



Birjand University of Technology

Reza Rooki- Curriculum Vitae



Personal Information:

Name: Reza
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Date of birth: 22/ 5/1982
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Educational Background

12th std: Math-Physics, 2000, Iran

B.Sc: Mining Engineering, 2000-2004, Birjand University, Iran.

Thesis: Building stone, exploitation methods and application of them.

M.Sc.: Mine Exploration Engineering, 2004-2007, Shahrood University of Technology, Shahrood, Iran.

Thesis: Permeability prediction from well logs using artificial neural network in one of the oil fields in Persian Gulf.

Ph.D: Mine Exploration Engineering, 2009-2013, Shahrood University of Technology, Shahrood, Iran.

Thesis: Cuttings Transport Modeling of Underbalanced Drilling (UBD) Operation in Inclined Wellbores.

Teaching Experiences:

Assistant Professor at Birjand University of Technology, 2013-now.

Teaching assistant of Mineralogy and Petrology, Shahrood University of Technology.

Work experiences:

Work in Pabdana coal Mine, Kerman, Iran, 2004.

Surveying and modeling seismic data in Shahrood, Shahrood, Iran, 2005.

Languages: English, Persian, Turkish

Computer Skills:

General: Microsoft Office

Software: Matlab, Fluent, Surfer, Res2DInv, @RISK, SEEP/W, Arcview, Idrisi, SPSS

Interest Areas:

Oil drilling and exploration, CFD modeling, Artificial intelligent in modeling and simulation, Underground water exploration, Geophysics.

PUBLICATIONS

Refereed Journals

- 1 **Reza Rooki**, Mohammad Naser Mohammadi, Mohsen Safari, 2022, Reserve estimation of IV deposit of Sangan iron ore mine using Geostatistical method and SURPAC software, Iranian Journal of Mining Engineering.
- 2 Adel Shirazy, Ardeshir Hezarkhani, Aref Shirazi, Shayan Khakmardan, **Reza Rooki**, 2022, K-Means Clustering and General Regression Neural Network Methods for Copper Mineralization probability in Char-Farsakh, Iran. Geological Bulletin of Turkey 65(1), 79-92.
- 3 **Reza Rooki**, Seyed Mohammad Reza Kazemi, Esmaeil Hadavandi, Seyed Mahmood Kazemi, 2020, Cuttings Transport Modeling in Wellbore Annulus in Oil Drilling Operation using Evolutionary Fuzzy System, *Journal of Chemical and Petroleum Engineerin*54(2), 273-283.
- 4 Mohammad Amir Hasani, Mahmood Norouzi, Morsal Momeni Larimi, **Reza Rooki**, 2020, Computational study on drilling mud flow through wellbore annulus by Giesekus viscoelastic model, *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*235(1), 66-79.
- 5 Asghar Azizi, **Reza Rooki**, Nader Mollayi, 2020, Modeling and prediction of wear rate of grinding media in mineral processing industry using multiple kernel support vector machine, *SN Applied Sciences* 2(9).
- 6 Ahmad Aryafar, Vahid Khosravi, Hosniyeh Zarepourfard, **Reza Rooki**, 2019, Evolving genetic programming and other AI-based models for estimating groundwater quality parameters of the Khezri plain, Eastern Iran, *Environmental Earth Sciences*, 78(3), 69-78.
- 7 *Hocine Ouaer, Mourad Gareche & Reza Rooki.*, 2018, Rheological studies and optimization of Herschel–Bulkley parameters of an environmentally friendly drilling fluid using genetic algorithm, *Rheologica Acta* 57(11), 693-704.
- 8 *Akbar Esmailzadeh , Sina Ahmadi, Reza Rooki, Reza Mikaeil*, 2017, Oil Reservoir Permeability Estimation from Well Logging Data Using Statistical Methods (A Case Study: South Pars Oil Reservoir), *Civil Engineering Journal* 3(10).
- 9 **Reza Rooki**, 2017, Pressure loss estimation of three-phase flow in inclined annuli for underbalanced drilling condition using artificial intelligence, *Journal of Chemical and Petroleum Engineering*, 50(2), 29-35

- 10 Reza Rooki, Masoud Rakhshkhorshid, 2016, Cuttings transport modeling in underbalanced oil drilling operation using radial basis neural network, *Egyptian Journal of Petroleum*.
- 11 A. Azizi., S.Z. Shafaei., **R. Rooki**, 2016, Wear rate prediction of grinding media using BPNN and MLR models in grinding of sulphide ores, *Iranian Journal of Materials Science & Engineering*, 13(2), 73-84.
- 12 **Reza Rooki**, 2016, Application of general regression neural network (GRNN) for indirect measuring pressure loss of Herschel–Bulkley drilling fluids in oil drilling, *Measurement* 85 (2016) 184–191.
- 13 Asghar. Azizi, Reza Ghaedrahmati, Nader Ghahramani, **Reza Rooki**, 2016, Modelling and simulation of the cyanidation process of Aghdareh gold ore using artificial neural network and multiple linear regression, *Int. J. Mining and Mineral Engineering*, Vol. 7, No. 2, 139-154.
- 14 **Reza Rooki**, 2015, Estimation of Pressure Loss of Herschel–Bulkley Drilling Fluids during Horizontal Annulus Using Artificial Neural Network, *Journal of Dispersion Science and Technology*, 36, 161-169.
- 15 **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh, Mahmood Norouzi, 2015, CFD Simulation of Rheological Model Effect on Cuttings Transport, *Journal of Dispersion Science and Technology*, 36, 402-410.
- 16 **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh, 2014, Hole Cleaning Prediction in Foam Drilling Using Artificial Neural Network and Multiple Linear Regression, *Geomaterials*, 4, 47-53.
- 17 **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh, Mahmood Norouzi, 2014, Simulation of cuttings transport with foam in deviated wellbores using computational fluid dynamics, *Journal of Petroleum Exploration and Production Technology*, 4(3), 263-273.
- 18 Golsa Sadegheslam, Reza Mikaeil, **Reza Rooki**, Saleh Ghadernejad, Mohammad Ataei, 2013, Predicting the production rate of diamond wire saws using multiple nonlinear regression analysis, *Geosystem Engineering*, Vol. 16, No. 4, 275–285.
- 19 F. Doulati Ardejani, **R. Rooki**, B. Jodieri Shokri, T. Eslam Kish, A. Aryafar, P. Tourani, 2013, Prediction of rare earth elements in neutral alkaline mine drainage from Razi coal mine, Golestan province, northeast Iran, using general regression neural network, *Journal of Environmental Engineering*, 139 (6), 896-907.
- 20 **R. Rooki**, M. Norouzi, F.D. Ardejani, A. Moradzadeh, 2013, Numerical investigation of foam drilling fluid flow in the oil wells annulus, *The Modares Journal of Mechanics Engineering*, 13(7), 74-86 (Persian).
- 21 **R. Rooki**, F. Doulati Ardejani, A. Moradzadeh, V.C. Kelessidis, M. Nourozi, 2012, Prediction of terminal velocity of solid spheres falling through Newtonian and non-Newtonian power law pseudoplastic fluid using artificial neural network, *International journal of mineral processing*, 110–111, 53–61.
- 22 **R. Rooki**, F. Doulati Ardejani, A. Moradzadeh, H. Mirzaei, V.C. Kelessidis, R. Maglione, M. Norouzi, 2012, Optimal Determination of Rheological Parameters for Herschel–Bulkley Drilling Fluids Using Genetic Algorithms (GAs), *Korea-Australia Rheology Journal*, 24(3), 163-170.
- 23 A. Moradzadeh, F. Doulati Ardejani, **R. Rooki**, M. Rahimi, 2012, Permeability prediction of South Pars’s gas field using general regression neural network, *Journal of the Earth and Space Physics* 37(4), 51-65(Persian).

- 24 A. Aryafar, R.Gholami, **R. Rooki**, F. Doulati Ardejani, 2012, Heavy metal pollution assessment using Support Vector Machine in the Shur River, Sarcheshmeh copper mine, Iran, *Environmental Earth Sciences*, 67, 1191–1199.
- 25 A. Azizi, S. Z. Shafaei, **R. Rooki**, A. Hasanzadeh, M. Paymard, 2012, Estimating of gold recovery by using back propagation neural network and multiple linear regression methods in cyanide leaching process, *Materials Science*, 8 (11), 443-453.
- 26 **R. Rooki**, F. Doulati Ardejani, A. Aryafar, A. Bani Asadi, 2011, Prediction of heavy metals in acid mine drainage using artificial neural network from the Shur River of the Sarcheshmeh porphyry copper mine, Southeast Iran, *Environmental Earth Sciences* 64:1303–1316.

Refereed Conferences

1. Alizadeh Khozani, F., **Rooki, R**, 2015, Estimation of pressure drop of three phase flow in oil well drilling using multiple linear regression, 2st *National Conference of modern technologies in Chemistry and Petrochemistry*.
2. Ghasvareh Mohammad Amin, **Rooki Reza**, 2015, Study of underground water quality of Sarbishe plain, *Water Harvesting and Watershed Management Congress*.
3. **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh,, Mahmood Nourozi, 2013, Cuttings transport modeling in foam drilling using computational fluid dynamics (CFD), *The first Petroleum Technical Conference & Exhibition, Tehran*.
4. **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh,, Mahmood Nourozi, 2013, Study of non-Newtonian foam fluid properties and determination of its rheological parameters using genetic algorithm, *The first Petroleum Technical Conference & Exhibition, Tehran*.
5. **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh,, Mahmood Nourozi, 2013, Hole cleaning assessment in horizontal foam drilling using artificial neural network and multiple linear regression, *The Second Scientific Conference of Hydrocarbon Reservoir Engineering and Upstream Industries, Tehran*.
6. **Reza Rooki**, Faramarz Doulati Ardejani, Ali Moradzadeh,, Mahmood Nourozi, 2013, Effect of rheological model on cuttings transport in foam drilling, *The Second Scientific Conference of Hydrocarbon Reservoir Engineering and Upstream Industries, Tehran*.
7. **R. Rooki**, F. Doulati Ardejani, A. Moradzadeh, V.C. Kelessidis, 2012, Prediction of terminal velocity of solid spheres falling through Newtonian and non-Newtonian fluids using neural network, *3rd Conference IPE, Tehran University*.
8. **R. Rooki**, F. Doulati Ardejani, A. Moradzadeh, V.C. Kelessidis, 2012, Determination of cuttings concentration using artificial neural network, *3rd Conference IPE, Tehran University*.
9. **R. Rooki**, F. Doulati Ardejani, A. Moradzadeh, R. E. Osgouei, M. Nourozi, V.C. Kelessidis, Prediction of Pressure Losses of Three-Phase Flow in Inclined Annuli Using Artificial Neural Networ, *4th Iranian mining engineering conference, Tehran University*.
10. A. Azizi, **R. Rooki**, F. Doulatiardejani, M. Paymard, 2012, Prediction of gold recovery using neural network and linear regression, *2th Mine, Wheel of Industry conference, Islamic Azad University South Tehran Branch*.
11. **R. Rooki**, A. Azizi, J. Ahmadi, E. Arabiarmohamadi, 2010, Economic evaluation of Lasjerd calk mine and its risk analysis using of @risk software, *2th Mine, Wheel of Industry conference, Islamic Azad University South Tehran Branch*.
12. **R. Rooki**, A. Moradzadeh, F. Doulatiardejani, M. Rahimi,, 2009, Indirect methods for permeability determination- case study in the South Pars’s gas field, *13th geophysics conference*.

13. **R. Rooki**, A. Moradzadeh, F. Doulatiardejani, M. Rahimi, 2009, Permeability prediction using Bayesian algorithm, 13th Symposium of the Geological Society of Iran, *Geological Survey of IRAN (GSI)*.
14. A. Azizi, **R. Rooki**, S.Z. Shafaei, 2009, Prediction of apatite recovery using back propagation neural network and linear regression, *13th Symposium of the Geological Society of Iran, Geological Survey of IRAN*.
15. A. Aryafar, **R. Rooki**, R. Mikaeil, M. Hasanabadi, A. Vaezian, 2008, Application of the Sub-Audio Magnetic (SAM) geophysical method in exploration, case study: for UXO and metal ore deposit exploration, *3th regional symposium of mine and related science, Tabas, Iran*.
16. R. Amiri Larijani, **R. Rooki**, S. Yousefi, 2008, Economic evaluation of Mehman Duyeh coal mine and its risk analysis using of @risk software, *1th symposium of national mine, Bafgh, Iran*.
17. A. Aryafar, F. Doulatiardejani and **R. Rooki**, 2007, The use of Mont Carlo simulation for risk and sensitivity analysis, Case study: Sarbisheh basalt-andesite mine, *Birjand, 1th international conference of mine and related exhibition, Mashhad, Iran*.
18. A. Moradzadeh, **R. Rooki**, F. Doulatiardejani, M. Rahimi, 2007, Permeability prediction using general regression neural network and multiple linear regression-case study in the South Pars 's gas field, *11th Symposium of the Geological Society of Iran, Ferdowsi University of Mashhad*.
19. R. Mikaeil, **R. Rooki** and A. Aryafar, 2006, An estimation method for cover pressure re-establishment distance and estimation of subsidence in the surface in the longwall coal mines, *10th Symposium of the Geological Society of Iran, Tarbiat Modarres University*.
20. **R. Rooki**, R. Mikaeil and A. Aryafar, A. Dormishi, 2006, Economic evaluation of KASHKAK marble mine and its risk analysis using of @risk software, *10th Symposium of the Geological Society of Iran, Tarbiat Modarres University*.