Dr. Akbar Najafi

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EDUCATION

Ph.D, Forest Engineering, University of Tehran, Iran August 2005
MSc, Forest Engineering, University of Tehran, Iran, 1998
BSc. Forestry and Forest Economy, University of Tehran, Iran, 1996
Visiting student, University of New Brunswick, **Canada**, 2004-2005
Research Interests:
- Designing Forest Road network & Scheduling Forest Road Maintenance
- Forest Operation Research
- Decision Support System in Forestry
- Assessment Timber Harvesting Impacts

Membership of Scientific Societies:
Iranian Forestry Association

PUBLICATIONS

Shabani, S., **Najafi, A**, Majnonian, B, Alavi, J, A Sattarian **2019.** Spatial prediction of soil disturbance caused by forest logging using generalized additive models and GIS. European Journal of Forest Research. 1-9.

Heidari, M.J**., Najafi, A**. **2018**. Pavement Deterioration Modeling for Forest Roads Based on Logistic Regression and Artificial Neural Networks. Crotian journal of Forest Engineering. 39 (2), 271-287.

Heidari, M.J., Najafi, A SJ Alavi. **2017**. Detecting the warning level of forest roads pavement using the genetic algorithm. Iranian Journal of Forest and Poplar Research. 24(4).

Kartoolinejad, D., Najafi, A S Kazemi-Najafi 2017. Long-Term Impacts of Ground Skidding on Standing Trees: Assessment of Decay Using Stress Waves. Environmental Engineering & Management Journal.16(10), 2283-2291.

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Pazhouhan, I., A **Najafi, A** KamkarRouhani, J Vahidi. **2017**. Subsurface elements prediction for the design of forest road using ground penetrating radar technique. Bulletin of Engineering Geology and the Environment. 1-9.

Ramin Naghdi, Ahmad Solgi, Eric K Zenner, Akbar Najafi, Ali Salehi, Mehrdad Nikooy **2017**. Compaction of forest soils with heavy logging machinery. Silva. 18(1), 25-39.

Mohammadi, M.F., **Najafi, A.,** Ahmadloo, F. **2017**. Using the Analytical Network Process (ANP) based on BOCR Model to select the most suitable region for forestation withalmond species, 7, 118-127. Journal of Forest Science.62(7), 337-344.

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Ezzati, S., **Najafi, A.,** Bettinger, P. **2016.** Finding feasible harvest zones in mountainous areas using integrated spatial multi-criteria decision analysis. Landuse policy,59,478-491.

Peyrov, S., **Najafi, A.,** Nourizadeh, J. **2016**. Evaluating the effects of physiographic parameters on the road cross section in mountain forests (Case study: northern forests of Iran). Journal of Forest Science.62(1), 1-7.

Ezzati, S., **Najafi, A.,** Yaghini, M., Hashemi, A.A., Bettinger, P. **2015**. An optimization model to solve skidding problem in steep slope terrain. Journal of Forest Economics, 21, 250-268

Jaafari, A, **Najafi, A**., Rezaeian, J, Sattarian, A. **2015**. Planning road network in landslide-prone areas: A case study from the northern forests of Iran. Landuse policy, 47, 198-208.

Jaafari, A., **Najafi, A.,** Melón, MG. **2015**. Decision-making for the selection of a best wood extraction method: An analytic network process approach. Forest Policy and Economics 50, 200-209.

Shabani, S., **Najafi A,** Majnounian B, Alavi J, Sattarian A. **2015**. Spatial Prediction of Soil Disturbance Caused by Forest Logging Using Generalized Additive Models and GIS. Iforest. *Inpress*.

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Agherkakli, B., **Najafi, A**., Sadeghi, S.H, Zenner, E. **2014**. Mitigating effects of slash on soil disturbance in ground-based skidding operations. Scandinavian Journal of Forest Research, 1-7

Azizi, Z., **Najafi, A.,** Sadeghian, S. **2014**. Forest Road Detection Using LiDAR Data. Journal of Forestry Research 25 (4), 975-980

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Jaafari, A, **Najafi, A**, Pourghasemi, H R, Rezaeian, J, Sattarian, A. **2014**.GIS-based frequency ratio and index of entropy models for landslide susceptibility assessment in the Caspian forest, northern Iran. International Journal of Environmental Science and Technology, 1-18

Solgi, A, **Najafi, A. 2014**. The impacts of ground-based logging equipment on forest soil. Journal of Forest Science 60 (1), 28-34

Solgi, A, **Najafi, A.,** Sadeghi, SHR. **2014**. Effects of traffic frequency and skid trail slope on surface runoff and sediment yield. International Journal of Forest Engineering 25 (2), 171-178

Bayati, H., **Najafi, A. 2013.** Reduced Impact Logging and Its Effect on Forest Harvesting Operation. Iranian Journal of Forest and Poplar Research. In press.

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Ghajar, I., **Najafi, A.,** Karimi Majd, A.M., Boston, K., Torabi, S.A. **2013**. A program for the cost estimation of forest road construction using engineer's method. Journal of Forest Science and Technology. 9(3): 111-117.

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Ezzati, S., **Akbar Najafi**, M. A. Rab and Eric K. Zenner. **2012**. Recovery of Soil Bulk Density, Porosity and Rutting From Ground Skidding Over a 20-Year Period after Timber Harvesting in Iran. Silva Fennica. 46(2):521-538.

Ghajar, I., **Najafi**, A. **2012**. Evaluation of harvesting methods for sustainable forest management (SFM) using the analytical network process (ANP). Journal of Forest Policy and Economy: 1-11.

Ghajar, I., **Najafi**, A. Torabi, S.A., Boston, K. **2012**. Rockshare estimation in forest road excavation using the Ordinal Logistic Regression (OLR) and the Analytical Hierarchy Process (AHP). Iranian Journal of Forest and Poplar Research. 20(2): 313-323.

Ghajar, I., **Najafi**, A. Torabi, S.A., Khamehchiyan, M., Boston, K. **2012**. An Adaptive Network-based Fuzzy Inference System for Rock Share Estimation in Forest Road Construction. 33(2): 313-328.

Gilanipoor, N., **Najafi**, **A**., Heshmatalvaezin, S.M. **2012**. Productivity model and Cost of steel tracked skidder LTT-100A in downward skidding . Irannian Journal of Forest. 4(3): 90-98.

Imani, P., **Najafi**, **A**., Ghajar, I. **2012**. Planning Forest Road Alignment Using a Shortest Path Algorithm and Geographic Information System. Iranian Journal of Forest and Poplar Research. 20(3): 460-471.

Agherkakli, B., **Najafi, A.,** Sadeghi, S.H. **2011**. Change in Soil hysical Properties in Response to Metal - Tracked Skidder Traffic. International Journal of Natural resources and Marin Sciences. 1(1): 1-8.

Ezzati, S., **Najafi**, **A. 2011**. Impact of Animal Logging on Soil Physical Properties in Mule Trail in Hyrcanian Forests. Transportation Research Part D. 16(4): 316-320.

Ezzati, S., Samani, K.M., **Najafi**, **A**., Hassangholipour, H. **2011**. Evaluateand develop an Existing Forest Road network Base on Environmental Factors. Forestry Ideas.17, 2 (42): 191-199.

Gilanipour, N. **Najafi**, **A**., Heshmatolvaezin, S.M. **2011**. Optimum combination of animal and farm tractor skidding systems in wood harvesting. Journal of Forest and Wood Products . 65(1):71-82.

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Kooch, Y., **Najafi**, **A. 2011**. Ecological Potential Assessment of Forest Groups Using Fuzzy Set Theory and Regression Analysis of Soil Characteristics (Case Study: Khanikan Forest, Chalus, Iran). Journal of Wood & Forest Science and Technology. 18(1): 43-60.

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Agherkakli, B., **Najafi, A.,** Sadeghi, S.H. **2010.** Ground based operation effects on soil disturbance by steel tracked skidder in a steep slope of forest. Journal of Forest Science. 56(6): 278-284.

Ezzati, S., **Najafi, A. 2010**. Long-Term Impact Evaluation of Ground-Base Skidding on Residual Damaged Trees in the Hyrcanian Forest, Iran. International Journal of Forestry Research, vol. 2010, Article ID 183735, 8 pages, 2010. doi:10.1155/2010/183735

Ghajar, I., **Najafi, A**., Ezzati, S. **2010**. Skidding Machines Allocation (SMA) Using Fuzzy set Theory. Croatian Journal of Forest Engineering. 31(2): 92-110.

Kooch, Y., **Najafi**, **A**. **2010**. Application of Analytical Hierarchy Process (AHP) in Ecological Potential Assessment of Forest Stands in Darabkola Region. Journal of Forest and Wood Products. 63(2): 161-175.

Najafi, A., Solgi, A. **2010**. Assessing Site Disturbance Using Two Ground Survey Methods in a Mountain Forest. Croatian Journal of Forest Engineering. 31(1): 47-55.

Najafi, A., Solgi, A., Sadeghi, S.H. 2010. Effects of Skid Trail Slope and Ground Skidding on Soil Disturbance. Caspian Journal. Environment Science. 8(1):13-23.

Samani, K.M., Hosseiny, S.A., Lotfalian, M. **Najafi, A. 2010**. Planning road network in mountain forests using GIS and Analytic Hierarchical Process (AHP). Caspian Journal. Environment Science. 8(2): 151-162.

Azizi, Z., **Najafi, A**., Fatehi, P., Pirbavaghar, M. **2009**. Forest stand volume estimation using satellite IRS_P6 (LISS_IV) data (Case study: Lirehsar, Tonekabon). Irannian Journal of Forest and Popular Reearch. 18(1): 144-152.

Najafi, A., Solgi, A., Sadeghi, S.H. **2009**. Soil disturbance following four wheel rubber skidder logging on the steep trail in the north mountainous forest of Iran. Soil & Tillage Research. 103: 165-169.

Najafi, A., Sobhani, H., Saeed, A., Mohajer, M., Makhdom, M. **2008**. Planning and Assessment of Alternative Forest Road and Skidding Networks. Croatian journal of Forest Engineering. 29(1):63-73.

Najafi, A., Sobhani, H., Saeed, A., Mohajer, M., Makhdom, M. **2005**. Utilization and Cost of Log Production from Skidder HSM 904. Iranian Journal of Forest and Wood Products. 60(3): 1-10.

Conference paper

Ezzati, S. **Najafi, A**., Bettinger; P., Eriksson, L.O. **2015**. Terrain evaluation to identify

landing locations in mountain areas using soft computation techniques. 48 th Symposium

FORMEC Austria.

Bayati, H,. **Najafi,A. 2015**. Performance evaluation of artificial neural networks to modelling winching time of Timber Jack 450C. 48 th Symposium FORMEC Austria.

Jaafari, A., **Najafi, A. 2014**. Spatial prediction of slope failure in the Caspian forest using an adaptive neuro-fuzzy inference system and GIS. FEC – 47 th Symposium FORMEC – France.

Ezzati, A., Sammani, KM., **Najafi, A**., Hasangholipour, H. 2011. Evaluate and develop an existing forest road network base on environmental factors. International Conference "Forestry Bridge in future". Bulgaria.

Agherkakli B.M, Najafi A. 2008. Investigation of soil compaction by steel tracked skidder on steep terrain. The 1st. International Conference on the Caspian Region Environmental Changes.

Azizi Z , Najafi A, Moradi HR. 2008. Delineation of vegetation coverage / nonvegetation coverage land use classes. 4th GIS Conference Along Withisprs Workshop 6-7 January 2008 National Cartographic Center Tehran, IRAN.

Azizi Z , Najafi A, Sohrabi, H. 2008. Frest Canopy Density Estimating, Using Satellite Images. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences. Part B8. Beijing 2008.

Aghekakli, B.M., Najafi,A. 2008. Investigation of soil compaction by steel tracked skidder on steep terrain. The 1st. International Conference on the Caspian Region Environmental Changes.

Ezatti, S., Najafi, A., Mohammadi, K. 2009. Siting landing using Shortest path algorithm, AHP and GIS. Geographic information System .

Aghekakli, B.M., Najafi,A., Sadeghi, S.H. 2009. Effect of traffic and Compaction on Soil Erossion on Skid Trail. 11th Irannian Soil Science Congress.

Kazemi-Najafi, S. Bolandbakht, F., Najafi, A. 2009. Detection of Internal Decay in Standing Beech Trees Using Ultrasonic technique. 16th International on Nondestructive Test and evalution of Wood.

Ezatti, S., Mohammadi, K., Najafi, A. 2009.Reviewe effects of harvesting on Iranian Forest.   3 th Environment Congress.

Bayati, H., Najafi, A. 2012. Advantage of Artificial Neural Networks (ANNs) Compared to Linear Regression in Industrial Timber Volume Estimation. International Scientific Symposium FORMEC 2012.

Ghajar, I., Najafi, A., Boston, K. 2012, A heuristic method for automatic design of the most economical landing location. International Scientific Symposium FORMEC 2012.

Imani, P., Najafi, A., Ghajar, I. 2012. Application of road alignment cost map and shortest path algorithm in forest road planning. International Scientific Symposium FORMEC 2012.

Jaafari, A., Ezzati, S., Najafi, A., Ghajar, I. 2012. Skidding Time Prediction: An Artificial Neural Network Approach. International Scientific Symposium FORMEC 2012.

Job Experience

Assistant professor 2005-2010 Tarbiat modares University

Associate professor 2010-2014 Tarbiat modares University

Associate professor 2014-2017 Technical University Zvolen, Slovakia

 Associate Professor Tarbiat Modares University since 2017

Teaching Experience

- Timber transportation, Kordestan university 2005
- Forest Road construction, Kordestan university. 2005
- Forest Road Designing, Tarbiat Modares University since 2006
- Methods of Harvesting, Tarbiat Modares University since 2006-2012
- Geographic Information System, Tarbiat Modares University since 2012
- Soft techniques in forest operation, Tarbiat Modares University since 2007

- Forest system designing since 2010
- Operation research in forestry Tarbiat Modares University since 2018

Professional Experiences:

-Visiting student in University of New Brunswick, **Canada**, 2004-2005
- Assistant professor Tarbiat Modarres University, Tehran, **Iran** 2006-2011
-Associate Professor Tarbiat Modarres University, Tehran, **Iran** (Since /2011)
-Manager of Trabiat Modaraes University Experimental Forest Station since 2007

Professional Skills
- Mathematical Modeling and Optimization
- Computer software packages MATLAB, ARC GIS, LINDO, LINGO, CPLEX

Referee for Journal Article Submitted to:
  Croatian Journal of Forest Engineering
  Scandinavian Journal of Forest Research
  Transport research Part D
  Journal of Terramechanics
  Journal of Ecological Indicators
  Journal of Ecological Modeling
  Journal of Forest Science
  Int. J. of Information Technology and Decision Making (IJITDM)
  Journal of small scale of forestry
  Journal of Forest and Products
  Journal of Forest
  Journal of Forestry Research
  Iranian Journal of Forest