

Curriculum Vitae

Dr. Ali Shamsoddini

Assistant Professor at Tarbiat Modares University, Tehran, Iran

Date of Birth

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Education

2013 to 2014- Postdoctoral fellow in Remote Sensing Applications in Mining, School of Mining Engineering, University of New South Wales, Australia.

2009 to 2013- PhD in Remote Sensing, School of Surveying and Geospatial Engineering, University of New South Wales, Sydney, Australia.

Title of thesis: "Retrieval of Pine Plantation Structure using Remotely Sensed Data Fusion".

2003 to 2006 - M.Sc. in Remote Sensing and GIS, Department of Remote Sensing and GIS, Tarbiat Modares University (TMU), Tehran, Iran.

Title of thesis: "Assessment of the effect of spatial resolution differences between multi-spectral and panchromatic image on quality of fused images", Excellent score (19.62 out of 20)

1999 to 2003 – B.Sc. in Natural Resources Engineering – Range and

Watershed Management, Natural Resource Department, Agricultural and Natural Resource Sciences University, Gorgan, Iran.

B.Sc. project: Providing the land use map for Damavand watershed, Iran.

Research area

Natural resource management including forest, plantations and agricultural areas using different types of remotely sensed data

Other research interests

- Data fusion
- SAR filters
- Lidar analysis
- Data mining in remote sensing
- Remotely sensed data applications in plantations and precision agriculture
- Remotely sensed data-based evapotranspiration estimations in agricultural areas

Academic honours

- Second grade of graduated students of natural resource management engineering, Gorgan University (2002- 2003).
- First grade in M.Sc. entrance examination of remote sensing and GIS among other candidates in Iran (2003).
- Superior student of Tarbiat Modares University (2004).
- First grade of graduated students of remote sensing and GIS, Tarbiat Modares University (2006)
- Superior student of ministry of sciences, researches and technology of Iran (2006).

Awards

- Winner of Best Research and Review Paper Award 2013 of Journal of Spatial Science
- Winner of DigitalGlobe 8-band challenge competition (2011).
- Winner of the 2011 Dean's Award for Excellence in Postgraduate Research, University of New South Wales.
- Winner of the prime paper in remote sensing section of geomatic conference 86, 6-9 May 2007, Tehran, Iran.

Scholarship

- PhD scholarship from Ministry of Science of Iran for 45 months (2009-2013)
- Postdoctoral Writing Fellowship Grants from UNSW for 3 months (2013)

Language Skills

- Persian (mother tongue)
- English

Academic Presentations

- Applications of remote sensing and GIS to reduce the effects of drought, Department of Remote Sensing and GIS, Tarbiat Modares University, Tehran, Iran (2003).
- Introduction to the geometric correction methods of Radar images, Department of Remote Sensing and GIS, Tarbiat Modares University, Tehran, Iran (2004).
- Radar backscatter and optical textual indices fusion for pine plantation structure mapping, Remote Sensing and Earth Observation Fields Seminar, Surveying & Spatial Sciences Institute (SSSI), Sydney, Australia (2012).
- Improved Forest Structure Retrieval and lidar Coverage Reduction, Remote Sensing and Earth Observation Fields Seminar, Surveying & Spatial Sciences Institute (SSSI), Sydney, Australia (2014).

Information Technology Skills

- RS and GIS software: Arc view, Arc GIS, ENVI, PCI Geomatica, ERDAS
- Statistical software: SPSS
- General software: Microsoft office 2003, 2007, Microsoft PowerPoint 2003, 2007, Microsoft Excel 2003, 2007
- Operating system: Microsoft windows 2000, XP 2002
- Programming: MATLAB

Work experience

Worked as GIS officer at Lar Consulting Engineers Company, Tehran, Iran (September 2003-December 2004).

Journal referee

Worked as journal reviewer since 2013 till now for the following journals:

- International Journal of Remote Sensing
- Earth Science Informatics
- International Journal of Remote Sensing Applications
- Journal of Spatial Planning
- Iranian Remote Sensing & GIS Journal

Publications

Conference paper

- **SHAMSODDINI, A., ABOODI, M., & KARAMI, J.** 2017. Tehran air pollutants prediction based on random forest feature selection method. *ISPRS Int.Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, Vol. XLII-4/W4, 483-488.
- **MAGHREBI, M., SHAMSODDINI, A., & TRAVIS WALLER, S.** 2015. Machine Learning Fusion Based Technique for Predicting the Concrete Pouring Production Rate Based on Traffic and Supply Chain Parameters." Transportation Research Board 94th Annual Meeting. 15pp.
- **SHAMSODDINI, A., RAVAL, S. & TAPLIN, R.** 2014. Spectroscopic analysis of soil metal contamination around a derelict mine site in the Blue Mountains, Australia, *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, Vol.II-7, 75-79.
- **KARIYAWASAM, N., RAVAL, S. & SHAMSODDINI, A.** 2014. Incorporating remote sensing as a tool to assist rehabilitation monitoring in a dolomite mining operation in South Australia, Proceedings of The XXV FIG International Congress 2014. Accepted.
- **SHAMSODDINI, A., TRINDER, J. C. & TURNER, R.** 2013. Non-linear methods for inferring lidar metrics using SPOT-5 textural data. *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, Vol.II-5/W2, 259-264.

- TRINDER, J. C., **SHAMSODDINI**, A. & TURNER, R. 2013. Relating WorldView-2 data to pine plantation lidar metrics. *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, Vol.II-5/W2, 301-306.
- **SHAMSODDINI**, A., TRINDER, J. C. & TURNER, R. 2012. SPOT-5 multispectral image for pine plantation structure mapping. *ACRS*, 2012 Bangkok, Thailand, 1-10.
- **SHAMSODDINI**, A. 2012. Radar backscatter and optical textural indices fusion for pine plantation structure mapping. *ISPRS Annals*, I-7,309-314.
- DIONIZIO, M. F., **SHAMSODDINI**, A. & TRINDER, J. C. 2011. Noise reduction algorithm for full-waveform lidar signal. *IEEE International Conference on Signal and Image Processing Applications (ICSIPA)*, 2011, 16-18 Nov. 2011. 332-336.
- **SHAMSODDINI**, A., TRINDER, J. C. & TURNER, R. 2011. Biophysical parameter estimation of a pine plantation from satellite images using artificial neural networks. *ISRSE 34*, 2011 Sydney, Australia. 1-4.
- **SHAMSODDINI**, A., TRINDER, J.C., & TURNER, R., 2011. Quantization of Pinus forest biophysical parameters using WorldView-2. *Latin American Geospatial Forum*, Rio De Janeiro, Brazil, 17-19 August, 15pp.
- **SHAMSODDINI**, A. & TRINDER, J. C. 2010. Image texture preservation in speckle noise suppression. In: WAGNER, W. & SZÉKELY, B., eds. *ISPRS VII Symposium*, 2010 Vienna, Austria. *IAPRS*, 239-243.
- **SHAMSODDINI**, A., ALIMOHAMMADI, A., ZEAIEAN, P., 2007, Using of visual index to compare the interpretative quality of fused images, *Geomatic conference 86*, Tehran, Iran.
- **SHAMSODDINI**, A., ALIMOHAMMADI, A., ZEAIEAN, P., 2006, Homogeneity-based IKONOS data fusion by PCA-wavelet approaches, *13th Remote sensing and Photogrammetry Conference*, Australia.
- ALIMOHAMMADI, A., ZEAIEAN, P., **SHAMSODDINI**, A., 2006, Study the effect of pixel size difference between panchromatic and multispectral images on the quality of the fused images, *Geomatic conference 85*, Tehran, Iran.
- **SHAMSODDINI**, A., MOHAMMADIAN, A., ARABI, M., 2006, Improving of the landslide hazard zonation with using of land use parameter, *Geomatic conference 85*, Tehran, Iran.

Journal paper

Published

- **SHAMSODDINI, A. & RAVAL, S.** 2018. Mapping red edge-based vegetation health indicators using Landsat TM data for Australian native vegetation cover. *Earth Science Informatics*, 1-8.
- **SHAMSODDINI, A.** 2017. LiDAR and optical data capability assessment for plantation structural parameter estimation, *The Journal of Spatial Planning*, 21,119-145.
- **LEE, I.K., SHAMSODDINI, A., LI, X., TRINDER, J. C. & LI, Z.** 2016. Extracting hurricane eye morphology from spaceborne SAR images using morphological analysis. *ISPRS Journal of Photogrammetry and Remote Sensing*, 117(July 2016), 115-125.
- **MAGHREBI, M., SHAMSODDINI, A. & WALLER, S.T.** 2016. Fusion based learning approach for predicting concrete pouring productivity based on construction and supply parameters. *Construction Innovation: Information, Process, Management*, 16(2), 185-202.
- **SHAMSODDINI, A.** 2016. Pine forest structural parameter retrieval using Radar images, *The Journal of Spatial Planning*, 20,53-78.
- **SHAMSODDINI, A., TRINDER, J. C. & TURNER, R.** 2015. Paired-data fusion for improved estimation of pine plantation structure. *International Journal of Remote Sensing*, 35, 1995-2009.
- **RAVAL, S. & SHAMSODDINI, A.** 2014. A monitoring framework for land use around kaolin mining areas through Landsat TM images. *Earth Science Informatics*, 7, 153-163.
- **RAVAL, S., SARVER, E., SHAMSODDINI, A., ZIPPER, C., DONOVAN, P., EVANS, D., & CHU, H.T.** 2014. Satellite remote sensing-based estimates of biomass production on reclaimed coal mines. *Mining Engineering*, 66, 76-82.
- **SHAMSODDINI, A., TURNER, R., TRINDER, J. C.** 2013. Improving lidar-based forest structure mapping with crown-level pit removal. *Journal of Spatial Science*, 58, 29-51.
- **SHAMSODDINI, A., TRINDER, J. C. & TURNER, R.** 2013. Pine plantation structure mapping using WorldView-2 multispectral image. *International Journal of Remote Sensing*, 34, 3986-4007.
- **SHAMSODDINI, A. & TRINDER, J. C.** 2012. Neural networks fusion for regression problems. *International Journal of Machine Learning and Computing*, 2, 4, 511-516.
- **SHAMSODDINI, A. & TRINDER, J. C.** 2012. Edge-detection-based filter for SAR speckle noise reduction. *International Journal of Remote Sensing*, 33, 2296-2320.

- ALIMOHAMMADI, A., SHAMSODDINI, A. & ZEAIEAN, P.2008. Comparison of spectral and spatial performance of image fusion methods in several difference resolutions of multi-spectral and pan images, *The Journal of Spatial Planning*, 12,119-137.